r/IndiaInvestments

Introduction

IndiaInvestments is a community to discuss investments, insurance, finance, economy, and markets in India. This website is a collection of advice and information we have organized as a community.

India Investments is a community to discuss investments, insurance, finance, economy, and markets in India. This website is a collection of advice and information we have organized as a community.

If you want to discuss anything on this website with other people, please check out our sub-reddit and discord below.

Follow r/indiainvestments 894k ↗ chat 227 online ↗

all contributors 31

Beginner

If you're just starting out, have never had to think about finances, investments etc., you can start from the link below.

Getting Started

FAQs and How To

You might be here because you've a specific query that just can't wait. Do browse through our common queries sections below, to see if your query already has been answered by us.

FAQs

How To

Series

Our wiki is a work-in-progress, constantly being edited, reviewed, and updated. We've done our best to review these, but if you notice spelling errors, or other discrepancies, kindly reach out to us so we can fix these.

Here are some of the topics we presently cover in our wiki, in the form of their own dedicated series:

Introduction to the Stocks Series

Excel for Fun and Profit

Bond Basics

We also have some miscellaneous entries which might be helpful.

Miscellaneous

License

Disclaimers and Disclosures

Content on this website is meant only to be educational. It is not meant to be financial advice. If you need help with your finances, or if you have any query regarding what you read on this website; you should consult a registered financial advisor in your jurisdiction.

If you're an Indian reading this, please consult a SEBI-registered, fee-only financial advisor.

Contributors to this project cannot be held liable if you follow instructions presented here, and incur financial losses in the securities markets.

For detailed list of comprehensive set of disclaimers & disclosures, refer to this page below

Disclaimers and Disclosures ›

We encourage you to take the time, and read through the content in above link at least once.

Acknowledgements

Special thanks to Gitbook for accommodating us in their premium tier, free-of-cost.

It's been a fantastic journey working with the great folks over at Gitbook team. They've helped us out every step of the way whenever we've asked for it.

Wishing them all the best in continued success of this amazing product.

Contributors ✨

13/04/2025, 11:10 r/IndiaInvestments

Our heartiest gratitude, to these wonderful people (emoji key):

r/IndiaInvestments 📖 🚇 💻 👀 ✅	financenoob 🚇 💻 📖 👀 ✅	Marz 📖 👀 ✅	takeda-discord 💻 📖 👀 ✅	Cephalopterus 💻 📖 👀 ✅	crimelabs786 🚇 💻 📖 👀 ✅ 💬	reo-sam 💻 📖 👀 ✅ 💬
try2tame 📖 👀 ✅ 💬	LingeringDeep ✅ 💬	I-am-Optimistic 📖 ✅	Tulip2MF 📖 ✅	villageindian 📖 ✅ 👀 💬	namasteOriginally 💻 ✅ 👀 💬	shryzel 📖 ✅ 👀
Rajat 💻 👀 💬	Shaswat Saxena 💻 👀 💬	jimWithoutJam 🚇 💻 👀 💬	VineetRDiscord 🚇 💼 👀 💬	M-e-r-c-u-r-y 👀 💬 📖	Jatin Yadav 🚇 💻 💬	Yashovardhan Dhanania 👀
Pratyush Mittal 📖	Ankit Saini 📖	Arjit Gupta 📖	Phalgun Guduthur 📖	Shreyas Gupta 📖	Suhag 📖	Uninspired-sapien 📖
draco-malfoy 📖	srinivesh 📖	xero08 📖				

This project follows the all-contributors specification. Contributions of any kind welcome! Start here

Disclaimers and Disclosures

Disclaimers and disclosures that you should read and understand before reading this wiki

The content of this website has been prepared by contributions from multiple authors from the India Investments community on Reddit ↗ and Discord ↗.

The content on this website, including but not limited to text, images, videos, spreadsheets, hyperlinks, and computer source code; is written and created solely for educational purposes. It is NOT meant to be fiduciary financial advice. When in doubt, a legally registered fiduciary financial advisor may be contacted. In India, a fee-only financial advisor registered with Securities and Exchange Board of India (SEBI) may be contacted.

The authors of this website may or may not hold positions, either long or short, in any mutual fund, ETF, stock, bond, or any another investment instrument or securities mentioned on our website. These positions may or may not change in the future without any notification whatsoever. The act of an investment instrument being mentioned on our website does NOT constitute a recommendation or endorsement for or against investment in that instrument.

Any and all numerical calculations made on our website in any form may be incorrect and subject to changes without any notification whatsoever. India Investments community and / or the authors of content on this website, cannot be held liable in any form or manner if anyone incurs financial losses in the securities markets based on information, either directly or indirectly, from our website.

The content on this website may include material, including but not limited to excerpts, images, and videos, which has been modified with respect to the original source material. Such modifications have been made only for the purposes of illustration, education, and aesthetics. The original source material should be considered as the definitive source of truth.

The content on this website may include recommendations for certain software, apps, platforms, portals, services, and websites. The authors from India Investments may or may not hold positions, either long or short, in the respective companies who own or invest in these software , apps, platforms, portals, services, and websites. These positions may or may not change in the future without any notification whatsoever. The content on this website might also recommend methods about how to use these software and websites. These methods may or may not be in compliance with the terms of service of the software, apps, platforms, portals, services, and website. India Investments cannot be held liable for any damages or loss anyone suffers because of using the methods shown in our content. The user is advised to read the terms and conditions of the software and websites they use before following the methods and recommendations mentioned in our content.

The content on this website may include external 3rd party hyperlinks which we do not own, control, or recommend in any form or manner. Although we have included web archive links for these 3rd party hyperlinks wherever possible, the content in the original 3rd party hyperlink may or may not be the same as it was when it was mentioned in our website. India Investments does not bear any responsibility whatsoever about the content on these 3rd party hyperlinks and it cannot be held liable for damages or loss anyone suffers as a result of using these 3rd party hyperlinks.

The content on this website is provided "as is", without warranty of any kind, express or implied, including but not limited to the warranties of merchantability, fitness for a particular purpose and non-infringement. In no event shall India Investments and its contributors be liable for any claim, damages or other liability, whether in an action of contract, tort or otherwise, arising from, out of or in connection with the content on this website or the use or other dealings in the content on this website.

FAQs

FAQs

Frequently asked queries in our community, and their answers.

- Mutual Funds and ETFs
- Insurance
- Stocks
- Foreign Investing
- Tax
- Miscellaneous

Mutual Funds and ETFs

FAQs on all things mutual funds

What is the best mutual fund app for investments?

Pick one you're comfortable with, as long as the platform allows buying direct plan, growth scheme; free of cost. Beyond this, your specific choice of app won't affect your returns.

Intro 💫

In India, presently there are many Mutual Fund platforms available, for free. Being spoilt for choice, it can get overwhelming to decide which one's best for you.

To begin with, this choice is not as important as you'd like to think. For most apps, if you use one and don't like it, it's pretty straightforward to be able to move to another platform. It's a *reversible* decision.

But there are a few that you should avoid. For instance, the ones that sell regular plans.

> 💡 Direct plans of mutual funds must have the word *direct* in its name. If you don't see *direct* in the name of a fund, it's a regular plan, and you should not be investing in that fund.

Coming back to existing platforms that offer direct plans to Indian investors, we can broadly categorize these in two main types of mutual fund application/service categories.

- Third party applications
- Applications or platforms provided by the fund houses or RTAs

Third Party Applications 🥉

These are provided by third parties (the investor is the first party, fund house / RTA are the second party) which offer various transaction options to users for buying funds directly.

Most commonly, these 3rd parties are SEBI registered RIAs (**R**egistered **I**nvestment **A**dvisory); but can also be other AMFI distributors, or an umbrella organization backed by a group of fund houses.

They act like one-stop shop for various mutual funds, provided by almost all the fund houses.

> Most common and popular funds are available on most of these platforms. However, if some fund or a fund house is not available in a channel / platform, you should check with their support on when that'd be available.

Some of the popular ones are listed below in **alphabetical** order.

1. Coin by Zerodha
2. ETMoney
3. Groww
4. INDMoney / INDWealth
5. Kuvera
6. MFUtility
7. Mobikwik
8. Niyo Money / Goalwise
9. Paytm Money

Available functionalities or missing features of these platforms are captured below in a table:

	Coin	ETMoney	Groww	INDMoney	Kuvera	MFUtility	Mobikwik	Niyo Money
Direct Mutual Fund	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fees	Demat & AMC fees	0	0	0	0	0	0	0
Goal Setting	By tagging	Yes	No	Yes	Yes	Yes	No	Yes
Family Account	For HUF	No	No	Yes	Yes	Limited	No	No
Assets other than MF	No	Yes	Yes	Yes	Yes	No	Yes	Yes
TAX Statements	Yes	Yes	Yes	For Prime members	Yes	No	No	Yes
History Tracking	No	Yes	Yes	Yes	Yes	Yes	No	Yes
Automated Reinvestment	No	No	No	No	No	No	No	Yes
Skip an SIP	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
NAV Cutoff Time	Before AMC cut-off time		Before AMC		Same as AMC	Same as AMC		

Explanation of parameters used in the table

- **Direct Mutual Fund** Per SEBI regulation, all fund houses must offer a *direct* plan version of all their funds; where no middle-men can earn a commission for selling that. This reduces cost for the investor buying the fund. It improves returns by reducing cost over long run. Over any given period, direct plan of a fund would do better than regular plan of same fund.
- **Fees** There is no charge of any kinds of fees associated with buying units in a direct plan in the app, or setting up / cancelling SIPs. Note that some of these platforms have membership programs, or make some features available for a fee. We're not considering that here - only concerned with the ability to invest in direct plans, for any amount with any number of trades.
- **Goal Setting** A feature to set a goal for a specific amount of time so that you will be able to invest for it & track it.
- **Family Account** Ability to manage portfolios for multiple accounts (For e.g., spouse, Joint account) from a single user account login.
- **Assets other than MF** Ability of the platform to offer other assets like Gold, FD, Stocks, Bonds etc other than just Mutual Fund. Note that Coin by Zerodha offers only mutual fund; to be able to buy shares or bonds or ETFs, you'd need to download other products from Zerodha.
- **TAX Statement** Does the platform provide the statements for tax filing purpose (For e.g., Capital Gain Statement), or just to estimate tax liabilities for advance tax payments?
- **History Tracking** Ability of the platform to track the history of our portfolio ,irrespective of whether we purchased the fund from the same platform or not. In other words, can an investor just sign up and import their portfolio, built over the years, and track the performance all in one place?
- **Automated Reinvestment** Does the platform to automatically change the allocation percentage of your investment to debt & equity based on how near one's goal is?
- **Skip an SIP** Option to skip the SIP for a month or a predetermined time. Note: Several platforms stops the investment and then start a new round again instead of pausing. This might create issues, especially if AMC

has put restrictions on new SIPs. Do check with latest updates on your fund, from your fund house.

- **NAV Cutoff Time** This time determines the Net Asset Value (NAV), at which you can buy the fund units for that day. If an order is placed after this cut-off time, it'd be processed as an order of next business day. Ideally, you'd want a platform that enforces same cut-off time as the fund house / AMC; and not a restricted form of it. For instance, Coin by Zerodha has a cut-off time of 1:30 p.m. for all funds on their platform; while one can place an order in equity funds after 1:30 p.m. on most other platforms, and still get the NAV of same day.

Application by fund houses and RTAs 🥝

The fund houses also provide web portals / applications to manage the funds, offered by them.

So you might end up managing a bunch of applications to track your portfolio, having to deal with multiple logins on different websites.

Another option can be to use MyCAMS or KFinTrack. While these are provided by CAMS and KFinTech respectively; these don't offer all funds on their platforms, except for the ones from the AMCs whose RTA is also providing the platform.

For instance, if you invest in Axis Bluechip (using as an example, not a recommendation) Direct Growth, it won't show up in MyCAMS app. Because RTA of Axis MF fund house is KFinTech. Similarly, an investment in SBI Small Cap Direct Growth won't be visible in KFinTech app.

Other option is to have all the mutual fund investments from a single fund house.

But that's generally not a good idea, for many reasons (for instance, similarities in fund management styles or investment philosophies can make all the funds from a single fund house perform in a similar way). Practically, most investors would've investments with more than one single AMC.

Verdict 🎎

As long as you are buying direct mutual funds and not paying any maintenance charges, you should be fine with any of the application listed or not listed above.

And if you don't like one that you'd started with, you can easily move to another platform. We highly recommend testing out these platforms, preferably by placing a small order (say, 100 INR in ICICI Liquid Direct Growth or IDFC Insta Cash Direct Growth) and testing the order flow, end-to-end. Then continue with the one you liked!

Below are the options you can consider based on our analysis.

- **Kuvera**: If you are a beginner and is trying to get into the market for the first time.
- **Niyo Money / Goalwise**: Just wanted to get the money invested for a period of time without worrying about whether the fund should be equity based or debt based or a combination of these.
- **Groww**: If you need a platform where you can invest in stocks and mutual fund at the same time.
- **INDMoney**: If you want a platform which can track everything from daily expenses / investments, to credit scores.

Why should I invest in Direct Plans instead of Regular Plans?

Direct plans of mutual funds have no commission, lower fees compared to its Regular plan counterpart. Returns are higher with no extra risk.

A mutual fund is not free from costs. An asset management company (AMC) is a for-profit entity who aim to make some profit from their venture. They also have to pay their security analysts, operations teams, pay brokerage fees for market participation, and record keeping fees to registrars like CAMS and KFintech, formerly known as Karvy.

A regular plan of a mutual fund has one more additional expense — **distributor commission**.

> ⓘ There are various types of commissions. In this FAQ, we'll only focus on recurring trail commissions, and ignore upfront one-time commissions.

Why is distribution commission bad for an investor?

There are many reasons why regular plans shouldn't exist.

- **Erosion of Value**

  Regular Plans add no value to the portfolio of an investor. All it does is eats away at your portfolio valuation and make the distributor richer.

  This cost *scales* with your portfolio valuation. The more your investments grow in value, the more money is taken out of your investment.

  It's a classic case of *tyranny of compounding costs*, words made famous by Jack Bogle.

- **Distributors are Inherently Biased Against the Investor**

  The distributor which subscribes an investor to a regular plan is inherently biased against an investor because the distributor would recommend funds which have high distributor commissions regardless of whether the fund is actually good for an investor or not.

  To prove our point, here's an example.

  As of February 2021, Mirae Asset Tax Saver had a total expense ratio (TER) of 1.83% for its regular plan and 0.28% for its direct plan. That's a difference of 1.55% between the regular plan and the direct plan of the same fund. On the other hand, UTI Nifty Index had a total TER of 0.14% for its regular plan and 0.1% for its direct plan.

  The assets under management (AUM) distribution of these two funds is interesting. Mirae Asset Tax Saver had AUM of ₹$6,332.2$ crores out of which 31% AUM is from the direct plan and the rest is from its regular plan. Meanwhile, UTI Nifty Index had a total AUM of ₹$3,353.11$ crores but had 77% of its AUM from its direct plan.

  This stark difference in the source of AUM should be enough to highlight where the priorities of regular plan distributors lie.

  We've got the data about AUM distribution from this ↗ link on this ↗ page. You'll need to search for similar links on other AMC websites.

- **It's unfair**

  You might've placed a purchase order five years ago in the regular plan of a fund, to purchase some units. This one transaction and subsequent payments, have been lining up pockets of the distributor, every day, for the last five years. And it would continue to do so as long as you have even a single unit in the regular plan of the fund.

  Meanwhile, the distributor is not at all involved in the process of managing your portfolio — that's being handled by the respective AMC.

  This payment model of *perpetual payment in eternity* is rarely ever seen in nature, outside of this one use-case. Imagine visiting a doctor who demands 1% of your income every month in perpetuity till you're alive.

- **It's sneaky**

  For most mutual fund investors out there, the disadvantages of investing in regular plans are not well understood. Lack of financial knowledge, and fear of complexity have driven a generation of investors to blindly trust their distributors without looking too closely at account statements.

  But this charge is so sneaky, there's no column in most account statements sent by AMCs, that include an entry for the *amount that went to your distributor in the last 1M / 1Y / 5Y*. Fortunately, your NSDL / CDSL consolidated account statement (CAS) would include this information.

  If distributors have faith in their financial advice and planning, they should have no shame in openly sharing with their clients, how much they've made blindsiding them. Or, the distributors should send an invoice to said clients. But they don't, and to hide this daylight robbery, the payment is done by an AMC to the distributor directly, at periodic intervals.

What difference does an extra 1% make?

Let's try to understand, with real world scenarios, exactly how much one can stand to lose investing in regular plans. However, before we get there, let's discuss what **direct plans** are.

The only difference between a direct plan and a regular plan of a mutual fund is that direct plans do not have distributor commissions. The word **direct** must be present in your NSDL / CDSL / AMC account statements if you're investing in a direct plan of a mutual fund.

Although it may not be straightforward to calculate the difference in returns between a regular plan and a direct plan of a mutual fund from AMC account statements, we can calculate it by simulating the same transactions on the same date in the direct plan of a fund.

Lumpsum Purchase in Axis Long Term Equity and Tata Large Cap

As of 9th April 2021, the 5 year return (CAGR) of **Axis Long Term Equity** Direct Growth Plan stands at 17.70% and that of the regular plan is 16.55%. Let's assume an initial investment of ₹1 lakh on 9th April 2016.

Fund Type	5Y CAGR	Final Value
Direct Growth	17.70%	$₹1,00,000 \times (1+0.1770)^5 = ₹2,25,882.36$
Regular Growth	16.55%	$₹1,00,000 \times (1+0.1655)^5 = ₹2,15,060.86$
	Commission Outflow	$₹10,821.5$

The distributor of this plan has made approximately 10.8% of the original investment as commission in the last 5 years. And 5 years is a small time period in equity markets. Of course, this commission will only increase with time. However, this cost could've been easily avoided, just by investing in the direct plan of the same fund, 5 years ago.

One might say that the commission looks high only because the returns are high enough to more than double the original investment. After all, $16\% - 17\%$ annualized returns over 5 year periods aren't common.

Keeping this in mind, let's take a different fund with a lower 5Y CAGR, where we do the same comparison, and see if losses to commission really goes down with the returns. As of 9th April 2021, the 5 year return (CAGR) of **Tata Large Cap** Direct Growth Plan stands at 13.82% and that of the regular plan is 12.40%.

Fund Type	5Y CAGR	Final Value
Direct Growth	13.82%	$₹1,00,000 \times (1+0.1382)^5 = ₹1,91,026.19$
Regular Growth	12.40%	$₹1,00,000 \times (1+0.1240)^5 = ₹1,79,403.77$
	Commission Outflow	$₹11,622.42$

Although the returns and nominal profit of the investor have been reduced by a lot, the distributor commission has increased! In this case, it's approximately 11.6% of original investment, eroded over 5 years. Your distributor would make bank, whether your returns are higher or lower. They'd make even more, if your portfolio does well.

Next time, when a distributor tells you to keep your SIPs going, you have to wonder whether it's because they don't want to see their income disrupted, which is tied to total portfolio value.

Total Expense Ratio from an AMC's Perspective

Let's consider Kotak Standard Flexi Cap, one of the largest (in terms of AUM) equity mutual fund in India with an average AUM of $₹35,114.71$ crore at the end of March 2021. Its direct plan had a TER of 0.61% and the regular plan had a TER of 1.62%. From the average AUM disclosure provided by Kotak AMC for the month of March 2021, we know that Kotak Standard Flexi Cap had $₹25,899.10$ crores from its regular plan and $₹9,215.61$crores from its direct plan.

We can use this data to get some insights about the expenses generated by this fund.

Fund Type	AAUM	Expenses Deducted
Direct Plan	$₹9,215.61$	$₹35,114.71 \times 0.61\% = ₹214.19$ crores
Regular Plan	$₹25,899.10$	$₹25,899.10 \times (1.62\% - 0.61\%) = ₹261.58$ crores
	$₹35,114.71$ crores	**Total Expenses:** $₹475.77$ crores

Kotak AMC gets to keep $₹35,114.71 \times 0.61\% = ₹214.19$ crores from both the regular and direct plan. Since distributors get $1.62\% - 0.61\% = 1.01\%$ on the regular plan, their commission comes out to be $₹25,899.10 \times 1.01\% = ₹261.58$ crores.

In a mutual fund with over $₹35,114$ crores in AUM, 73% of its AUM comes from regular plans and mutual fund distributors end up taking away 22% more expense income than the AMC of the fund itself even though the fund manager does the job of managing the mutual fund portfolio while your distributor does nothing except earn commissions and help the AMC inflate its AUM.

ⓘ We've got the data about AUM distribution from this ↗ link on this ↗ page.

ⓘ In mutual funds, TER is an yearly average expense deduction. It's deducted everyday before publishing the new NAV of the fund. All returns reported on mutual funds, are after costs have been deducted. There's no need to subtract TER from final returns or NAV, as it's been already factored in.

SIP for 8+ Years

As on 9th April 2021, the direct plan of mutual funds have had more than 8 years of history since they were started back in January 2013.

We'll simulate a SIP of $₹10,000$ per month, in the direct and regular plan of some funds, starting from 2nd January 2013.

We are considering some large-cap funds that have mostly stayed true to their large-cap stock selection mandate, i.e., mostly having bluechip stocks in portfolio of the fund. Mirae Asset Large Cap fund has been excluded, as it was operated as a multi-cap fund throughout most of this time period (2013-2018) that's being considered.

UTI Nifty Index

Fund Type	Invested Amount	Current Value	Total Gain	Return (p.a.)
Direct Plan	₹10, 00, 000	₹17, 71, 612	₹7, 71, 612	13.5%
Regular Plan	₹10, 00, 000	₹17, 64, 606	₹7, 64, 606	13.4%

HDFC Top 100

Fund Type	Invested Amount	Current Value	Total Gain	Return (p.a.)
Direct Plan	₹10, 00, 000	₹16, 94, 408	₹6, 94, 408	12.5%
Regular Plan	₹10, 00, 000	₹16, 42, 630	₹6, 42, 630	11.8%

Franklin Bluechip

Fund Type	Invested Amount	Current Value	Total Gain	Return (p.a.)
Direct Plan	₹10, 00, 000	₹17, 33, 671	₹7, 33, 671	13.0%
Regular Plan	₹10, 00, 000	₹16, 68, 038	₹6, 68, 038	12.1%

ABSL Frontline Equity

Fund Type	Invested Amount	Current Value	Total Gain	Return (p.a.)
Direct Plan	₹10, 00, 000	₹17, 86, 176	₹7, 86, 176	13.7%
Regular Plan	₹10, 00, 000	₹17, 14, 436	₹7, 14, 436	12.8%

SBI Bluechip

Fund Type	Invested Amount	Current Value	Total Gain	Return (p.a.)
Direct Plan	₹10, 00, 000	₹19, 05, 761	₹9, 05, 761	15.2%
Regular Plan	₹10, 00, 000	₹18, 23, 117	₹8, 23, 117	14.2%

DSP Top 100

Fund Type	Invested Amount	Current Value	Total Gain	Return (p.a.)
Direct Plan	₹10, 00, 000	₹16, 40, 187	₹6, 40, 187	11.7%
Regular Plan	₹10, 00, 000	₹15, 87, 479	₹5, 87, 479	11.0%

ICICI Prudential Bluechip

Fund Type	Invested Amount	Current Value	Total Gain	Return (p.a.)
Direct Plan	₹10, 00, 000	₹18, 34, 300	₹8, 34, 300	14.3%
Regular Plan	₹10, 00, 000	₹17, 63, 591	₹7, 63, 591	13.4%

Nippon Large Cap

Fund Type	Invested Amount	Current Value	Total Gain	Return (p.a.)
Direct Plan	₹10, 00, 000	₹17, 83, 845	₹7, 83, 845	13.7%
Regular Plan	₹10, 00, 000	₹17, 05, 182	₹7, 05, 182	12.6%

ⓘ We have generated this data using the 'My Investment' tool from Value Research ↗.

As we can see, in the large cap space, equity mutual funds have mostly performed in-line with the index funds over the last 8 years. Most of them have underperfomed, but some of them have outperformed.

Let's look at the data presented above from a different perspective. We'll focus on distributor commissions and their impact on our portfolio.

Fund Name	TER (Regular)	TER (Direct)	△ TER	Commission Losses	Commission (% of total investment)
UTI Nifty Index	0.14%	0.10%	0.04%	₹7, 006	0.07%
HDFC Top 100	1.85%	1.23%	0.62%	₹51, 778	5.17%
Franklin Bluechip	1.91%	1.18%	0.73%	₹65, 633	6.56%
ABSL Frontline	1.70%	1.08%	0.62%	₹71, 740	7.17%
SBI Bluechip	1.75%	1.00%	0.75%	₹82, 644	8.26%
DSP Top 100	2.09%	1.32%	0.77%	₹52.708	5.27%
ICICI Pru Bluechip	1.72%	1.21%	0.51%	₹70, 709	7.07%
Nippon Large Cap	1.88%	1.18%	0.70%	₹78, 663	7.86%

ⓘ In the above tables, we're using the TER data available as on 9th April 2021. TER changes from time to time, and the latest TER differences won't reveal historical performance.

Besides SBI Bluechip's regular plan, no large-cap fund from our list has managed to generate higher corpus in its regular plan than UTI Nifty Index fund direct growth plan has done over the last 8+ years for a simple $₹10k$ / month SIP.

As you can imagine, no popular distributor was publicly recommending UTI Nifty Index fund's direct plan, back in 2013-14. This isn't surprising considering the fact that for a regular plan distributor, recommending UTI Nifty Index fund's regular plan would've been the least profitable.

How Bad Will It Be in the Long Run?

Unfortunately, investing in the regular plan of a mutual fund is only the beginning. As more and more time passes by, staying invested in the regular plan of a fund will erode your portfolio further.

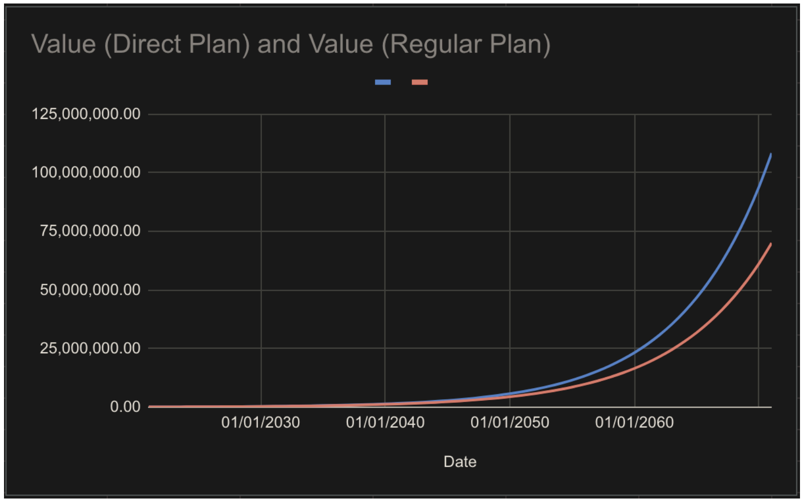
As Jack Bogle said:

> The miracle of compounding returns has been overwhelmed by the tyranny of compounding costs.

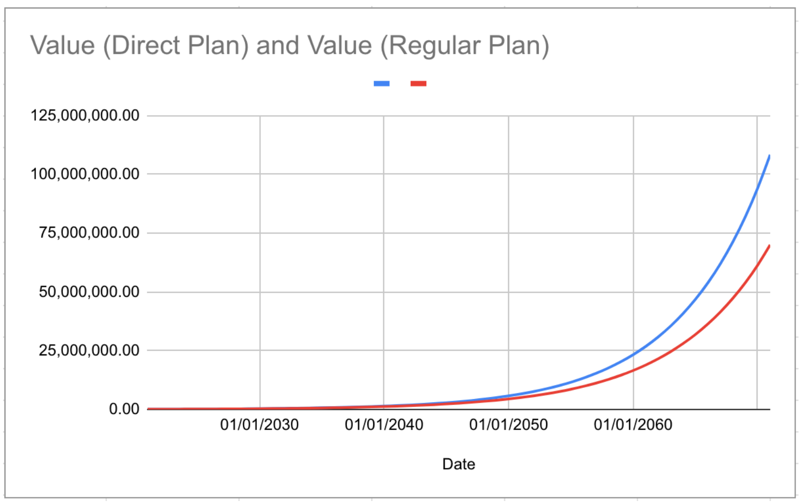
The recurring cost model of regular plans can unleash this mythical tyranny right on your portfolio, without you even realizing it.

We saw earlier that the difference in TER difference between the direct and regular plan of a mutual fund, or ΔTER, can be thought of as an indicator of regular plan's distribution costs.

Let's assume that investing a lumpsum amount of ₹$1,00,000$ in an asset generates a CAGR of 15%. This asset also has a regular plan variant which generates a CAGR of 14%. At 1% lower CAGR, this is how the valuation would change over time.



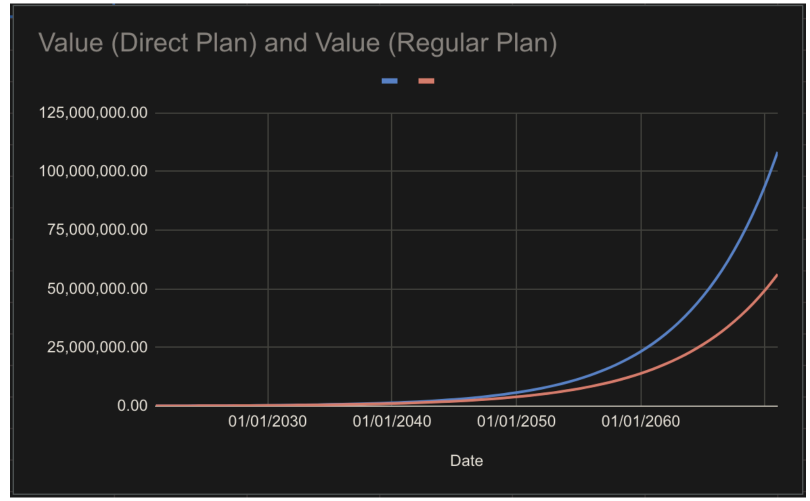
Regular Plan Returns Trailing by 1% - Dark Mode



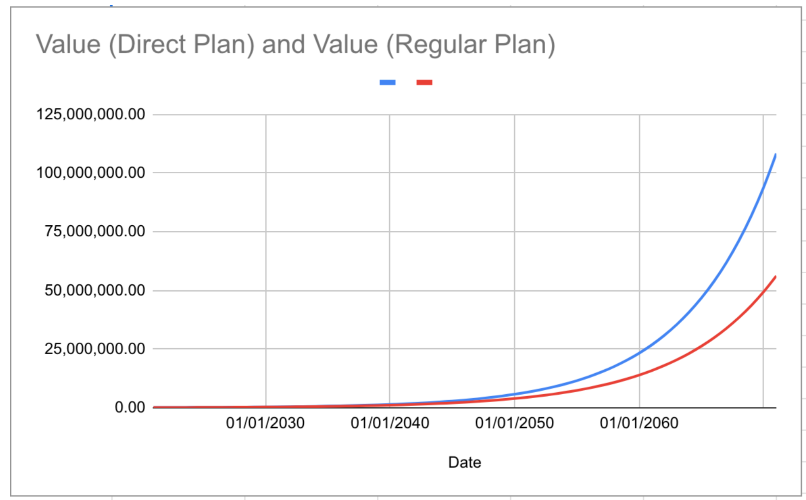
Regular Plan Returns Trailing by 1% - Light Mode

If the difference in CAGR is assumed to be 1.5%, this is how the corpus changes.

13/04/2025, 11:10 r/IndiaInvestments



Regular Plan Returns Trailing by 1.5% - Dark Mode



Regular Plan Returns Trailing by 1.5% - Light Mode

Eventually, an investor could end up losing $30\% - 40\%$ of their portfolio to distributor commissions over a long period of time.

Falsehoods and Myths about Regular Plans

As you'd imagine, regular plans are a juicy proposition for every participant involved, except for the investor whose capital is being eroded.

An investor might come across some of the following arguments in favor of regular plans. We'll go ahead and debunk them.

But why would AMCs purposefully lower their returns in regular plans? It doesn't make sense.

AMCs don't have a reason to compete on performance, when they can just offer more commissions on their funds. The distributors would then sing praises of such funds over other available options.

AMCs like Mirae Asset, have been artificially reducing the TER of the direct plan of their funds well below that of their competitor fund houses, creating large TER differences between their funds' direct plan TER and regular plan TER.

This incentivizes distributors to recommend Mirae Asset equity funds over other funds and lures in direct plan investors with unusually low expense ratios. Of course, the unusually low TER of direct plans can simply be increased later once Mirae Asset's AUM targets are achieved. It's unfortunate that there are no regulations on frequent TER changes made by AMCs.

As on 9th April 2021, this is how the TERs look like for flagship funds from Mirae Asset AMC:

Fund Name	TER (Regular)	TER (Direct)	Δ TER
Mirae Asset Emerging Bluechip	1.81%	0.70%	1.11%
Mirae Asset Large Cap	1.64%	0.54%	1.10%
Mirae Asset Tax Saver	2.00%	0.29%	1.71%
Mirae Asset Healthcare	2.16%	0.59%	1.57%
Mirae Asset Focused Equity	1.94%	0.32%	1.62%
Mirae Asset Hybrid Equity	1.88%	0.39%	1.49%

Of course, Mirae Asset isn't the only AMC which is doing this. You might come across unsustainably low TERs in direct plans of other AMCs, with reasonably high TER in the regular plan of the same fund.

From our previous calculations, it should be clear that $1.5\% - 1.8\%$ additional expenses would erode the corpus of an investor significantly in the long run.

But why would my distributor recommend such funds? He's our family friend / relative and has our best interests at heart.

If that person really did have your best interests at heart, he wouldn't recommend funds with a high ΔTER. If he's doing that, he has his own interests on greater priority than yours. This wouldn't be a problem in some other case but here, it's about **your** money, not his.

Regular Plan distributors don't have to recommend good funds, because if it doesn't perform well, they could just tell you that the markets were bad this year, keep your SIPs going, and buy at lower prices. Your uninterrupted inflows in regular plans makes the regular plan distributor richer.

To understand how deep this nexus is, take a look at AMFI disclosure reports on commission to distributors, from past years:

Link to commission disclosure ↗

Let's start with the latest report, from 2019-20. It's a PDF that lists the names of distributors and the gross amount paid in multiples of $₹1,00,000$.

As expected, big banks like HDFC, ICICI, Kotak, and SBI are easily making hundreds of crores, just from rent-seeking and not adding any meaningful value to the portfolio of investors. However, relatively small distributors have been doing great as well.

Based on that list, it's not unusual to make over $₹1$ crore (a pretty large milestone in annual income for most Indians) by selling regular plans of mutual funds.

But the NAV of Regular Plans are lower than Direct Plans. Shouldn't I buy low and sell high?

The NAV of regular plans is lower because it includes distributor commission and it'll always be lower than the NAV of its direct plan counterpart. In this case, your purchase price doesn't matter. What matters, is the rate of growth *after* you purchase.

Let's consider the NAV of Axis Long Term Equity as on 12th April 2021. It was $₹59.71$ for the regular plan and for $₹65.22$ the direct plan. If we invest $₹10,000$ in the regular plan, we'll get 167.47 units in the regular plan, and 153.32 units in the direct plan. Let's assume that we get 10% CAGR after 5 years in the regular plan and 11% CAGR in the direct plan. The final portfolio value of the regular plan would be $₹10,000 \times (1 + 0.1)^5 = ₹16,105.1$ and that of the direct plan would be $₹10,000 \times (1 + 0.11)^5 = ₹16,850.58$.

As we just saw, the NAV purchase price and the number of units that you get are irrelevant and do not affect the final portfolio value. The CAGR, however, does, and it should be evident that the CAGR of a direct plan will always be higher than its regular plan counterpart.

But it's just a difference of 1%. It won't have much impact.

As we've already shown above, a ΔTER of 1% can erode more than 30% of your portfolio value over the long term. Even 10%, let alone 30%, is a significant loss to your portfolio. Are you okay with losing $₹10$ lakh from your corpus of $₹1$ crore and end up having $₹90$ lakhs? How about losing $₹30$ lakhs?

I know regular plans are bad but if I switch, I'd have to pay taxes. I don't want to pay taxes unnecessarily.

Taxes are on realized gains. Commission is on entire corpus.

Just like the largest ant is no match for the smallest elephant, your taxes might be low enough, if any, compared to your potential commission losses over next few years. Even if it's not, tax is a one-time headache. Commissions are forever, till the date you've zero units to your name in that regular plan of a fund.

You could also switch out partially, and not all at once. That'd save you some taxes by spreading your redemptions over more than one financial year.

In a scenario like this, it's best to compute the potential values for tax liabilities, project losses in commissions, and make a choice on a case-by-case basis.

If not for my distributor, I wouldn't have started investing in mutual funds. I'm grateful to him. I can't just switch to direct plans now.

It's your decision to make but we'd advise you to think rationally about this, and keep your emotions aside when making decisions about your money.

Your distributor may have introduced you to mutual funds but if he signed you up on regular plans, he probably didn't sign you up because he was thinking of your welfare first.

At this point, you have the power to make decisions about your own money and switch to direct plans to save expense costs. You don't even have to find different funds.

If you're not comfortable choosing funds, you can start investing in the direct plans of the same funds offered by your distributor. Even in that case, you'd save on a lot of expenses.

Would you rather be grateful to your distributor for the rest of your investing journey and lose up to $30\% - 40\%$ of your corpus in the long term, or switch to direct plans and not lose that money?

But my distributor also gives advice. I don't know anything about mutual funds. Investing in direct plans is only for advanced investors.

As we saw in the previous section, in the last 8 years, regular plans of large cap funds haven't been able to achieve for the average SIP investor, what the direct plan of a low-cost Nifty index fund has generated.

Clearly, the so-called financial advice from regular plan distributors hasn't been good enough to even make-up for the cost.

Investing in direct plans is a risk-free way of improving returns. A good advisor would recommend direct plans to their clients.

Also, when you invest in a mutual fund, the fund manager manages your portfolio. They are responsible for managing the investments in the you've invested in and adapt it according to market conditions. Your distributor has no role to play there.

SEBI has already issued notices saying that mutual fund distributors cannot be advisors. A person can either sell or advise but not do both.

Individual mutual fund distributor can't be an investment advisor: SEBI ↗ | archive.is link ↗

Unlike a few years ago, we have many platforms today that offer investment in direct plans to every investor in the country. It has become much easier to invest in direct plans and manage your portfolio these days. One doesn't need to visit an office, or use clunky AMC websites with bugs and errors.

If you're wondering which website / app you should use to invest in direct plans, check out the following article.

What is the best mutual fund app for investments? >

If you're wondering which mutual fund should you invest in, check out the following article.

What's the best mutual fund I can invest in? >

We'd like to mention that choosing a "good" or a "best" fund isn't important or required. Pick a decent actively managed fund and stick with it unless something fundamental changes about the fund. Or, if you're still confused, pick an index fund and call it a day. The choice of the fund isn't as important as sticking to that fund and investing in it in the face of market turbulence.

Wrapping Up

The real takeaway here is that recurring costs can affect your investment corpus in a really bad way over the long term. As an investor, avoiding regular plans is important. But in the same spirit, we should also avoid other recurring costs as well, which add up over the years, such as (but not limited to):

- brokerage commission, in percentage terms (and not fixed), for equity delivery
- rebalancing costs
- frequent selling leading to capital gains taxes
- high asset management fees of exotic products

Unlike regular plans, some of the above aren't always avoidable. But do keep the adverse effects of costs from repeatedly doing these in mind, when engaging in, say, rebalancing.

Quantum AMC started offering direct plans of their flagship funds, Quantum Liquid and Quantum Long Term Equity, back in 2006. They were the first AMC to do so in India. They chose to not tie up with distributors, but rather offer a direct purchase option to the investors via offline mode (CAMS or KFinTech offices) and on their own website.

Since January 2013, SEBI regulations have forced all AMCs to launch direct plans for each and every mutual fund that they had and would come up with in the future.

However, despite the ease of access, most retail and HNI (High Net-worth Individual) investors still invest in regular plans. This is evident by the fact that most of the mutual fund industry AUM is still in regular plans, and not direct plans. According to this news article from The Hindu ↗ (archive.org link ↗ | archive.is link ↗), only 19% of the industry AUM is in direct plans, while rest of it are in regular plans.

PayTM Money maintains this page ↗ listing difference in TER between direct plan and regular plan of mutual funds.

If you haven't done it yet, take a look at your NSDL / CDSL CAS, and see if the word "**direct**" appears in the name of the funds that you're invested in. If not, you're most likely invested in the regular plan variant instead. Ideally, all your funds should be in direct plan mode, and no fund should be in regular plan mode. You might be losing money to a rent-seekers without receiving anything of value in return. If that's the case, start the process of switching to direct plan today.

What’s the best mutual fund I can invest in?

No one can predict how a mutual fund would perform in the long run. Data also shows consistently chasing best mutual funds result in behavior gap. Pick one that you can stay with for long term.

If you google top mutual funds, you'd find plenty of communities or online publications tossing you some names of well performing funds.

No one can predict how markets would perform in near future (short term), or over long periods of time. And when we say no one, we really mean **no one at all**.

Amsterdam is the oldest stock exchange, founded in the 1460s. London stock exchange is one of the oldest, founded in 1801, with nearly ~220 years of history. US markets have been around for ~200+ years, since the early 1800s (NYSE was established in 1817). Indian markets are relatively young, been around for only a little over 40 years, in any meaningful way. BSE was founded in 1870s, but it's hard to find reliable data since before Sensex was created in 1979. Some even suggest to ignore data from before NSE was created in 1994, which gives us ~25 years worth of market data to analyse.

Despite all these data, there's no prediction algorithm or deep-learning solutions; that can predict future market behavior accurately or near-accurately. Markets would surprise you from time-to-time, and new events would keep on happening in all markets, all over the world.

Mutual funds give you exposure to markets, and their ups & downs are linked to market's movements. It's mostly not up to the fund.

Lion's share of performance of a fund, is due to luck - just having right exposure to right assets at the right time. Very little is due to fund manager's skill in asset picking.

There are different mutual funds, that invest in different types of assets. Some invest in stocks, some buy debt, while some others bet on commodities like gold etc.

The mutual fund that's best for you, is the one that help you with reaching your financial goals. If you need a certain amount of money after a given number of years; then for that financial goal, the mutual fund that helps you get there comfortably in time, is the best option.

For most retail investors, the problem is not the right fund picking. Any average fund would be good enough for most people.

Real problem is not investing enough, and relying too much on returns to make up for the low investment amount. Or not staying with a decent fund long enough.

Asking for best mutual fund is no different from asking which gym is best for you. Finding the perfect gym is not that important. Just like it's more important to be disciplined, in achieving your health & fitness goals, it's also important in achieving your financial *nirvana*.

ⓘ Please go through this link if you are interested in the ELI5 guide to selecting an equity mutual fund

Which date(s) is/are best for SIP in a month?

There's no such thing. It's rare for markets to move up / down so much in a single month, that a single SIP instalment being on a different date would make a sizeable difference in your long term.

There's no such thing.

It's rare for markets to move up / down so much in a single month, that a single SIP instalment being on a different date would make a sizeable difference in your long term corpus.

If you start investing today via SIP, and analyse 10 years later, you'd find that, say for example, 23rd of the month was the best day to invest for your funds. That's something you can know only if you know the NAV history of next 10 years, which no one does.

What about the apps that show you best date of SIP?

These platforms or services are showing you, the "best" date, to prevent an *analysis-paralysis*. It's "one less thing to worry about", therefore prompting it to the user would mean higher conversion rate (assuming this is a metric these platforms are measuring - how many people complete setting up their SIPs).

This is good for the platform, as it's helping the user feel psychologically safe that they're able to see some analysis, no matter how useless it is.

However, the only thing they've done is take past NAV data, and found out what *has been* best date of SIP for a particular fund over a period.

Since past performance is not indicative of future performance, anything derived from past performance is also not indicative of same metric for future.

If between 2001-2010, 5th of the month had been best for a particular fund, say SBI Bluechip (not a recommendation, just using as an example) - that does NOT mean for next 10 years (2011-2020) same exact date was best for the same fund.

For instance, some people believe that the last Thursday of the month coinciding with options expiry date, can be best for investment. This is obviously not backed by any sound analysis.

What does a sound analysis here look like?

You might find articles on the internet that draws some conclusions.

Take the 2010-2020 period. It's a 10 year period, with 120 months. That's 120 transactions. Assuming each month to be of 28 days (to account for February); this would require comparing across 28 time-series data sets, with each having 120 entries; for every fund.

But that's not all! Imagine someone investing on 28th of a month, instead of 1st of a month after salary credit (assume this person gets paid by employer on last day of previous month). Then these 28 days, this amount has been parked in savings account or overnight fund or even short term FD.

A proper analysis on best date for SIP would also have to involve the interest income from this and tax paid on these gains, which again, have varied greatly over any meaningful period.

As you can see, there are too many variables; and that's just with one single fund. India has more than a two thousand mutual funds, as of now.

Finally, consider that people don't invest the same amount via SIP over a ten year period. Some people increase the amount of SIP that they do every year as their salary increases. Some of them pause their SIPs from time to time, or skip a few installments here and there.

To sum it all up; there might be a best date for SIP in a month, and it depends on lot of factors that one cannot easily simulate with past data. But even if they did and found one, that date might not be best for your investment pattern for next 1-2 decades.

Invest on a date of month you're comfortable with.

I've to invest in ELSS for 80C tax saving. Which fund(s) should I pick?

Pick a fund that you like. No point having more than one ELSS fund. But know why you're investing in ELSS in the first place, because it's equity, and you should give it longer than 3 years to perform

When it comes to ELSS, present categorization gives the fund managers wide berth in picking stock from Nifty 500 universe of stocks. They can pick any stock from top 500 stocks listed in NSE / BSE - this is different from funds that are categorized as large-cap, mid-cap, small-cap, or multi-cap funds. Only flexi-cap category of equity funds is similar.

This makes it tricky to pick an ELSS fund, because all funds from these category might not be on the same footing.

You can look at past returns, or metrics derived from past returns (alpha, beta, sortino ratio, and other greeks); but all these won't indicate how a fund would perform in next time period of similar duration.

If a fund had 4% alpha on its benchmark over last 3 years; it's not an indication of what kind of alpha it would have going into next 3 / 5 / 7 years.

Active fund picking is hard, and ELSS having widest latitude can be really hard to pick the right fund that'd perform great *after* you invest in that.

For instance, until 2015-16, Nippon ELSS used to be one of the popular recommendation on many mutual fund portals. Since then, next 3-4 years haven't been kind to this fund, owing to this fund's huge bets on infrastructure / manufacturing sectors.

Conversely, Axis Long Term Equity (not a recommendation, using as illustration) has done better than expected over the same period.

In 2020, Canara Robeco ELSS fund looked like a great fund, doing much better than its peers over last 3-4 years. But 3-4 years ago, or even a year ago, it wasn't doing anything extraordinary, that it'd get into anyone's radar.

The harsh truth is, you can pick an ELSS fund, and at best hope for it to do well-enough. We've discussed in these FAQs how picking the right fund isn't exactly a big requirement - if you pick something that does ok enough, and give it time, that's fine.

ELSS investment which would be countable under 80C deductions is capped at 1.5L per year (though you can invest more than that amount in one/multiple ELSS schemes, the amount available for 80C will remain at 1.5L as per the current IT laws). On top of this, most salaried workers have PF, insurance etc., limiting ELSS investments to much lower value. If the investment principal is small, return difference isn't that important.

Just pick one, you're as likely to be wrong as you could be lucky.

Should I get a Demat Account to buy units in Mutual Funds?

No! You do not need demat account / trading account, to invest in mutual funds.

Intro💫

No! You don't need demat account / trading account, to invest in mutual funds.

Mutual funds are sold by AMC (**A**sset **M**anagement **C**ompanies) directly to you. RTA (**R**egistrar and **T**ransfer **A**gent) of the relevant AMC processes the transaction, and keeps records of your units purchase or selling.

It's already stored electronically, with legal ownership that it belongs to you.

For instance, if you buy units in SBI Bluechip fund, then SBI AMC would issue you units. And its RTA, CAMS, would be responsible for maintaining these transaction details as *source of truth*, when it comes to your holdings in the fund.

To Demat or not to? 🙅‍♀️

If you add demat on top of that, it'd create an extra layer. Now that extra layer is beneficial for you or not, would vary from person to person.

The following are the pros and cons of using Demat folios:

Upsides 👍

- **Loan Against Securities(LAS):** You can gain access to a variety of loans, predominantly from a bank, by offering the securities (like mutual funds) as collateral; that are maintained in your demat account. These securities can be pledged as a collateral for obtaining a loan from your bank.
- **Easy Claim Process:** Mutual Funds or stocks in demat are much easier to claim by dependents (nominee of demat) in the case of death. Direct plans with multiple AMC's (fund houses) would otherwise mean multiple folios, which would be difficult to aggregate and claim.

Downsides 🥺

- **Porting & Vendor lock-in:** Demat folios (folios where your units are purchased through a broker in demat mode), don't let you easily port these into other platforms. In non-demat mode of holding (also known as *Statement of Account* mode, or SOA mode); your units are only with the RTA, and you can purchase through one platform (INDMoney, for example), and sell those units through another platform (say, MFUtility); while track your portfolio in a third platform (Kuvera or PayTM Money, for instance). You get best of *all platforms*, when you invest in SOA or non-demat mode. Compared to that, investing in demat mode means you must transact on those units, only via your broker.
- **Extra Fees & Charges:** Demat mode of holding also adds extra charges, in addition to usual charges of mutual funds like the expense ratio, for each transactions. Depository fee, annual maintenance fees for your demat account, withdrawal stamp duty etc. are examples of charges you'd typically incur, should you use demat account. For a full list of all fees, you should ideally check with respective broker.

If you are confused which one to choose, select the non-demat mode. You aren't limited by the platform in this scenario.

You can transact on your folio through any platform of your choice, track your holdings in any other platform of your choice.

If a platform doesn't offer a functionality (say, instant redemption from liquid funds, or creating new folio for tax optimizations on short-term withdrawals), you can directly use the web portal of the respective AMC to place that particular transaction in your folio.

It gives you a freedom so that you're not *vendor-locked-in* with your broker or platform.

- Presently, platforms like Coin, HDFC Securities etc. offer mainly Demat mode of holdings exclusively. So you might want to think through and understand these inconveniences before signing up on any of these.
- For updating the details like nominee or bank details etc., you can use MFUtility ↗ since it provides the opportunity to update the details across fund houses with a single application.

Lumpsum investment vs SIP/DCA

If you're investing for the long term, time in the market beats timing the market. Invest the entire amount all at once, irrespective of market levels. Invest regularly if don't have lumpsum.

This is quite confusing to many people, since the finance world touts SIP (Dollar Cost Averaging in foreign terms) as the best way to invest.

Definitions

SIP (Systematic Investment Plan)

One invests a fixed amount of money at a regular interval (daily / weekly / monthly / quarterly). In short, it is transfer of money from cash to a particular asset (mutual fund / direct equity called the DIY-SIP or other such names).

STP (Systematic Transfer Plan)

One switches/transfers from one mutual fund to another at regular interval, if the money is already with the AMC (asset management company). In other words, you just setup a transfer from one MF to another, most commonly this is done from liquid/short term funds into equity funds.

Lumpsum

The investment of the whole lot of money into an asset.

Basic Guiding Principle: The overall average return of various asset classes vary. In the long term, the cash and cash-equivalents produce low but fixed returns, while the equity assets produce high returns with volatility (in most cases).

You have got 10 lakhs, and your investment horizon is >10 years. What should you do? So should you put your money in

1. 10L in an equity fund (or equity-oriented hybrid fund) on day 0. OR
2. Put your money in a short-term debt / liquid fund and start a STP into the equity fund at monthly (120 instalments) / yearly (10 instalments) intervals.
3. Keep your money in your bank account and start SIP into the equity fund at 120 monthly / 10 yearly intervals.

You do not have 10L, but can invest at a rate of 8k per month (Total principal amount 10L, over 10 years). What should you do?** So should you, since lumpsum is better than SIP,

1. Start putting your money into your account / liquid fund over all those 10 years, and then invest lumpsum at the end of 10 years, OR
2. You should start putting the money directly into Equity as a regular SIP.

The answer is obviously 2, since you will not be missing out on all those 10 years of equity returns.

Should you split your single SIP into multiple SIPs?

This is just another form of 1. As we understand, Lumpsums tend to win more often than not as compared to SIP, it is better to put a single SIP at a comfortable time. By comfortable time, I mean that if you receive your salary on 5th, then set up your SIP date to 15th or so; this gives you flexibility when your salary will get delayed (it is almost inevitable that this will happen). The added advantage of a single SIP is that the paperwork of future capital gains tax calculations will be easier. Having weekly/daily SIPs will have hundreds of entries and calculations after a few years.

TL;DR

if you have money to invest for a long term, put that money into a diversified equity asset ASAP. If you have got lumpsum (eg, bonus money or tax refund), then invest lumpsum. If you have regular stream, then invest at a regular interval.

Why are Index Funds in India not as cheap as Vanguard's Index Funds and ETFs?

It doesn't make sense to compare the expenses of Indian Index Funds and ETFs with Vanguard's Index Funds and ETFs. Vanguard's S&P 500 fund has more AUM than the entire Indian mutual fund industry AUM.

Before we begin, Total Expense Ratio (TER) is the amount that investors pay to AMCs for the operative and administrative expenses of managing a mutual fund. If a mutual fund has total assets under management (AUM) of ₹$10,000$ crores and an expense ratio of 1%, it charges ₹100 crores as expenses in an year.

The difference between regular plans and direct plans of mutual funds is explained in the article linked below. In short, regular plans have an additional cost of distributor commission. This doesn't go to the AMC.

Why should I invest in Direct Plans instead of Regular Plans? ›

Vanguard's S&P 500 ETF shares class (VOO) has a TER of 0.03% and an AUM of about $221$$$billion. Thismeansthatitearnsabout$66 Misplaced & billion. For reference, the total AUM of the entire Indian mutual fund industry is

$$\$431$$

billion.

In contrast, Kotak Flexicap Fund, one of the largest equity funds in India, has an AUM of ₹$34,115$ crores and a TER of 0.64% which means that the AMC gets about ₹218 crores every year. In terms of dollars, that's

$$\$29$$

million.

UTI Nifty Index Fund

The total AUM of UTI Nifty index fund was ₹$1,324.24$ crores at the start of the FY20 and was ₹$1,772.13$ crores at the end of FY20. Its expense ratio throughout the year was 0.1%. If we consider the average AUM throughout the year as ₹$1,548$ crores, a TER of 0.1% would've given UTI approximately ₹1.5 crores as earnings from UTI Nifty index fund in the FY20.

The list of expenses borne by UTI Nifty index fund in FY20 are as follows

Expenses	₹ in lakhs
Management Fees	0.91
GST on Management Fees	0.16
Trusteeship Fees	0.76
Marketing & Distribution Expenses	17.12
Custodian Fees	9.55
Registrar Fees	18.82
Investor Education Expenses	32.25
Audit Fees	0.63
Other Operating Expenses	87.83
TOTAL EXPENSES	₹168.03

The total expenses borne by UTI for its UTI Nifty index fund in FY20 were ₹1.68 crores. Even if our TER calculation was an approximation, we still don't expect UTI would've made any significant profit from this fund and let's not forget, this is not charity or a non-profit venture by UTI. Since UTI kept the same 0.1% expense ratio for UTI Nifty index fund in the FY21, it would've probably suffered losses in FY21 as well. We'll know more once the annual report of scheme financials is published by UTI.

People might argue that UTI could've reduced their expenses by not spending as much on Marketing & Distribution or Investor Education but considering they don't have enough AUM or TER to make any profits whatsoever, would cutting back on Marketing expenses help UTI at this point? The longer the fund has meager AUM, the longer UTI would suffer losses here. We should also consider that UTI Nifty index fund was launched back in March 2000, more than 20 years ago. I'm not sure if UTI has made any profits on this fund whatsoever and yet we hear people complaining about the TER of this fund being high.

Motilal Oswal S&P 500 Index Fund

The total AUM of Motilal Oswal S&P 500 index fund as on 31st March 2021 was ₹$1,088.31$ crores and its expense ratio has been 0.49% since its launch on 28th April 2020. Assuming an average AUM of ₹504 crores, MO would've been able to earn approximately ₹2.4 crores from its S&P 500 index fund.

Unfortunately, the scheme financial documents of MO's S&P 500 fund aren't available yet. It should hopefully be published in the next few months so we can know more about the expense details of MO's S&P 500 index fund.

Vanguard S&P 500 Fund

The Vanguard S&P 500 Fund is actually a class of several different funds all collectively known as Vanguard S&P 500 Fund. The different classes are

Vanguard S&P 500 Share Classes	TER	AUM (as on FY 2020)
Vanguard 500 Index Fund Investor Shares (VFINX)	0.14%	$\$4.6$ billion
Vanguard S&P 500 ETF (VOO)	0.03%	$\$220.6$ billion
Vanguard 500 Index Fund Admiral Shares (VFIAX)	0.04%	$\$399.6$ billion
Vanguard 500 Index Institutional Select (VFFSX)	0.01%	$\$106.7$ billion

Each share class has different minimum investment amount requirements and other minor differences. Combined, these share classes have an AUM of $731$$$billion. UsingtheTERandAUMmentionedinthetableabove, wecancomeupwithanapproximatefigureofe$ 240$$ million in the year 2020. The actual amount is probably somewhat lesser since we haven't considered average AUM in this case.

The total expenses of Vanguard S&P 500 fund across all of its share classes was $184$$$million. ThismeansthatVanguardearnedonlyabout$50$$ million in profit.

It should be kept in mind that Vanguard itself is structured differently than most AMCs and the company is owned by the investors in its funds. It was founded by the father of index investing, Jack Bogle, who was a proponent of low cost index investing. It would be fair to say that we haven't had any AMCs similar to Vanguard or influential index investing pioneers in India yet.

Summary

We don't think it makes sense to compare the TER of Indian index funds to that of Vanguard's index funds and ETFs. The difference in scale is just too great. The index investing scene in India is at a nascent stage, to say the least, if we compare it with giants like Vanguard. We've seen that a 20 year old domestic index fund like UTI Nifty Index suffered losses in FY20. Considering an international index fund like MO's S&P 500 probably has to face additional expenses, 0.49% may not be unreasonable. Of course, we'll know more once we have the annual report of MO's funds for FY21.

https://utimf.com/forms-and-downloads/

https://investor.vanguard.com/etf/profile/portfolio/voo

https://investor.vanguard.com/mutual-funds/profile/portfolio/vfiax

https://investor.vanguard.com/mutual-funds/profile/portfolio/vffsx

https://investor.vanguard.com/mutual-funds/profile/VFINX

https://personal.vanguard.com/funds/reports/q400.pdf

Insurance

All frequently asked queries on insurance

Should I invest in this LIC policy?

Avoid. LIC and the agent would take most of it. You'd be left with peanuts. It's one of the most opaque form of investments, and there's no guarantee. Govt. backs LIC, not your financial future.

LIC doesn't create money out of thin air. Over-simplified & shortened description of how it works: It collects premium from policyholders, then it invests that in market-linked securities (bonds, stocks, CP, CD, commodities etc.). Eventually, it pays out policyholders after keeping some cut for itself.

Unlike bank or post-office deposits, LIC returns are not legally guaranteed. Govt. of India is a major stakeholder in LIC, but that does not mean it's a major stakeholder in your future. Govt. would do its best to prevent LIC from going under. But your returns come at the cost of LIC's income - when those two are at odds with each other, Govt. would pick LIC over your financial future.

In practice, LIC returns money you'd paid as premium + some bonus. There are different categories of these bonuses: *loyalty bonus*, *guaranteed addition* etc. LIC wants to make you feel they're doing you a favor by giving you some bonus. Historically, a bank FD / RD at SBI would have had higher returns than LIC policy over a given period.

You can know your bonus after the policy matures.

LIC is also not allowed to invest freely. They are the largest financial services company in the country, and have much more cash than any other financial institution, that they can invest. However, large corpus of few lakh crores are not easy to invest. So they have to look for distressed assets, or wait for really bad market condition before deploying sizeable chunk of that cash.

There's also political interference to consider - as evident from LIC's bailout of IDBI bank. LIC's hands are tied, in when it comes to where they can / cannot invest.

Over long enough period of time, LIC returns have also significantly underperformed equity market returns, namely Nifty & Sensex Total Return Index.

Now, consider various charges on insurance (mortality charges, admin fees, risk premium etc.). These are not shown to you (the end policyholders); but these eat away your corpus and line up LIC's pockets.

Your agent would tell you to invest in LIC policy, because that helps him earn commission. Your parents would pressure you into doing it, because most likely they'd not be aware of other investment options.

The fact that it has tax benefits is of little concern, because gains from LIC policies are so low, taxing it won't make much difference in final corpus size, post-tax.

At its core, an LIC policy is an insurance policy. The cover provided by this insurance is inadequate, to take care of your family's financial needs in your absence. A pure term cover is better, which works very different from how a typical LIC policy works.

But none of the above covers real problem with an LIC policy - it locks you into a lifelong decision much early on. For a lot of people, who had subscribed to LIC policies 20-25 years ago, and seeing their policies maturing now - the maturity amount is probably not even worth a month's income.

Due to inflation, the maturity estimate which might look huge today, would be much lower in value, upon actual maturity.

These premiums cannot be changed once you start paying for a policy. You have no option of stepping up your premiums as your salary increases year on year.

Overall, an LIC policy is rigid, wasteful, and doesn't provide adequate coverage. Tax benefits are not good enough to offset the opportunity cost (i.e. you're missing out on other efficient assets and time).

Avoid LIC policies, buy vanilla pure term cover, and invest in efficient market-linked transparent assets yourself. If your question is *but what if markets don't do well in next 15-20 years?*, then the LIC policy also has same fate.

Addendum

The general perception of the term "LIC policy" is any moneyback/endowment policy, in which there is some investment component also, i.e. after the end of the term of the policy, you will get money returned back to you. There are pure protection plans available by LIC and other insurance companies, which are what are recommended. In case of LIC, these are Jeevan Amar and Jeevan Tech Term. All others are some combination of moneyback plans.

Opinions on investing in smart wealth plan by bank?

Avoid. Insurance company and bank RM would make gains; but you could do much better not mixing insurance with investments. Insurance cover is inadequate, returns from ULIPs are lower than bank deposit

This is not that different from the query on LIC. Bank / Insurance company would take your money, invest in some market-linked securities, deduct insurance related charges; and give you back peanuts. Upside is limited, but bank would sell you on the idea that downside is also limited.

As a rule of thumb, any policy or plan sold by bank, especially one that has a *smart* in its name, can be avoided without further consideration.

ULIP (Unit Linked Insurance Policy), Endowment plan, Annuity Plan - these are all great plans for the banks & insurance companies. But they are terrible for you.

Before buying into any bank products that are sold with such hopes and optimism, ask the bank RM to put you in touch with an existing subscriber, so you can review returns-in-the hands of an investor who actually invested in that.

Note that just because a bank RM is selling you, doesn't mean its returns are guaranteed by the bank. Other than bank deposits, nothing else is guaranteed, even if a bank sells you that.

You can look at the brochure / policy doc, and you'd see nice fat projections. But that's all those are - projections. Per IRDA regulation, banks & insurers can create projections with 8% and 4% return as illustrations.

That's not a guaranteed amount.

Some banks do sell guaranteed annuity and similar products. Putting those in a single excel sheet, or Google Spreadsheet, and invoking `XIRR()` function would show you that returns would barely be anything close to long term FD returns. Here's an example from #insurance channel:
https://discord.com/channels/546638391127572500/546639811792994329/768485559147823134 ↗

As said above, buy term cover if you need insurance. Invest in market-linked cost-efficient assets if you need returns. Most importantly, don't mix insurance with investment, where investment pays for the insurance.

Up to what age should I take term cover?

Till the age someone is financially dependent on your income. Ideally 60-65, no more.

What really is term cover?

A term cover is an ***income replacement plan***. It should be covering you, till you've dependents who're reliant on your income, and miss it if something were to happen to you.

This money would never be yours. It's meant for your family, in the event of something highly unlikely.

How does it matter?

It matters because for most people with income from salary or contract work; it'd be hard to sustain their income after age of 55-60.

At that point, they'd ideally have enough savings or investment corpus, or annuity or pension to take care of their day to day expenses , for the rest of their remaining life.

It's hard to imagine one having to support their immediate family members financially, after an age of 60.

While most term insurers offer insurance coverage up to age of 70-75, or even 80 years of age; it only serves to increase the premium.

You shouldn't have to buy a cover for a scenario, and pay extra in premiums; when you don't even need it.

Optimally, a term cover up to age of 55-60 makes sense.

Ideally, if you reach a state where your savings + investments far exceed the cover amount (for example, by more than 2x-3x); then it makes sense to cancel the policy and stop paying further premiums. In the event of your demise, your nominee(s) would simply inherit your corpus.

If you plan well, you would actually make the term cover moot well before your retirement

In a well run plan, you would start creating assets soon enough. Even if you have a few years of earning/investing left, your corpus may be sufficient to take care of all the financial goals that outlive you. When you reach this state, you don't require term covers. Example: Say you have two financial dependents and are building a retirement corpus for the three of you. There may be a few more years required to build the corpus for all three, but you would have built the corpus for the two dependents earlier. You can then cancel the policy.

Do I need my own health insurance? Employer already has group policy

Yes, you should. Employer provided group policy might have lower cover, or co-pay, or a cap on room-rent. You should get one on your own, to decouple your insurance from your employer

Intro 🍁

According to IRDA (**I**nsurance **R**egulatory & **D**evelopment **A**uthority) of India

> A group insurance policy gives you advantages of standardized coverage and very competitive premium rates

The *risk* for a group insurance provider is spread over a larger population, hence making the premiums cheaper.

Group covers have lot of benefits.

Features ✨

Salient features of Group health insurance:

- PED's (pre-existing diseases) are generally included from day one, with some exclusions.
- An option to increase Sum Insured (SI) as well as insure your parents/in-laws by paying an additional premium.
- TPA (**T**hird **P**arty **A**dministrators) services are comparatively better in group insurance schemes due to higher absolute premiums paid by the group.
- You can port to another policy of the same insurer, to avoid having to wait out the exclusion periods for pre-existing conditions.

  However, you'll have to start the porting process at least 30 days before you leave the organization, and the new policy will provide fewer benefits, as it'd no longer be a group policy.

Limitations 👎

Limitations of Group health insurance are as follows:

- Sum assured is generally lower than Individual or Family floater policy options.

  Due to the lower sum assured, they may have a room rent/ICU capping clause.You will end up paying more if your stay is in a more expensive room, since all major hospital expenses are linked to the room rent.

  Imagine if your medical bill is 2L, and room-rent cap in the group policy is 8k / night; but your actual rent for room in the hospital was 10k / night. Then all your bills would be scaled down by a factor of 0.8, by insurer, and not just the room rent.

  Out of 2L, insurer would at most pay 1.6L (= 2L x 0.8).
- Group policies could have a co-pay clause. Even if they don't have it this year for your policy, they might next year when policy is renewed. It's common in most firms, or corporates, to negotiate for better rates with new insurers, every year. TPA for the insurance remains same, but actual underlying insurer changes frequently. New insurers come in with new clauses.
- The coverage of the group policy ends immediately, if the employee resigns or is terminated. You and your family will be without coverage in the transition period between jobs.

Verdict ⚖️

Group health insurance is adequate when you're starting out in your career, do not have dependents, and are relatively healthy (confirmed by an annual health check) or less likely to fall ill.

You can have two options here:

- Continue with the group cover alone, hoping that you won't need additional health insurance in the near future.
- Buy an additional individual/family floater plan, in personal capacity

Biggest risk in depending solely on the group cover, is that any illnesses that you or your family members later develop could result in a significantly higher premium for a floater plan or an insurer declining to underwrite your policy.

If you have an additional individual/family floater policy:

- You can use the group cover for minor hospitalizations.
- After 3-4 years, the waiting period for any pre-existing illnesses would be over and subsequent hospitalizations due to these PED's will be covered in your personal Individual / Family floater plan.
- You and your family will have a health cover if you decide to take a sabbatical or during a transition period in-between jobs.
- You can also buy a super top-up plan using the floater plan sum insured as a deductible.

Should I take top-up policy or super top-up?

Super top-up is better, as the limit is reset on every claim. While for top-up, it's per policy year

Introduction ✨

Before we get to the answer for this, we need to define and establish common understanding around some domain specific terms.

A **Base Policy**, which could either be a group, an individual, or a family floater policy, covers you and/or your family members up to the **Sum Insured**.

This is for any hospitalizations; for a minimum period of 24 consecutive in-patient care hours, except for specified procedures/treatments where such admission could be for a period of less than 24 consecutive hours.

This base policy might have restrictions on **Room Rent** (all major hospital expenses are linked to this parameter, as discussed before) and ICU charges; require you to co-pay a specified percentage of the admissible claim amount and have other restrictions/exclusions under the policy.

Given all other conditions like your age, any pre-existing illnesses, number of family members being insured being the same, your base policy premium will increase with every increase in the sum insured. Hence a ₹2,500,000 (25L INR) sum insured policy will have a higher premium than a ₹1,500,000 (15L INR) sum insured policy.

Is my base policy enough? 🤔

Cost price inflation of medical services and medicines (closer to 10%-15% per annum) and lifestyle diseases can make a base policy of 25L inadequate in the next 5 years, since the time of subscribing in the policy.

Any new policy will also have a waiting period for pre-existing illnesses (PED's) along with higher premiums due to the PED's. If you want to future-proof your medical expenses, the base policy alone will not be enough.

The option you then have is to buy an additional top-up or super top-up policy. Both these policies are based on a clause called a deductible.

What is a deductible? 🌵

As per IRDAI's guidelines on standardization in health insurance:

> Deductible means a cost sharing requirement under a health insurance policy that provides that the insurer will not be liable for a specified rupee amount in case of indemnity policies and for a specified number of days/hours in case of hospital cash policies which will apply before any benefits are payable by the insurer.

When you buy a top-up or super top-up policy you must choose a deductible - the maximum cost you need to bear when making claim.

Assume you are buying this policy with a deductible of ₹500,000 (5L INR). What it means is that the first 5L INR of any eligible claim will first be paid by the insured either through a separate base policy or out-of-pocket.

Top-up vs Super Top-up? ☯️

In case of a top-up the deductible is applicable for each hospitalization, whereas in case of a super top-up the deductible is cumulative for the policy year.

Which one do I buy? 💰

Assuming you already own a base policy and are choosing between a top-up vs super top-up, **it's usually recommended you buy the super top-up**.

The higher the deductible that you choose, lower will be the premium for the super top-up policy.

Ideally your super top-up policy should have the same renewal date as your base policy. This ensures that both policies overlap each other 100% and the benefits of having these two policies are maximized.

Super top-up policies are available for sum insured of up to 1 crore with some insurers.

Why is the premium low for Super top-ups? 🐤

Insurers can offer super top-ups at a cheaper rate compared to base policy. This is because of much lower probability of higher expenses, that'd require you to use your super top-up policy claim options.

Statistically, it's more likely that your hospitalization costs would be within the deductible limit of super top-up policy. Hence, insurers can afford to offer lower premium.

Is it worth paying extra premium for term insurance?

With various regulations in place for insurers by IRDA; there are not many advantages of paying a premium to larger, and otherwise reputed, companies for their term insurance cover.

Intro 💫

When buying a term cover, anyone would want to do their best to ensure their nominee(s) can claim the cover amount in their absence, if the worst were to happen. But it's easy to let our emotion guide us, what should be a rational process.

With various restrictions in place by IRDA (**I**nsurance **R**egulatory and **D**evelopment **A**uthority), there aren't that many advantages of paying a premium to large *reputed* companies for their insurance cover.

Let's analyze various concerns you might be having, and how those stake up.

Concerns & Related Regulations 🤷

Insurance companies will find a way to enforce exclusions

Do investigate under which all circumstances they could reject a claim. It can be done by reading policy terms & conditions carefully, or getting details in writing from insurer.

But unlike health insurance, term insurance is much simpler. As morbid as this sounds, this question has a binary response.

Either insured person is dead or they're not dead. Even suicide is covered after 1-3 year of policy depending on the policy, which essentially means after a certain point of time insurer cannot reject a claim holding insured person responsible for their death.

Small companies will reject my claim no matter what

This is not true. According to Insurance Laws (Amendment) Act 2015 Section 45 ↗ ()

> *No policy of life insurance shall be called in question on any ground whatsoever after the expiry of three years from the date of the policy, i.e., from the date of issuance of the policy or the date of commencement of risk or the date of revival of the policy or the date of the rider to the policy, whichever is later*

This means, after 3 years of continued payment of premiums, even if they find that some information about your medical history isn't correct in the insurance forms you had submitted, they can't reject the claim on grounds of non-disclosure.

So, ensure that you provide correct information to the best of your knowledge when you take a life insurance.

But no need to worry about claims getting rejected because you missed to cross a 't' in your form; if you've paid insurer premiums for at least 3 years.

They will make us wait a long time to settle

They cannot!

As per the regulation 14 (2i) of the IRDAI Policy holder's Interest Regulations 2017 ↗, companies need to **settle the claims within 30 days** of receipt of the documents. If they require further investigation, they need to do it in 90 days.

Maximum time period one's family needs to wait, is 90 + 30 = 120 days.

Insurance broking companies like Policybazar, Coverfox etc. have representatives in major cities who will be able to do the documentation on our behalf in case of any claim.

They will be able to guide us in getting the needed documentation thus decreasing the chances of delay.

What if the insurance company gets closed?

Sections 35, 36 and 37 of the Insurance Act provide guidelines of amalgamations and transfers of insurance business.

As per this, an insurance company just cannot exit the business.

It can only merge with other companies and that too with certain conditions, thus protecting our insurance cover.

They're also required to maintain the solvency ratio of 1.5 which means if the company gives 100 Rs cover, they need to keep aside 150 Rs (see note), thus ensuring that the company will be reasonably able to provide the insurance money.

Note:

- Solvency ratios in insurers is (Net Income + depreciation) / Liabilities. So example is not 100% accurate, but an approximate.
- You can check the history of Aegon Life ↗ & IndiaFirst insurance ↗ on how the partners exited the business, merged with others etc. due to business and regulatory reasons; without affecting policy terms and conditions with insured persons.

Higher Claim Settlement Ratio

CSR (**C**laim **S**ettlement **R**atio) is number of insurance claims settled, as a percentage of claims received by the insurer. It's a metric every insurer has to publish with the regulator.

While this is an important number to look at; some of us really overdo it, extrapolating to imaginations that aren't apparent from the raw data itself.

To begin with, if an insurer has a CSR of 96%, then it **does NOT mean** that your claim has a probability of 96%, of getting approved. Your case, if it ever comes to that, would be treated by claims department of insurer, as a standalone case of its own.

CSR is a *lagging indicator*, i.e., it only says what *has* happened; not what *would* happen in future.

What you should be more interested in, is the potential future value of your insurer's CSR, around the time of insurer's demise. Since there's no way to predict that (can you really predict what would be CSR of Max Bupa in another 10 years, looking at its CSR of past 5 years?), it's almost pointless to look at CSR as a guiding north star.

A relatively new entrant in insurance market, would've a younger insurance user base; and therefore lower CSR due to higher chances of rejection.

CSR can be sensibly used as a baseline selection criteria. For example, one might not consider insurers that have not scored more than 90% on their CSR in last 5 years.

But it's naive to think that if CSR of insurance company A is 98%, while it's 95% for B; therefore your family might've 3% extra probability of getting your claim approved if you were to get it from insurer A.

Chances are, if B has a good reason to reject a claim, most likely so would A.

Conclusions 🎏

These arguments are based on the rules as of today and is subject to change it future.

But historically, the rules have only gotten stricter, and not the other way around.

So, it is safe to assume that there is no real advantage of going with the company with good names. What you may consider is the solvency ratio and the customer service

> You may also avail policy under MWP Act ↗ if you are married and got loans and other liabilities to ensure that the insurance money is passed on to your wife. You may find it easier to get this option if you go with online insurance brokers

> Taking rides like accidental death might not be a good idea since it is hard to prove.
>
> But some rides like critical illness got its own use case since the policy premium increases as you age if you take it separately.
>
> You should assess your own situation and take a call on riders, since it is beneficial to have separate insurances instead of add-ons and keep the life insurance in its vanilla form.

Stocks

FAQs on direct equity investments

Should I invest in smallcase?

Smallcase has tools which can help managing a stock portfolio better than most platforms. But do your own due diligence, before you invest in a smallcase; and not just because the CAGR looks great.

There are two parts to investing via smallcase:

- the tooling around managing a watchlist of stocks, which enables us to execute transactions at portfolio level rather than at scrip level
- the basket of stocks offered by smallcase themselves, such as the *Low Risk - Smart Beta* smallcase, which can have a collection of stocks, ETFs, commodities etc.

There's no doubt that the usability of smallcase, as a tool, to manage a stock portfolio is quite good. When we say "usability", we mean the user experience of using the smallcase website and its aesthetics. If you already have a plan to invest in a collection of stocks of your choice, you can create a watchlist and place orders using smallcase.

The second aspect requires smallcase having a proven track record. The people responsible for maintaining the various basket of stocks on their platform should be capable stock pickers themselves.

We're mostly concerned with the second aspect in this article.

Here's why investing in the baskets of stocks offered by smallcase might not be a good idea

- Depending on the portfolio turnover, there can be significant tax drag for you since you'll be buying and selling units regularly.

  Smallcase is typically known for rebalancing their portfolios once every 90 days, for most of the portfolios.

  The act of rebalancing could result in some stocks being sold from your smallcase portfolio, which would also attract various charges associated with selling a stock.

  Since these are all negative cashflow transactions in your portfolio, your portfolio XIRR would end up falling behind the advertised CAGR of the same smallcase, over the same time period.
- There's a lack of a proven track record that can be independently audited and verified.

  Asset Management Companies (AMCs) are legally required to publish the Net Asset Value (NAV) of their mutual funds everyday, and the list of holdings held by their mutual funds every month. This means that an AMC can't give you random numbers. They are forced to keep everything in the public's eye.

  This is not true for smallcases.
- Smallcase is selling *Backtested Models*.

  Backtesting needs to be free from various biases, such as look-ahead bias. Strategies derived from a backtest would always show great results when simulated over the same time period.

  It's hard to say if that's what's happening here; but since the appropriate data and disclosures around their modeling and backtesting is not present in the public domain, it makes sense not to just take them at their words.
- There used to also be some concerns around smallcase not being upfront with some of their numbers. They include backtested portfolio in computing returns of the smallcase, which is not at all how any asset management services report their returns.

  According to their recent blog post, they've updated some of their reporting to exclude such misleading data that could have potentially enticed curious investors to invest in hopes of high gains.

  Link to smallcase blogpost ↗ | archive.org link ↗ | archive.is link ↗

Finally, keep in mind that past returns are not indicative of future returns; and asset returns can be very different from portfolio returns.

What would make the basket of stocks offered by smallcase good investments?

A good investment is an outcome of a fact-based logical process. It should be rooted in better reasoning than just reported past performance of the asset.

Here are a few bars that the baskets of stocks offered by smallcase has to meet for it to be an investment worth considering:

- **Disclosure on Insider Holdings**

  It's easy to trust an asset if the entity offering it themselves believe in the same, and invest in it.

  Smallcase should, ideally, indicate net insider holdings against each basket of stocks that they offer on their platform.

  Anyone can come up with a portfolio of stocks. However, if people from smallcase showcase that they're investing in their own basket of stocks offered on their website, it'd engender more trust in smallcase.

  A commonly accepted qualitative metric of mutual fund selection, is to look at key insider holdings — after all, why would someone else invest in a basket of stocks, if the entity offering it cannot get their own employees to invest in those? AMCs have to disclose insider holdings in their mutual funds as a percentage of net AUM to show how *key insiders* are invested in those.

  This clarity is need of the hour.
- **Disclosure on Portfolio XIRR**

  Smallcase Baskets, by design, are a product where return difference due to both *behavior gap* and costs can be very high. They're not a standard *buy and forget* product.

  Behavior gap is a well-defined term. In short, it denotes the difference between underlying asset's returns, and returns as investors see in their portfolio, due to behavioral reasons.

  This is a well-known phenomena in investment, and various firms over the years have published studies on anonymized bulk data, that even when assets perform decently, most investors who invested in those assets, over same period of time, wouldn't see those returns in their portfolio. It'd be significantly lower.

  A mutual fund is structured as a trust, so rebalancing doesn't create any tax events for end investors who are invested in the same mutual fund. As for costs of STT, brokerage, and other fees associated with selling; all covered under expense ratio of the fund, which would be minuscule on a per-investor basis.

  As discussed above, mutual fund NAVs are already post-cost, therefore so are the returns.

  In addition to reporting CAGR of the portfolio, one should also expect to see on an average how a typical investor's portfolio has performed, **after costs**, in that smallcase basket.

  Publishing these numbers would only make it easier to trust smallcase that they have the best interests of investors in mind.
- **Disclosure on Portfolio History**

  Due to periodic rebalancing, the latest version of stock portfolio of a smallcase basket won't be how the same as it was a few months ago. It could even be wildly different from how it was a few years ago.

  If they were to publish stock portfolio history of their own smallcase baskets independently, it gives an investor an opportunity to validate:

  - whether the smallcase basket in question has stayed true to its mandate or not, as the theme of the smallcase basket dictates
  - whether the actual computed CAGR of the smallcase basket matches the CAGR advertized on the smallcase website

TL;DR: use the product if you like its usability; but not because you think their investment advice alone would make you great returns.

When using the smallcase website, you should use it as a tool to narrow down a watchlist of stocks and then do your own due diligence into underlying companies before investing in them.

What is the best app for buying or trading stocks?

Pick a discount broker you're comfortable with, as per your investment style and functionality requirements

Intro 💫

In India, there are plenty of small and big brokerage platforms available to you, that let you open trading and demat accounts for equity, bonds, ETFs (**E**xchange **T**raded **F**und), commodities etc.

Read this to get an overview of features / functionality of popular brokerage services, and the costs you'd be incurring if you were to go with one of these.

Broadly speaking, there are two types of brokerage services in India at present:

- Discount Broker
- Full Service Broker

Full service broker 🏦

These are the traditional stock brokers, most commonly sharing a parent corporation with a big bank, which offer more than just buy / sell / hold functionalities. To name a few add-on services, for instance, most full service brokers provide:

- Brokerage reports and analysis
- Stock advisory
- Portfolio management / wealth management services etc.

Typically, these platforms have both online and offline presence to serve you.

Axis Direct, Citibank Securities, HDFC Securities, ICICI Direct, Kotak Securities, Motilal Oswal Financial services, SBI Securities etc. are examples of full service brokers.

A tell-tale sign of a full service broker, is that they charge a percentage of your investment as brokerage fee, which means costs scale with investment amount.

Discount Broker 💻 ↗

After the penetration of internet, it became less and less necessary to have a physical location to cater to the customers' needs.

So with reduced staff by not having physical customer service locations, discount brokers are offering the trade with discounted rate.

They also don't provide the research / advisory services, portfolio or wealth management services etc. to keep the operational costs low.

As a result, they can afford to charge lower trading fees. Most discount brokers have zero fee on equity delivery trades, and close-to fixed fee for intraday trading / BTST etc.

One also needs to keep in mind *economics at scale*. By offering lower costs, these services are reducing barrier to entry. That means larger number of users, and higher trade volumes. Even if per trade costs are lower, it has the potential to help these discount brokers pocket higher revenue than some of the full service brokers.

Such businesses want the volume, and while they operate on lower revenue margins per trade (not to confuse with margin provided by a broker) compared to a full service brokerage; they make bank on volume.

A few popular ones are listed below, in **alphabetical order**.

1. 5Paisa ↗
2. Groww ↗
3. PayTm Money ↗
4. Upstox ↗
5. Zerodha ↗

Comparison of Discount Service Brokers

The following table is a comparison-at-a-glance for these discount brokers. The information presented in this table maybe out of date at any moment in time. We'll do our best to update this table whenever we come across new information.

	5Paisa	Groww	PayTm Money	Upstox	Zerodha
Good For	Various trading plan from basic to intra trader pack to cater different customer segments & charges	Single platform for Stocks, direct mutual fund and other asset class investments	Lowest trading charges	Fastest trading platform (15 Seconds)	Technical Analysis & Integration with 'Quant'- for behaviour analysis & fundamental analysis
Bad For	User interface is difficult to navigate especially for beginners	No option to currently trade in derivatives (futures & options), commodity, and currency segment.	No NRI Trading	No Good Till Triggered (GTT) or Good Till Cancel (GTC) orders	Frequent delays and downtime during high traffic hours
IPO application Possible?	Yes	Yes	Yes	Yes	Yes
Invest in US market	Yes	Yes	No	Yes	No
Add-on Pack available?*	Yes	No	No	Yes	No
Demat Annual Charges	300 Rs.	Free	300 Rs.	300 Rs.	300 Rs.
Equity Delivery Charges	20 Rs./Order	Rs. 20 or 0.05%/Order (whichever is lower)	Free	Free	Free
Equity Intraday Charges	20 Rs./Order	Rs. 20 or 0.05%/Order (whichever is lower)	Rs. 10 or 0.05%/Order (whichever is lower)	Rs. 20 or 0.05%/Order (whichever is lower)	Rs. 20 or 0.03%/Order (whichever is lower)
Equity Futures	20 Rs./Order	NA	Rs. 10/Order	Rs. 20 or 0.05%/Order (whichever is lower)	Rs. 20 or 0.03%/Order (whichever is lower)
Equity Options	20 Rs./Order	NA	Rs. 10/Order	Rs. 20 / Order	Rs. 20 or 0.03%/Order (whichever is lower)
Fund Transfer Options	-	-	-	-	-

UPI Transfer Time / Fees	NA	Immediate / Free	Immediate / Free	Immediate / Free	Immediate / Free
Instant Payment Gateway Time / Charges	NA	Immediate via Net banking / Free	Immediate via Net banking & Debit Card / Free	22 banks / 7Rs+tax	25 banks / 9Rs+tax
NEFT / RTGS Time / Fees	2-10Hrs / Free	NA	NA	2-10 Hours / Free	2-10 Hours / Free
IMPS Time / Feed	10 Min. / Free	NA	NA	NA	10 Min. / Free
Cheque Time / Fees	NA	NA	NA	3-5 Days (250Rs+tax- For dishonored margin cheque)	3-5 Days / 350Rs+tax
Number of accounts	0.25 Million	1 Million	6 million	2 million	4 million
User Experience (UX) and User Interface (UI)				Imposes outdated password length restrictions, doesn't have proper 2FA on	

*Add-on pack: Some platforms offer subscriptions plans which will enable to advanced users to get more features, reports, reduced trade fee etc. for a monthly fee.

*Number of accounts: It's indicative of trust, as larger user-base might mean more audits & compliance requirements. These numbers change everyday, so exact value is not that important. By the time you're reading it, most likely exact number of accounts on each of these platforms could be higher than what you see in the table above.

The above table compares some popular discount service brokers, in terms of the following parameters:

- What are the aspects the platform make easy for you (USP)
- What are the factors the platform make harder / costlier for you
- Fees / charges on various types of trades
- Funds credit options to trading account, and time it takes to credit the amount
- Approximate number of accounts on the platform, as reported, at the time of writing this

Wrapping Up 🎁

Selecting a brokerage service might require some care. Unlike picking a mutual fund app, it's not that easy to migrate between brokers. This is not an easily reversible decision.

Some brokerages make it so easy to trade, that you might end up placing too many orders, and lose big on brokerage fees.

Most brokers ideally provide a cost calculator to get an estimate of various fees & charges that might show up against your account, for the volume of trades you'd want to execute.

We highly recommend being careful with F&O, intraday trading and BTST trades. Ideally, as a retail investor, if you're looking to buy for long term, most discount brokers are quite cost effective.

An important aspect to understand, is your broker has lot of control over your holdings; unlike your mutual fund app.

For instance, the Karvy brokerage scandal of 2019-20, exposed how even full service brokers can exploit dormant holdings, keeping those shares as collateral for their other business arms to get loans.

It's of paramount importance that you evaluate a brokerage service on these two parameters:

13/04/2025, 11:10 r/IndiaInvestments

- Does the brokerage house have a history of lending out shares, to arrange for some liquidity?
- Does the brokerage platform have enough retail accounts, that they'd be subject to more audits and compliance?

This is why it's important to go with a broker that has been around for past few years, have healthy financials of their own, and have good volume. On that front, Zerodha comes out ahead of other brokers covered above.

It doesn't just end at choosing a broker with decent fees and nice UI / UX. You've to keep track of your holdings outside of the brokerage app. Check your monthly CDSL or NSDL CAS, to confirm your holdings are as shown in the portfolio section of your broker's app.

ⓘ As per SEBI stipulation of BSDA (**B**asic **S**ervice **D**emat **A**ccount), there will not be any annual maintenance charges if your portfolio value is less than ₹50,000. However, if it is greater than ₹50,000 but less than ₹2,00,000, a charge of ₹100 will be levied. If the portfolio value exceeds ₹2,00,000, charges will be levied as applicable to a regular non-BSDA demat account.

Which screener(s) should I use?

Pick a screener which doesn't bias you for or against a stock. But you should compute the ratios yourself, from ARs, to understand the assumptions behind those computations.

Introduction

Though stock-screeners calculate a lot of things, you must do your own calculations too. You will miss a lot of good opportunities or make some expensive mistakes if you consider only the pre-calculated values.

The objective of this article is to explain the importance of your own calculations. The article provides examples where the screening portals might not give right results. The examples are not to demean any portal but to explain the reasons for the difference in numbers across websites.

Examples of dividend yield

Lets consider the dividend yield of Britannia Industries as on 29th April 2021 (#britannia-industries-dividend-yield):

```
Screener.in:    4.18%
MoneyControl:   0.95%
MorningStar.in: 1.78%

Correct value:  ~2-5%
Depends on your judgement on how repeatable these dividends are
```

The differences are because of different treatments of interim dividends. While `screener.in` considers all the interim dividends of FY21, `MoneyControl` considers only FY20's dividends. `MorningStar` considered only one of the two interim dividends (probably assuming the other one as a one time special dividend).

Another interesting case is that of Majesco. The dividend yield as on 29th April 2021 on various websites is (#majesco-dividend-yield):

```
Screener.in:             1,353 %
MorningStar.in:          1,351 %
ValueResearchOnline.com:  1,355 %
(Yeah, 1000+% in all the cases)

Correct value:           ~0-5%
```

The company sold off its US subsidiary and distributed most of the proceeds from the sale. The US subsidiary contributed over 90% of the company's revenues and assets. Thus it is safe to assume it was a one time dividend. The future dividend yield in such a case would be around 0 to 5%.

Relying on *any* screener and buying highest dividend yields shares blindly can make costly errors in such cases.

Examples of PE Ratio

Let's consider PE ratio of ONGC on different websites as on 29th April 2021 (#ongc-pe-ratio):

```
MorningStar.in:          shows blank
Screener.in:             13
ValueResearchOnline.com:  144
NseIndia:                79
MoneyControl.com:        146
```


13/04/2025, 11:10 r/IndiaInvestments

The company reported:

```
Standalone TTM EPS:      ₹ 1.32
Consolidated TTM EPS:    ₹ 0.73
The price was:           ₹ 104
Exceptional losses:    ~ ₹ 7.98 / share

Exception losses were of 4899 Cr pre-tax on an old GST liability.
```

The differences across websites is because:

- `ValueResearchOnline` and `MoneyControl` considered *consolidated* EPS as reported by the company.
- `Screener.in` considered *consolidated* EPS but added back the exceptional losses.
- `BseIndia.com` and `NseIndia.com` considered *standalone* EPS.

The correct PE depends on your individual judgement on how you interpret the impact of exceptional items on future earnings.

The PE based on last 5 years average earnings will be 8.29. This is what Benjamin Graham recommends to use in such cases.

Operating margins and gross margins

The text-book definition of gross profit margin (GPM) is `sales - cogs`.

`COGS` is cost of goods sold.

Most websites will show the gross margins on this standard definition. However, this can sometimes be misleading.

Example in case of TCS - `screener.in` shows the GPM as 100%. This is because TCS has no inventory. But the correct metric for `COGS` in this case should be their employee cost.

Similarly in case of banks, most websites (eg `screener.in`), don't consider their interest cost in OPM (operating profit margin) and GPM (gross profit margin). Thus these numbers are shown exceptionally high.

Screening companies on margins can often yield incorrect results for:

- Insurance companies
- Banks
- Finance companies
- Mining companies

Return ratios

In case of Abbott India, the ROIC reported as on 29th April 2021 is (#abbott-india-roic):

```
Screener.in:        22.90%
MorningStar.in:     21.53%
TijoriFinance.com:  131%
Correct value:     ~138%
```

The company held fixed-deposits (cash equivalents) of ₹ 2,197 Cr in FY20. While `TijoriFinance` excluded these cash-equivalents in the calculation of capital employed, other two websites didn't exclude it.

These differences in the methods of calculating ROCE, ROIC, ROA and other return ratios can yield wildly different results. You can sometimes miss some interesting companies because their calculated return might be much lower than their economic return ratios.

Summary and Wrap-up

The auto-calculated ratios on websites can often be different from manual calculations. Those calculations will often miss sector specific adjustments or "special cases" which are too frequent in the investing world.

Don't rely blindly on any portal or report. Do your own due-diligence.Cross-check the numbers with your calculations.

Trust, but verify.

Though the websites and portals do their best, there are lots of nuances in the footnotes and schedules which are hard to capture. This mandates the due diligence from the investors and also provides opportunities to them.

To understand how to use a screener, you might want to check this out

Using Screeners

We've reached out to some of the teams behind these screeners and have pointed out these issues. They've assured us that they're looking into this.

Tijori Finance moved to paid subscription model now

Footnotes

Web-archives for case studies

Britannia Industries dividend yield

- Company's dividend history
- Screener.in
- MoneyControl
- MorningStar.in

Majesco dividend yield

- Company's sale of its US subsidiary
- Company's presentation about dividend
- Screener.in
- MorningStar.in
- ValueResearchOnline.com

ONGC PE Ratio

- Company's exceptional losses
- MorningStar.in

- Screener.in
- ValueResearchOnline.com
- NseIndia
- MoneyControl.com

Abbott India ROIC

- Screener.in
- MorningStar.in
- TijoriFinance.com

The Stock Market Has Crashed. Which Stocks Should I Buy?

Corrections in the stock market aren't unusual. Do your own due diligence before buying stocks.

Market Corrections Aren't Unusual

A correction or a crash in the stock market isn't an unusual event, despite what one might think during such an event. According to Fidelity Investments ↗,

> Since 1920, the S&P 500 has, on average, experienced a 5% pullback 3 times a year, a 10% correction once a year, and a 20% decline every 7 years.

Of course, similar behavior can also be observed in India with the S&P BSE Sensex index in the past 20 years, starting from 1980 to 2020. According to this blog post by Funds India ↗ (archive.org link ↗ | archive.is link ↗),

> In fact, a 10-20% temporary decline is as common as your birthday and you should expect this almost every year.

Market Correction Should Never Be the Only Reason to Buy Stocks

A market correction should **never** be the only reason for buying stocks, unless you've already done your due diligence on the stocks you're looking to buy.

It might sound surprising but the price of a stock is one of the least important things about a stock. At any point in time, the price of a stock may, or may not, reflect the underlying business fundamentals of the company in question.

Let's assume that you didn't do any due diligence on the stocks you bought during an ongoing market correction after asking for stock recommendations. What would you do if the price of a stock you bought falls by more than 50%? Would you sell it or hold it? What would be your reason for taking either of those actions?

Even if we assume that the stock recommendation comes from a person or an entity which apparently knows what they're doing, you shouldn't be willing to bet your hard earned money on borrowed conviction. They might find a better opportunity and sell the stock suggested earlier to buy another stock. Would they keep you updated every step of the way? They can also simply be wrong.

One has to realize that it's **much easier to buy a stock than it is to hold it or sell it**. Although one doesn't necessarily need to have conviction when buying a stock, holding a stock requires considerable research, devotion of time, and conviction, often in the face of extended downturns or a sideways market, even if one knows that the underlying business fundamentals are strong. The act of selling a stock is even harder and often the source of regrets among investors. People often have trouble letting go of a stock they're mentally, and sometimes emotionally, invested in, even if the stock should be sold. Sometimes, people sell too soon and then regret it later.

A research paper ↗ (archive.org link ↗ | archive.is link ↗) from the University of Chicago and MIT Sloan School of Management suggests that,

> while there is clear evidence of skill in buying, selling decisions underperform substantially — even relative to random selling strategies.

What Should You Do?

Assuming you've already done your due diligence on a stock and have enough conviction to hold it in the face of possible downturns, you may go ahead and buy the stock you want. However, if you haven't done **your own** due diligence on a stock, it's better to stay away from it. Asking for recommendations from others is a futile act because borrowed conviction will not help you in the time of crisis and the person who recommended the stock may not hold the stock in the near future or might be completely wrong about his choice.

However, if you still have the urge to buy something during a market correction, it might be relatively better to invest more in mutual funds you already hold.

Foreign Investing

FAQs on Investing in the US and overseas markets

Why should I invest in the US markets?

US equities give diversification and exposure to global growth in the most stable currency. Invest in US equities, if you can find a cost-effective way to do it.

Intro ✨

As an Indian equity investor, there are plenty of reasons for you to invest in the US equity markets. Equally, there are good reasons why one should avoid investing in US markets, if they are already exposed to Indian equity.

Reasons in Favor 👍

Diversification

Diversification is an important part of an investment journey. It helps one reduce volatility and risk of their portfolio, especially at larger portfolio sizes.

As portfolios get bigger over time, *drawdowns* can also be larger in absolute terms. When your portfolio has ~₹100,000 (1L) in valuation, a 1% drop is a nominal loss of ₹1,000. At ₹1,00,00,000 (1 Cr.), same 1% drop is a 1L nominal loss. As portfolios grow with time, many investors seek to reduce day-to-day volatility and large drawdowns.

Investing in overseas or foreign equity can provide some geographic diversification.

The rationale for diversification is clear — domestic equities tend to be more exposed to the narrower economic and market forces of their home market, while stocks outside an investor's home market tend to offer exposure to a wider array of economic and market forces.

In other words, unless there's a big global driver, most of the times, India and US equities won't move up and down, won't move up and down, in same direction nor necessarily with the same pace, simultaneously. Hence moderating the swings based on *percentage allocations* one takes in US equities.

Size

US equity markets are the largest equities markets in the world. As an investor looking to build long term wealth with equities, over decades, you should have some exposure to largest equity market in the world.

As of 2018, U.S. equities accounted for ~44% of the global equity market, far greater than the next largest market China (~9%). Indian market capitalization was only ~3% of the global market.

Why is size important?

Due to its vast size, most of the retail and institutional investors all over world, would always be chasing US equities, and be willing to take position in this. Its size makes it so that it remains efficient, and provide cues to other markets globally.

Being the biggest market it also attracts companies from around the world to be listed here as getting investing capital is easier in this market. Eg: Spotify (NYSE: SPOT), Makemytrip (NASDAQ: MMYT), Alibaba (NYSE: BABA)

The liquidity and quality of top US stocks are simply unmatched anywhere else in the world.

Lower Price Correlation

Just buying different stocks (or other assets) alone, won't automatically result in diversification benefits. The assets into which one is diversifying should have low price correlation with the assets already present in one's portfolio. Price correlation measures how closely the prices of two different assets are related.

Price correlation can either be positive or negative - the closer to zero, the better. A high positive correlation (approaching `1.0`) means that the asset prices move in tandem, offering diversification in name only, while a high negative correlation (approaching `-1.0`) would mean that the investments' price movements will virtually cancel each other out, defeating the purpose of investing.

For example, large-cap Indian equity mutual funds will usually have a high positive correlation with the Nifty 50 index; because many of the stocks held by these funds would be from the Nifty 50 space.

As seen in the table below, US markets have historically, had low price correlation with Indian markets

15Y Correlation Matrix	Nifty 50 TRI	Nifty 500 TRI	NASDAQ 100 TRI (INR)	S&P500 TRI (INR)
Nifty 50 TRI	1.000	0.984	0.112	0.147
Nifty 500 TRI	0.984	1.000	0.102	0.135
NASDAQ 100 TRI (INR)	0.112	0.102	1.000	0.929
S&P500 TRI (INR)	0.147	0.135	0.929	1.000

This table based on data provided by Bloomberg, considering prices of these indices between Feb 2005 and Feb 2020.

Nifty 50, Nifty 500 are Indian equities index benchmarks. We use TRI (**T**otal **R**eturn **I**ndex) to account for dividends.

NASDAQ 100 and S&P 500 are popular US equity indices. Here we also use TRI, converted to Indian currency (INR).

As expected, Indian equity and US equity benchmarks have close to 1 as correlation co-efficient among themselves. But any time an Indian equity benchmark is compared with a US equity index, or vice versa, the price correlations are drastically lower.

Marquee Names

Some of the biggest and most famous brands and companies are listed in the US.

Think Apple (NASDAQ: AAPL), Microsoft (NASDAQ: MSFT), Google (NASDAQ: GOOGL), Amazon (NASDAQ: AMZN), Facebook (NASDAQ: FB), Tesla (NASDAQ: TSLA), and many other similar ones.

Most of these companies are also MNCs (**M**ulti **N**ational **C**orporation) and have internationally diversified businesses and revenue streams.

In that sense, taking exposure to US equities can be viewed as getting access to equities growth of companies with global revenue and user-base.

But Also Consider These 👎

Currency Risk

Foreign investments are subject to currency risks. If you're an Indian resident, your investments would be valued in INR (Indian Rupee). And not in USD (US Dollar).

If INR appreciates against USD, then your US investments would lose its market value, and show up as a loss in your portfolio.

Opposite is also true (that's how risk works!) - if INR depreciates against USD, then your foreign holdings become more valuable, as it's priced in INR.

Forex movements would affect your portfolio. In addition to market risks that come with every equity investments, you'd also be assuming one extra risk which would impact your portfolio.

Taxation and Compliance

US taxation rules are different from Indian taxation rules.

Depending on how exactly you've been taking exposure to US equity markets, you could be on the hook for various legal and tax-related compliance and reporting.

That adds cost of management (e.g. you having to take the extra time and effort to understand US taxation), and compliance cost (e.g. foreign holdings requiring filing ITR-2 every year during tax filing seasons).

In addition to that, there might be forex exchange costs, remittance costs etc. that'd eat into your portfolio.

Wrong Expectations of Higher Gains

Often, investors wrongly assume that investing in US equities would mean higher than Nifty returns.

In reality, diversification works both ways. It's a trade-off.

For example, in 2018 December, US markets dropped in a big way over a period of just last two weeks of the year. S&P 500 was down nearly 20%.

Indian equities were not as affected, over same time-period.

But if someone had wrong expectations of US equities always doing better than Indian equities, and invested on the basis of that; they'd have learned a tough lesson the hard way.

Similarly, towards the end of 2020 and beginning of 2021, Nifty outperformed S&P500 over a period of 3-6 months.

In summary, there'd be periods of underperformance and outperformance from US equities, compared to Indian equities. As an investor, you shouldn't assume US equities always do better than Indian equities.

Wrapping Up 🎁

There are great reasons to invest in US equity. It adds much needed geographic diversification to your portfolio, and gives you exposure to equities that reflect global revenue and economic growths, in a stable currency that's recognized all over the world.

If you can take cost-effective positions in US equities, and have well-tuned expectations; you should go for it.

How should I invest in US equity?

Invest in a cost-effective manner. For smaller corpus, it makes sense to invest via India-domiciled mutual funds that invest overseas, while with a larger corpus it could be cheaper to invest directly

Intro ✨

Investing in US equity markets can be rewarding, if done for the right reasons, with right expectations.

When it comes to overseas investments; costs are usually the biggest factor to keep in mind. Unlike market returns, costs are in your control, and can be a determining factor in outcome of your investing journey.

There are currently two main ways in which retail Indian investors can invest in US stock market:

- **Direct Investing:** Investing via a platform or broker, which allows one to direct buy US stocks, ETFs, and other securities directly.
- **Indirect Investing:** Investing in India-domiciled mutual funds, FoFs (**F**und **of F**und - a mutual fund investing in another mutual fund), or ETFs (**E**xchange **T**raded **F**und) which invest in US companies' stocks.

If one is investing in smaller amounts (or SIPs) of less than ₹2L or so at a time, India-domiciled mutual funds are the more efficient choice due to lower costs (as low as 0.49% TER currently) and a simpler tax compliance process.

Explanation 📜

There are India-domiciled US index funds available to retail Indian investors at reasonable low costs.

For instance, the Motilal Oswal S&P 500 Index Fund Direct Growth ↗ (archive.org link ↗| archive.is link ↗), is available at a relatively reasonable TER (**T**otal **E**xpense **R**atio) of 0.49% (as of 25 March 2021).

There are also actively managed funds starting at a sightly higher (but still pretty reasonable) TER; that offer exposures in US equity markets.

But if one were to try and invest directly, one would run into a few challenges. At present, the international fund transfer process is cumbersome and expensive. Mainly because:

- Banks typically charge ₹500 - ₹1500 for every single international fund transfer.
- There is another 1% in currency spread / forex costs on the transaction, that's incurred for every transfer.
- There is an LRS form (called the A2 form) that needs to be **physically submitted** and presented to the bank for international transfers for the purpose of investing. Some banks might pick up this document from your place, or allow an online submission, but it can take up to two weeks for the funds to show up in your international trading account. Which means two weeks of opportunity and interest cost.
- The same costs and time, when withdrawing the funds back to Indian bank accounts; effectively doubling all above costs.

As a result of the above fees and taxes, average retail investors might lose up to 5% of their capital even before they've bought a single stock.

See this comment from Zerodha ↗ (archive.org link ↗ | archive.is link ↗) outlining the pain points for Indian investors investing in US stocks or ETFs directly.

In additional to the fund transfer process, there's also the additional overhead of higher tax compliance when it comes to investing directly. For instance, one has to declare their directly held foreign shares under foreign assets ↗ while filing one's ITR.

Because of the cumbersome and expensive fund transfer process and additional tax compliance, it is recommended that for now, Indian retail investors should prefer India-domiciled mutual funds and ETFs for investing in the US.

An Estimate of Fees 💱

One's fees will vary depending on the bank or service one uses, and tends to get more reasonable as a fraction of total investments the larger one's investment amount is. As an illustration one can refer to the below table ($1 = ₹72.5):

Amount to invest	Remittance Charges + Taxes	Investible / Redeemable Amount	Broker charges - to transfer money to your Indian bank A/c ($35)	Amount credited to bank A/c	Actual Returns
₹10,000	₹600	₹9,400	₹2500	₹6,900	-31%
₹50,000	₹750	₹49,250	₹2500	₹46,750	-6.5%
₹1,00,000	₹900	₹99,100	₹2500	₹96,600	-3.4%
₹5,00,000	₹1,250	₹4,98,750	₹2500	₹4,96,250	-0.75%
₹10,00,000	₹1,700	₹9,98,300	₹2500	₹9,95,800	-0.42%

Remittance charges may vary from bank to bank. For simplicity, we've used the average of present remittance charges across HDFC, ICICI, and SBI. You may notice a slight difference depending on which bank you use.

The above table doesn't consider the forex conversion spread, which can be estimated as 1%.

A conversion spread means you get to buy USD from bank, at higher price than it's worth, and sell to bank at lower price, than it's worth at that time.

On the other hand, as you invest and accumulate larger and larger corpus; the proportional cost model (i.e., where you get charged a percentage of your asset size) becomes costlier.

For instance, if you're investing ₹50,00,000 (50 Lakhs INR), an effective expense ratio of 1.5% would eat away ~₹75,000 (75k INR), every year. At that corpus size, it might be cheaper to actually invest directly into a US ETF (domiciled in IRE / LUX), and incur compliance costs.

List of Direct Platforms ✔️

Types of Platforms

There are broadly, two types of platforms providing US investing services to Indians:

- An Indian brokerage or platform, having a tie-up with an international or US based-brokerage like Drivewealth or Saxo.
- An international brokerage.

The international brokerages generally require a minimum account value (total value of investments held with that broker - similar to minimum relationship value used by banks) and charge higher brokerage.

On the other hand, Indian platforms generally don't require a minimum account value and generally have lower brokerage charges (some even offer zero brokerage).

Common Platforms

Some of the common platforms are:

- Vested (US-headquartered Indian platform)
- Winvesta (Indian platform)
- IndMoney (Indian platform)
- Groww (Indian platform)
- ICICI Direct (Indian brokerage)
- HDFC Securities (Indian brokerage)
- Interactive Brokers (International brokerage)
- Charles Schwab (International brokerage)

Aspects such as fees/charges, features and range of stocks available for investment vary from broker to broker and keeps changing over time.

For more reading, one can refer to the following reddit thread (old.reddit link | archive.is link) for a recent discussion on some of the popular options.

Tax Implications 🧾

Direct Option

When you invest in the US stock market directly, there are two types of taxation events:

- **Taxes on investment gains:** You will be taxed in India for this gain. Taxes will not be withheld in the US. The amount of taxes you have to pay in India depends on how long you hold the investment. The threshold for long-term capital gain is 24 months, with the rate of 20% with indexation benefit. If you sell a stock in less than 24 months, capital gains are considered short-term and are taxed according to your income tax slab.
- **Taxes on dividends:** Unlike investment gains, dividends will be taxed in the US, at a flat rate of 25%. Fortunately, the US and India have a DTAA (**D**ouble **T**axation **A**voidance **A**greement) which allows taxpayers to offset income tax already paid in the US. However, availing proof and paperwork for DTAA is not straight-forward. The 25% tax you already paid in the US is made available as FTC (**F**oreign **T**ax **C**redit) and can be used to offset your income tax payable in India.

Indirect Option

India-domiciled mutual funds and ETFs holding more than 35% of their overall portfolio in foreign stocks are taxed similar to debt mutual funds and provide indexation benefits on long term capital gains after three years.

If held for less than 3 years, gains are added to your overall income and taxed at your income tax slab rate. If held for more than three years, gains are taxed at a flat rate of 20% after indexation.

While Indian equity funds have an advantage over international equity funds when it comes to taxation, taxation shouldn't be the most important criteria if one is investing for long term and one is investing according to one's asset allocation.

Also, one must keep in mind that **tax rules can change over time**.

Things to Keep in Mind 🧠

- Under the RBI's LRS (**L**iberalized **R**emittance **S**cheme), resident Indians can invest up to USD 250,000 (~₹1.8 Cr. based on $1=₹72.5) per FY (**F**inancial **Y**ear) for any permitted current or capital account transaction or a combination of both. Link to RBI document | archive.is link
- Investments in US equities must be made in USD. One has to first wire (remit) USD to one's broker's partner bank in the US to fund one's account. In order to do this, the investor must fill out an LRS form (called the A2 form) and submit it to their own bank.
- On placing a withdrawal request, the money should be wired directly to your bank account in India. It may take 3 to 5 business days for the wire to come through.
- The Indian securities market regulator **SEBI doesn't have any effective oversight** of these entities.

  Hence, as a cursory check, investors should verify that the brokerage they are investing through is registered with the SEC, FINRA and SIPC which are the primary US regulatory bodies.
  - FINRA broker check
  - SIPC list of members
- If you opt for the **indirect option**, some of these funds might be fund of funds. ie, the India-based MF simply buys units of another fund investing in the US markets (called the underlying fund). For instance, the Franklin India Feeder - Franklin U.S. Opportunities Fund invests in the Franklin U.S. Opportunities Fund, Class I (Acc) fund which is an international fund investing in US stocks and run by Franklin Templeton in multiple countries. Investors should note that the Total Expense Ratio (TER) shown in the factsheet of such funds usually only includes the TER of the FoF/feeder fund. The underlying fund would also have its own fees (e.g., management fees, etc). The actual expense incurred by investors will also include this and will usually be the sum of both these, i.e. Effective TER = TER of the FoF + total fees of the underlying fund To illustrate, let us look at the Franklin India Feeder - Franklin U.S. Opportunities Fund. As of 29 January 2021, its factsheet (archive.org link | archive.is link) mentions its expense ratio as `0.61%` for the direct plan. But we also see that the underlying fund's prospectus (archive.org link | archive.is link) mentions a management fee of `0.70%`. So for an investor, as on 29 January 2021, the total expense charged would be at least: `0.61 + 0.70 = 1.31%`

It is advisable for Indian investors to also go through the prospectus, factsheet or other such scheme documents of the underlying fund to get a better idea of any hidden fees and charges.

Tax

Frequently asked queries around taxes

I don't have any tax to pay. Do I still have to file ITR?

File a return, it is an important piece of paperwork that can come in handy later. Even if you have no tax to pay. It would take 5-10 mins at worst.

Filing an Income Tax Return (ITR), and paying taxes are two different things. A return filing is a declaration. Even if you're not eligible to pay taxes in a particular financial year; we recommend filing a return nonetheless.

An ITR is a piece of document that might need to be used in the event of a loan application, credit card application, or even visa interviews.

In fact, until you review your form 26AS, you won't know if there's an entity out there who's deducted TDS against your PAN. If so, you can claim a refund from IT dept. only via completing a return filing.

There's no harm in filing one, it clears up a lot of things and get those on the record.

These days, there are services like ClearTax, Quiko etc., that would let you file most common type of ITRs for free of cost. You can prepare and submit directly from these apps.

Other than this, you can also use official IT e-filing web portal ↗, to file your ITR. While the UX of portal is not exactly a match for the other two services mentioned earlier; it already pre-populates data from 26AS and other sources in your ITR, so you're less likely to file returns with wrong values.

Miscellaneous

Various frequently asked queries, all in one place

Where can I park money for a few days, a few months, or a few years?

For shorter durations, few days to few months; Overnight funds / Liquid funds / Money Market funds are alright. High Yield Savings Account (HYSA) are ok. If large amount, consider registered advisor.

First of all, it should be clear what you mean when you say "park money". You intend to keep some money safe somewhere for a requirement that's going to come up in the near future (somewhere between a few days to 1-3 years down the line).

Bank Savings Account

Let's start with the absolute basic thing you can do. **Nothing**. If you want to park money for a few days or a few months, you can keep it in your savings bank account which, as of Jan 2021, would yield anywhere from 2.7% to 3.5% in too big to fail banks like SBI, HDFC, and ICICI. Axis Bank and Kotak Mahindra Bank are offering upto 4%.

You can also park your money in a high yield savings account, if available. Banks may offer abnormally high interest rates for many reasons. For example, IDFC First Bank was offering upto 7% interest rate ↗ (archive.org link ↗ | archive.is link ↗) during Jan 2021. This was at a time when big banks like SBI were offering 2.75% on their saving account. In this case, IDFC First Bank wanted to improve its Current Account Savings Account (CASA) ratio. As their CASA ratio improved, they decreased their interest rates accordingly. For more details, check out page 42 of the Q3 FY21 investor presentation ↗ (archive.org link ↗) from IDFC First Bank.

As a thumb rule, **avoid co-operative banks and small finance banks**. Although DICGC insures your deposits in a bank account up to ₹5 lakh, it's better not to rely on it and take unnecessary risks.

Check out the links mentioned below if you want to know how to evaluate the health and safety of banks in India.

- How to see if a bank is risky for placing your deposits? [A guide from a banker] ↗ (old reddit link ↗ | archive.org link ↗ | archive.is link ↗)
- Indian [private] Banks - Health scorecard ↗ (old reddit link ↗ | archive.org link ↗ | archive.is link ↗)

You can get a deduction of $₹10,000$ on earnings generated from interest in savings bank accounts under Section 80TTA. Senior citizens get a deduction of $₹50,000$ under Section 80TTB and this includes interest earned from savings bank accounts as well as bank fixed deposits.

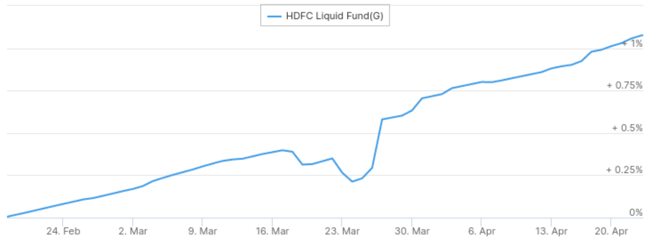
Bank Fixed Deposits

The second natural choice for most people should be bank fixed deposits which have reasonable liquidity and safety for parking money. As of January 2021, most big banks are offering anywhere between 4.9% to 5.5% interest rates on FDs. However, unlike bank accounts which are tax-exempt if the interest amount is less than $₹10,000$, all interest income from a fixed deposit is taxable. The bank will auto deduct TDS @ 10% if your interest income from FDs exceed $₹40,000$. You'll have to pay any additional taxes later if you fall under income tax slabs higher than 10%.

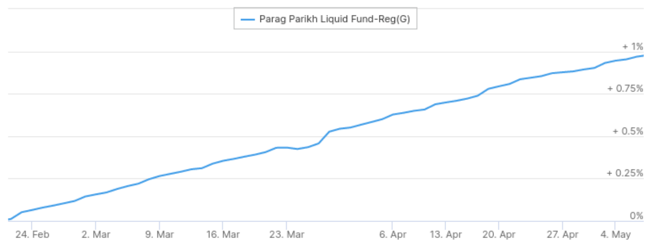
Debt Mutual Funds

You can also park your money in certain debt mutual funds. This includes **overnight funds** and **liquid funds** for parking money for a few months and **money market funds** for a few years. However, note that unlike savings account and fixed deposits, debt mutual funds are *marked to market* which means that you should expect some volatility in day to day NAV. This volatility is mostly negligible in overnight and liquid funds, but we have seen events like the Covid-19 crash in March 2020, when even liquid funds experienced a few days of relatively high volatility.

Here are the NAV graphs of HDFC Liquid fund, the biggest liquid fund in India in terms of AUM, and Parag Parikh Liquid fund, during the covid crisis.



HDFC Liquid Fund's NAV graph during the covid crisis



Parag Parikh Liquid Fund's NAV graph during the covid crisis

That being said, investments in debt funds don't incur TDS or taxes until you redeem money from them. Many liquid funds also offer instant redemption up to $₹50,000$ at any time of the day although the reliability of the instant redemption depends on the AMC website.

Indexation benefits and taxation

Prior to the 2023 Budget, debt funds used to enjoy *indexation* benefits when it comes to taxation if they were held for 3 years or more. This is no longer the case for debt fund investments made on or after 1st April, 2023.

⚠ The below example showcases indexation benefits applicable if you had invested in a debt fund prior to 31st March, 2023.

As an example, let's consider $₹1$ lakh parked for 1 year in a bank account, a fixed deposit, and a liquid fund. The interest earned and the actual interest earned after taxes, assuming 30% tax slab, are mentioned as follows:

Savings Account [2.7%]	Fixed Deposit [5%]	Liquid Fund [3.3%]
$₹2,700$	$₹5,095$	$₹3,300$
$₹2,700$	$₹5,095 \times (1-30\%) = ₹3,566$	$₹3,300 \times (1-30\%) = ₹2,310$

Since the interest earned from Savings Account is less than $₹10,000$, this is tax free income. FD and Debt Mutual Funds are taxed at the applicable tax slab.

Let's see what happens when we park $₹1$ lakh for 3 years. This is where indexation benefits come into the picture in debt mutual funds.

Savings Account [2.7%]	Fixed Deposit [5.3%]	Money Market Fund [3.9%]
$₹8,320$	$₹17,111$	$₹12,162$
$₹8,320$	$₹17,111 \times (1-30\%) = ₹11,977$	$₹11,230$

We've considered the Cost of Inflation Index (CII) values between FY19 and FY21 ↗, which are 280 and 301, respectively. The indexed cost of investment, at the time of redemption in FY21, becomes

$$(₹1,00,000 \times \frac{301}{280}) = ₹1,07,500$$

The indexed gains are $₹12,162 - ₹7,500 = ₹4,662$ and this is taxed at 20%. The taxes payable are $₹4,662 \times 20\% = ₹932$. This gives us our actual realized gains of $₹12,162 - ₹932 = ₹11,230$.

Arbitrage Mutual Funds

Last, but not least, there are **arbitrage funds**. These debt MFs are taxed like equity MFs so you don't have to pay any taxes if you park your money for more than a year and your gains during redemption don't exceed ₹1 lakh. This might sound good on paper but arbitrage funds are significantly more volatile than liquid funds and don't offer instant redemptions either. The returns from arbitrage funds also depend on the availability of arbitrage opportunities and this has started to come into question. For more details, check out this article ↗ (archive.org link ↗ | archive.is link ↗).

At the end of the day, when it comes to parking money in arbitrage funds, buyer beware.

DO NOT park money in these instruments

Now that we've covered where you can park your money, we'll list some instruments **where you probably shouldn't park money** for planned redemption in the near future.

- any debt mutual fund with somewhat significant interest rate or credit risk This includes credit risk funds, dynamic bond funds, gilt funds, banking & PSU funds, ultra short, short, low, medium, and long duration funds, and corporate debt funds.
- hybrid mutual funds
- index funds like UTI Nifty index fund
- any other sort of equity mutual fund
- stocks

What are chit funds? Should I invest?

Closed system, where someone's gain is another person's loss. Does not scale with corpus size. Has little to no regulatory oversight. Stay away. Also called as chit, kitty, chitty, kuri, etc.

How does a chit fund work: ELI5 version

It is a savings plus credit / loan product. There is an ***organizer*** (a.k.a foreman) and there are a specified number of members, who agree to pool/pay/deposit a specified amount of money periodically for a pre-decided fixed duration.

E.g. there can be a chit fund with 20 members (and a separate 21st organizer who conducts the whole show), and they agree to pool Rs 1000 every month for 20 months. So, a fixed number of members, periodic deposit monthly, deposit amount of rs 1000 and fixed total period of 20 months. In the first month, the total amount of deposit would be 20,000.

This total monthly amount is called the Pot/Prize/Kitty. Each member, either by lot or by auction, will be entitled to this prize/Pot amount. The lowest bidder (one who demands the least amount) will get the money after paying the organizer fees and rest of the money will be distributed among the members. The lowest bid can be up to a discount of 40%. The distribution is usually by way of decreasing the monthly amount.

Eg. if selection is by auction, and there are only two members (A and B) who want money in this month, then they can bid for anything less than 20,000. If A says he is ready to take the pot for 19k (he will leave 1000 for the rest of pool provided he gets the money right now) and B says he is ready to take the pot for 18k, the winner of the first month will be B. The foreman will deduct the organizer money (maximum of 5%, in this case 5% of 18,000 = 900) and give 17,100 to B. The remaining amount of 2,000 will be distributed equally among the 20 members, by way of this month's monthly instalment of 900 (and not 1000). In this case, the lowest allowable bid would be 40% lesser which would be 12,000.

Every month the same process goes on. Members who have taken the Pot in the previous months cannot bid again during rest of the chit fund period. And every month, depending upon the amount of final lowest bid, the monthly instalment gets decreased.

If there is no one to auction in any month, then a lucky draw is done and the entire pot, after deduction the foreman fees, is given to that member.

Types

Organized Chit Funds

There is a central govt Chit Fund Act 1982 and multiple state government chit fund acts, which govern the organized chit funds. Nowadays, there are online chit funds also with different prize groups and ability to pay/receive payments online.

Unorganized Chit Funds

And there are lot of local chits/kitties/committees, which have their own particular models of deposits and withdrawal systems.

Tax on Income from Chit Funds

The dividend income earned per month is neither tax deductible nor taxable. No TDS applies on them.

The overall income is taxable as income from other sources.

The overall loss can be claimed as business loss.

E.g. if a member receives Rs. 22,000 instead of Rs. 20,000, then Rs. 2,000 would be taxable as Income from other sources.

While if a member receives Rs. 18,000 instead of Rs. 20,000, then the difference of Rs. 2,000 can be claimed as a business loss.

Benefits of Chit Funds

Those members who are in need of money (for small business, marriage, construction of house, big expense, etc) can bid for the Pot in the initial months and use that money for their own purposes. Effectively, it works as an advance loan for them with EMI-like payments in the later months.

While those members who are not in need of money prefer to take the pot in the later months, and therefore make more money. They get lumpsum money while saving smaller periodic amounts.

In short, chit funds connect loan seekers with savers with the foreman as the person who guarantees the transfer of money. It is an overall less than zero-sum game, some member lose money while others gain money, while the foreman takes his payout.

Risk

Both the foreman and members are exposed to credit risk since the members can default on their payments, either before or after getting the prize. The foreman can sue the defaulters in court but timely settlement is a problem. Many foremen require some form of surety by members who have won the auctions. There is no bank/govt insurance for the chit fund payments, so it is riskier than bank deposits.

So if one sees that parents, or friends or relatives have earned a lot from chit funds, then they should understand that the above-FD returns are because of taking on the credit risk which may or may not occur in future. Consider your own risk appetite and financial situation before putting money in a chit fund. If you still want to take such a risk, at least go by organized reputed chit fund groups, and not local unorganized ones.

Red Flags

1. Promise of high returns: Chit funds cannot promise return rates in advance, and if any of them does it, it is better to run away. They cannot do so because no one can predict at what discount would the members bid for the prize money during the entire duration of the chit fund.
2. Unregistered: Please don't. You will have no recourse to get any money if there is any default.
3. Incentive to get new members: If the chit fund offers any incentive to get new/additional members, then it is outside the normal rules of the chit fund and is likely to be a Ponzi scheme. Run.
4. Allows to stop future instalments after getting the prize money. This structure is also against the basic chit fund system, and should make you think of what else? Run.
5. Online unknown chit fund schemes. Go only with groups backed by large groups/state governments who have been doing proper rule-based chit fund schemes. Don't entertain small unknown groups.

Is Gold a good investment now? It has gone up ~50% this year

If that is indeed true, best time to buy gold was a year ago. It can be a great investment, but one cannot judge good or bad investment only the basis of recent returns.

Past performance is not indicative of future returns. If you pick assets after they have performed well, you'd most likely miss out on assets that performs well after you have invested in it.

If Gold has gone up 50% this year, right time to invest in it would've been 1 year ago.

Instead, question your asset selection process: is your selection criteria good enough for it to have picked Gold as an investment a year ago?

In other words, what were Gold's 1Y / 3 Y / 5Y / 10Y returns, 1 year ago on this date? Most likely, it won't have been good, and you'd have passed on that.

Chasing past returns, hoping for a repeat of performance, is called *return chasing*. It's common among new investors, but even veteran investors fall prey to this. As a rule of thumb, avoid greed in decision making.

This is not to say Gold is a bad investment for next 1Y / 3Y / 5Y. It might be, it might not be. But the fact that Gold has surged in price in recent times; is not a good reason to invest in Gold.

How To

How To

How to achieve something specific in context of investments, finance, and economics

How to transfer shares from one demat account to another

If depository of both to and from DP is same, use Easiest for CDSL and Speed-e for NSDL. Otherwise, submit DIS physically

Intro 👋

Before we begin, we need to clarify on some terminologies used in this document.

A DP (**D**epository **P**articipant) is a broker who coordinates with the national depository to keep our shares, debentures etc. in electronic form

National Depository: Centrally authorized share depositories. Presently, there are two such depositories in India

1. CDSL (**C**entral **D**epositories **S**ervices India **L**td)
2. NSDL (**N**ational **S**ecurities **D**epository **L**td)

Depending on to which national depository both the DP (From where you want transfer and to where) are associated with, the procedure for transfer are different.

Steps for transferring👩🏾‍🏫

Transfer Online 💻

Online transfer will only work if the national depository of both the to & from stock broker is the same.

List of DPs offering Online transfer- NSDL ↗, CDSL ↗

CDSL Provides an online platform (*EasiEasiest*) for submitting off-market, on-market, inter-depository and early pay-in debit instructions from one's demat account.

Below are the steps to use that facility to transfer shares from one DP to another

1. Register for *Easiest* facility: https://web.cdslindia.com/myeasi/Home/Login ↗
2. Provide the details of DP from where you need to transfer the shares while registering
3. Add the trusted account by giving DP details to where you need to transfer the shares
4. Go to Setup → Bulk setup → Transaction
5. Select the added trusted account to which you need to transfer the share and provide the needed details
6. After successful verification, the transfer procedure will start

Similarly NSDL got Speed-e service which offers similar functions if your DP supports e-DIS.

Transfer Offline 📄

Please try offline transfer only if the online option doesn't work or you have to transfer shares between an NSDL and CDSL linked DP.

Please note that you may have to pay the charges for the DIS slip, and its postal charges; if you opt this route.

1. Get the DIS (**D**elivery **I**nstruction **S**lip) from your existing stock broker.

2. Fill DIS with
   - Demat account number & DP ID of the account to which you need to transfer the shares.
   - Name of the security / company / scrip, and its ISIN number.
3. Send the DIS along with the CMR (Client master report) copy to the new account provider.
4. In 3-4 days after the receipt of the DIS, the shares should reflect in your new account.

> ⓘ If you are closing the old account, you can fill the details of the account to which you need to transfer the shares. This will eliminate any transfer fees
>
> To close the account in NSDL, the application form in Annexure Q ↗ must be submitted or a separate request on plain paper along with the DIS form to transfer securities, both signed by the account holder and it takes 15 days after that. Refer this link ↗ for more details

How to move from one mutual fund platform to another

You just need to stop the existing SIP, import the CAS statement to the new platform and restart the SIP there under the same folio number

Intro👋

There are 2 ways to hold mutual funds. One in the demat form and another in physical (rematerialized) format. The method of transfer will vary depending on the form that your mutual funds are stored in.

Transfer Procedure📇

Demat Mutual Fund transfer 🚧

Please follow the steps mentioned in here since transferring of Mutual fund in demat form is done in the same way.

Rematerialized mutual fund transfer 💻

Since the mutual fund are handled by the fund house, you don't need to 'transfer the fund'. To see the funds in the platform of your choice, you need to

1. Stop the SIP if you have any in your existing platform
2. Go to the platform of your choice and select import folio
3. You will then be taken to the CAMS / KFintech site where you need to enter the requested details
4. You will receive a CAS (Consolidated account Statement) in your email shortly
5. Depending on the platform and the access permission given, you will either have to forward the mail to the mail ID specified by the platform or they will automatically fetch it from your email.
6. You now can select the existing folio for SIP or lumpsum transaction

> ⓘ If you want to convert your existing mutual fund from regular to direct, refer here

How to switch a Mutual Fund from Regular to Direct Plan

If your email ID is linked to the folio, you need to login to the portal of the fund house and select the switch option. If not, you will have to visit the office of the fund house

Intro 👋

If you know which mutual fund you want, it is always better to buy a direct mutual fund since it eliminates the commission deducted by AMCs as fees for distributors (the person or entity who had facilitated the transaction(s) for you to invest in the fund).

The difference between TER of regular and direct plan normally varies between 0.5% to 1.5%.

Charges 💰

Switching a mutual fund is just two transactions of selling a fund (the regular plan), and buying another fund (the direct plan) from same AMC in a single order. Because of this, you will attract either STCG (Short term Capital Gains Tax) or LTCG (Long term Capital Gains Tax). You may also attract exit load if applicable and TDS for NRIs

Since the LTCG is lower, it would be better to convert the mutual fund units which are eligible for LTCG as and when the mutual fund units become eligible for it. Platforms like Paytm Money, Groww, INDMoney, Kuvera (with their tradesmart feature) etc. are offering this feature along with the option to convert just those units to direct mode if you need. You may opt for STP (Systematic Transfer Plan) to convert the required unit in a fixed frequency if you need.

Options for preforming the switch 🛣️

There are two modes by which you will be able to perform the switch

1. Online Mode
2. Physical Mode

Online Mode💻

This is the easiest method for switching a fund.

1. Login to the fund house or Mutual fund platform website (Create account if you don't have)
2. Select the fund you need to switch
3. Stop the existing SIP (if you don't, the SIP in regular fund will continue to get processed)
4. After selection, you will be presented with options like switch, redeem etc.
5. Select switch and then select the fund to which you would like to switch
6. Then select whether you would like to do switch for full investment or partial.
7. Once you do the authorization by means like OTP after this, you will get a confirmation that the fund is under process for switching.

Offline Mode📄

If you have an old fund where the email ID is not updated, then this is the only option for you.

1. Go to the office of the fund house and ask for the form to do the switching

2. You will be receiving a communication from them once the fund is switched
3. If the fund house doesn't have that facility offline, ask for form to redeem the fund. Once the fund is redeemed and the amount credited to your account, invest via offline by filling the purchase form or online

ⓘ For any schemes having lock-in period like ELSS fund, switching can happen only after the period. You may use STP for this.

How to file SEBI SCORES complaint?

For any issue related to the securities market, file complaint in scores.gov.in website

Intro 👋

As an investor, you've certain rights, and market participants (AMC / RTA / broker / depository / advisor / distributor etc.) have to make sure your rights are not violated.

Indian securities markets are highly regulated. And if you're not satisfied with resolution of an ongoing issue with your broker or AMC you're investing with; you can approach SEBI (**S**ecurities and **E**xchange **B**oard of **I**ndia) to hear you out.

For any grievance related to the securities market, with a listed company/ intermediary registered with SEBI you can file a complaint with SEBI if you are not satisfied with the response from the party.

What is an *intermediary* in this context?

Examples of Intermediary

- Depository & Depository Participant
- Mutual Fund house
- Investment Advisor
- Institutional Investor

Broadly speaking, SEBI takes up complaints related to

1. Issue and transfer of securities (e.g. listing not visible after purchase)
2. Non-payment of dividend with listed companies
3. Against the various intermediaries registered with it and related issues (e.g. Mutual fund house not allowing cancellation of SIP)

You can file the complaint in the online platform called SCORES provided by SEBI and track its status.

How to register a complaint 👩🏾‍🏫

Below are the steps to raise a complaint provided the issue had happened in the last 3 years

1. Register account in the SCORES portal: https://scores.gov.in/scores/Welcome.html ↗
2. After login, go to Investor Corner -> Complaint Registration
3. Provide details like name of entity, nature of complaint and category like Mutual Fund, Broker, Portfolio Manager etc.
4. Detail the complaint in less than 1000 words and attach any proof in PDF format if you have.
5. You will receive an acknowledgment after submitting. An email and SMS also will be sent to acknowledge the same.
6. A response will be given to the complainant with in 30 days.

Category List

1. Listed Companies, Registrar & Transfer Agents, Non-Demat & Remat
2. Brokers, Stock Exchanges
   - Stock Broker

   - Portfolio Manager
   - Stock Exchanges
   - Commodity Exchanges
3. Depository Participants, Depository
4. Other Entities
   - Collective Investment Schemes
   - Merchant bankers
   - Debenture Trustee
   - Bankers to an issue
   - Credit Rating agencies
   - Custodian of securities
   - Underwriters
   - Venture Capital funds
   - KRA (**K**YC **R**egistration **A**gency)
   - Alternative Investment Fund
   - InvITs (**In**frastructure In**v**estment Funds)
   - REITs (**Re**al Estate **I**nvestment **T**rusts)
5. Manipulation
   - Price/Market manipulation
   - Insider trading
   - Complaints pertaining to commodity derivative
6. Investment Advisor, Research Analyst
7. Fake and Forged

ⓘ
1. If you haven't registered the complaint to the relevant entity before escalating it to SEBI, they will redirect the complaint to the concerned entity and you will receive a reply in 30 days.
2. If you want to file a complaint against a company which is about to be listed, select "Pre-listing / Offer document" under complaint category.
3. See SEBI Circular: SEBI/HO/OIAE/IGRD/CIR/P/2018/58 ↗ for more details and flow chart.

Wrapping Up

Based on our experience, possibly the hardest part in registering a complaint on SCORES is to find which category the market participant belongs to.

If you already have this information it's quite straight-forward to file this complaint.

We have table below, which should help with filing complaint against common popular entities

Name of the Entity	Category	Official Name
5Paisa	Stock Broker	5Paisa Capital Limited--NSE
CAMS	Registrar & Transfer Agents	COMPUTER AGE MANAGEMENT SERVICES LTD
Coin by Zerodha	Stock Broker	ZERODHA BROKING LIMITED--BSE
ETMoney	Investment Advisor	

Groww	Stock Broker	NEXTBILLION TECHNOLOGY PRIVATE LIMITED--BSE
INDMoney / INDWealth	Investment Advisor	Finzoom Investment Advisors Pvt. Ltd.
KFinTech	Registrar & Transfer Agents	KFIN TECHNOLOGIES PVT LTD (Formerly KARVY COMPUTERSHARE PRIVATE LIMITED (KARVY CONSUL LTD))
Kuvera	Investment Advisor	AREVUK ADVISORY SERVICES PVT. LTD.
MFUtility	Registrars & Transfer Agents	MF UTILITIES INDIA PVT. LTD.
Mobikiwik Money	Investment Advisor	HARVEST FINTECH PRIVATE LIMITED
Niyo Money / Goalwise	Investment Advisor	ALPHAFRONT FINSERV PRIVATE LIMITED
PayTM Money	Investment Advisor	PayTM Money Limited
PayTM Money (Equity)	Stock Broker	PAYTM MONEY LIMITED--BSE
Smallcase	Research Analyst	Windmill Capital Private Limited

ⓘ Some of the names in the 3rd column are uncharacteristically capitalized, but that's only because these are lifted *as is* from SCORES portal, without any modification.

This is by no means an exhaustive list; and the registration can change / get defunct / recategorized at the time of reading this.

However, most of these should help you file a complaint against one of these popular entities.

How to Update Nominee Details?

Step-by-step detailed guide on how to update nominees in your mutual fund investments, or securities holdings in Demat account, or even across your bank accounts.

Intro 👋

Let us first begin with what *nomination* means.

According to AMFI (**A**ssociation of **M**utual **F**unds in **I**ndia):

Nomination is a facility that enables an individual unit-holder (including sole proprietor of sole proprietary concern) to nominate a person, who can claim the units held by the unit-holder or the redemption proceeds thereof in the event of death the unit-holder.

In short, nominees **do not** inherit the assets after the death of the unit holders. They are responsible for distributing the assets, as per the will, or to the legal heir of said unit-holder.

Nominees are usually added to a mutual fund folio at the time of its creation; but it can also be added or altered at a later phase.

Mutual Fund Folios 📒

There are various ways to go about updating nominee details in mutual fund folios.

Option 1: MFUtility

The easiest and fastest way to update nomination for all mutual fund folios, across fund houses (AMCs) is to update the same via MFUtility ↗.

ⓘ 💡If you don't have an MFUtility account, this convenience alone is worth it to sign up for one.

You'd need to fill out a nominee update form, which can be found below

Link to nomination change form ↗ | archive.is link ↗ | google webcache link ↗

Investor needs to print the form, duly fill it as instructed, and then can do one of the following:

- Send it to MFUtility head office at Thane, Maharashtra; via registered post. Address is mentioned at the bottom of the form.
- Visit a CAMS or KFinTech office in your city, and submit the form there.

This will update the nominees for all the mutual funds folios, mapped with the **C**ommon **A**ccount **N**umber(CAN). Benefit of this process is to use one single form, and update all nominees, across all folios with all mutual fund houses, that have been mapped to the CAN.

Option 2 : Visiting an RTA Office

Another way to update nominee details is to visit the nearest office of the AMC, or the nearest **R**egistrar and **T**ransfer **A**gents (RTA) office. RTAs are responsible for managing the records of investor folios, for the AMCs.

There are predominantly two RTAs these days — CAMS and KFinTech,;and together they serve all the AMCs (except Franklin, which is served by FTAMIL presently, though they plan on moving to one of the two major RTAs).

You can find the RTA responsible for a particular AMC, by checking these links below:

- List of AMCs served by CAMS ↗ |
- List of AMCs served by KFinTech ↗ | archive.org link ↗ | archive.is link ↗ | google webcache link ↗

Investors can download the nominee update form from the website of the AMCs or download a generic form, from the RTA's website.

For CAMS, nomination forms are available here ↗. If the AMCs you invest with are using KFinTech, then use this link ↗.

Disadvantage of using this method - investors need to fill a separate form for every AMC in which they want to update the nominee details, and submit the form physically at the nearest center. In some cases, one might even need to fill out one form for each folio.

Or, with the RTA forms, one would need to find out which RTA their AMC is using for record-keeping, and pick specific form.

> ⓘ Above links, to nomination forms on websites of RTAs and MFUtility , may change in the future. Always download latest versions of these forms from the official website of the entities as mentioned.
>
> MFUtility ↗ | CAMS ↗ | KFinTech ↗

Option 3 : Online Update

> ⓘ ⚠️This is not applicable for all AMCs.

Some AMCs (like DSP Mutual Fund, at the time of writing this) allow investors to update nominee from their investor portal.

Just log on the portal and visit the folio section, and you will find nominee details.

Option 4: Through Broker / RIA / Distributor

Plenty of us invest through third party platforms, in mutual funds - Coin, Groww, Kuvera, PayTM Money, INDMoney, FundsIndia, ScripBox, Wealthy.in, ICICI Direct, HDFC Securities etc.

In such cases, it'd be instructive to follow up with respective platform's service team. They'd be able to guide you better with respect to nominee update process, specific to their platform.

For the mutual funds units that are held in demat (for instance, Zerodha Coin or HDFC Securities), nominee(s) will be same as the nominee(s) for the trading and demat account.

If the investor updates the nominee for their demat account, the nominee will be updated for all the folios held in the demat account with the respective broker.

Demat Account : Stocks & Bonds 📈

Steps to update the nominee for trading and demat account is similar for all the brokers.

Investors can, and should, directly contact their broker's support teams for the exact process for updating nomination.

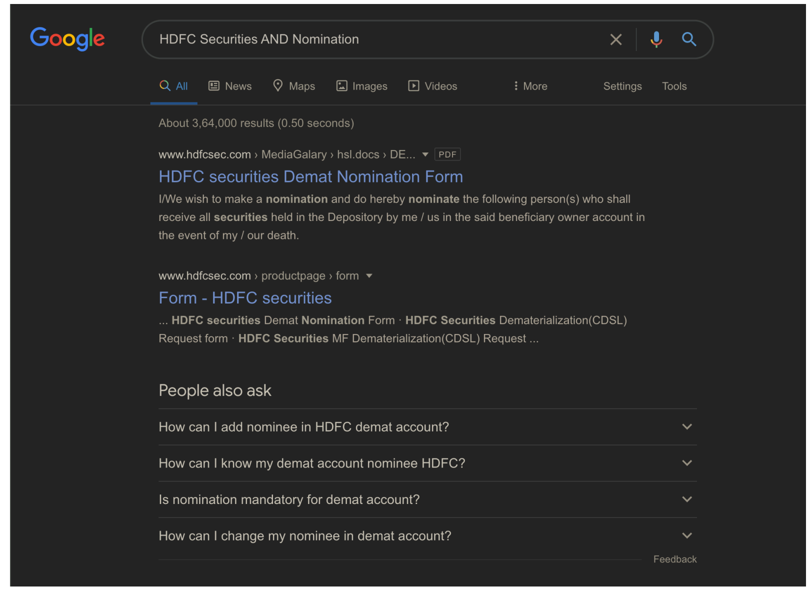
Generally, the first step is to download and print the nomination form from the website of the broker.

Copy the text and replace "Name of broker" with the name of your broker.

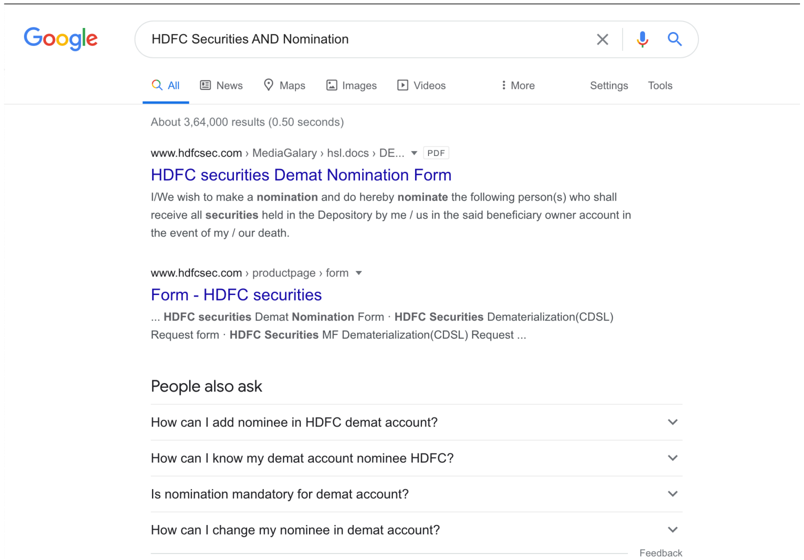
`"Name of Broker" AND "Nomination"`

For e.g. if the investor wants to update the nominee for demat account with HDFC Securities then they can search for:

"HDFC Securities" AND "Nomination"



HDFC Securities Demat Nomination Form - Dark Mode



HDFC Securities Demat Nomination Form - Light Mode

Visit the link that is from the website of the broker and the form will be available on the page.

Once the form has been duly filled, investor can send the nomination form with an attested proof of identity, to the registered office of the broker.

For brokers with pan-India presence, investors can also submit the form to the nearest office. These are usually traditional brokers like ICICI Direct, HDFC Securities etc.

Some brokers charge a service fee for updating nomination. For e.g. Zerodha charges ₹25+18% GST, at the time of writing.

Bank Accounts 🏛️

To update nominee in a bank account, usually you've to visit the local branch with identity proof, close to your residence, for that bank.

However, some banks these days, do allow updating these details via their app / web portal. It's best to contact email or call or chat support of your bank, or just checking their website once, before physically visiting a branch to update nominee(s).

How to rematerialize mutual fund from demat form

Step-by-step guide on how to re-materialize demat units of mutual fund.

Intro 💫

There can be some disadvantages and inconveniences for having the mutual funds in *dematerialized* (aka demat) form.

Some of these are

1. Difficult to change the investment platform or DP (**D**epository **P**articipant)
2. Vendor lock-in, where you are locked to the brokerage platform and its subset of functionalities.
3. You will have to pay various charges like annual charges, depository charges etc.

> ⓘ Often, you might find it more cost effective to sell your demat holdings through your broker, and re-buy units in non-demat mode in same fund's direct plan; than going through this process.
>
> You should consider the alternative course of action and estimate your costs for both these processes.

Below steps will help you to understand how to convert your mutual funds in demat form.

Steps to re-materialize 👩🏾‍🏫

1. Get 2 copies of Re-materialization Request Form for re-materialization from DP for each ISIN (**I**nternational **S**ecurities **I**dentification **N**umber) / scrip / mutual fund.
2. Submit the form signed by all the holders along with SOA (**S**tatement **of** **A**ccount), Self attested address proof and PAN to the DP.
3. DP does the verification and process the request.
4. RRN (**Re**-materialization **R**equest **N**umber) is generated for tracking.
5. On confirmation of details provided, the corresponding accepted balance in the BO's (**B**eneficiary **O**wner) account is reduced from that ISIN balance in the BO's Account.
6. The AMC / RTA sends the SoA/certificate in physical or electronic form directly to the *Registered Owner.*

> ⓘ
> 1. Charges for re-materialization may apply (as decided by the DP).
> 2. Partial conversion may not be possible.
> 3. Re-materialization of lien-marked units cannot be done.

How to Pay Advance Tax

Introduction to what advance tax means, and if you owe advance tax, how to pay it to IT department

Introduction

Income tax is commonly deducted *at source* by the entity (employer, banks etc.) while making a payment to the taxpayer in any form (salary, interest, income from profession etc.).

This is known as TDS (**T**ax **D**educted at **S**ource) and is generally reflected in Form 26AS every financial year/ assessment year.

For example, if an employer has paid $₹1,000,000$ in salary over the year to an employee, then depending on tax saving investments for the employee, the employee might be liable for, say, $₹80,000$ in taxes.

This entire $₹80,000$ would have ideally been deducted by the employer, as TDS, and deposited to income tax department. In particular, the TDSPC (**T**DS **P**rocessing **C**ell).

However, the taxpayer might have other sources of income on which no tax has been deducted. Or, adding up the income from multiple sources would probably put them in a different tax bracket with extra tax liability; that neither entities might know about.

Examples include:

- Capital Gains from sale of stocks or mutual fund units, or selling house / real estate
- Rental income
- Freelance/business income
- Income from bank deposits

In such cases, the responsibility lies on the taxpayer to compute their tax liability in advance and pay it to the government directly; as advance tax.

However, it's also **not enough** to just pay the total tax owed to the Income Tax department, by end of the financial year.

As it happens, one needs to also pay the right tax based on estimate of gross income for the whole year, before the right dates (advance tax deadlines) in a financial year.

When to pay the Advance Tax

Based on prevailing Indian tax law and IT act, it's generally supposed to be paid on a quarterly basis.

The advance tax must be computed and paid based on the tax slab, to which the taxpayer belongs, if the overall tax liability is greater than ₹10,000 in a financial year.

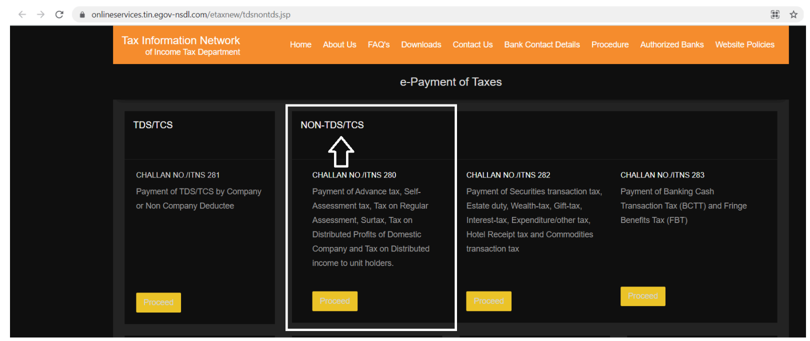
Due Date	Tax payable
On or before 15th June	15% of liability
On or before 15th September	45% of liability, minus tax already paid
On or before 15th December	75% of liability, minus tax already paid
On or before 15th March	100% of liability, minus tax already paid

Note

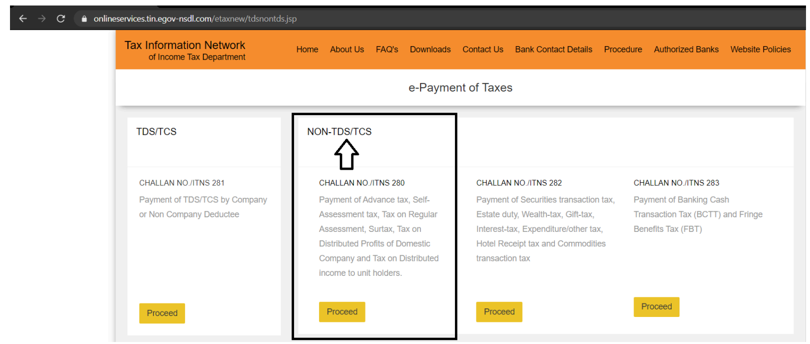
- For freelancers and other non-salaried professionals, 100% of tax must be paid on or before 15th March.
- If advance tax is not paid, interest may be charged on the tax liability under sections 234B and 234C of the Income Tax Act.
- For senior citizen (more than 75 yr old), if only pension and income from bank interest are only the 2 sources of income, the bank will deduct the TDS and no need to file ITR (**I**ncome **T**ax **R**eturn).

Steps for Payment

- Visit the tax information network portal of the income tax department. Link: https://www.incometaxindia.gov.in/Pages/tax-services/pay-tax-online.aspx ↗
- Click on Challan No./ITNS 280 section See image(s) below for guidance, and click to zoom in

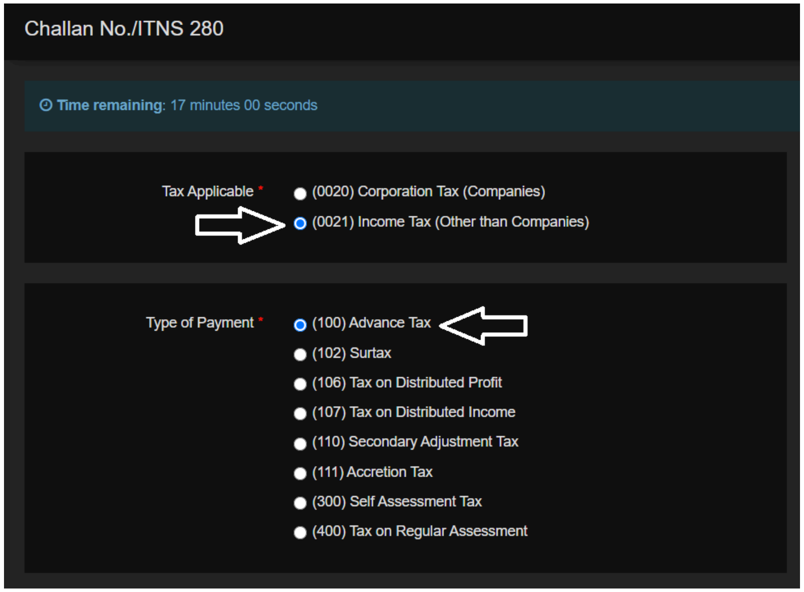


Challan number to be selected on the income tax portal - Dark mode

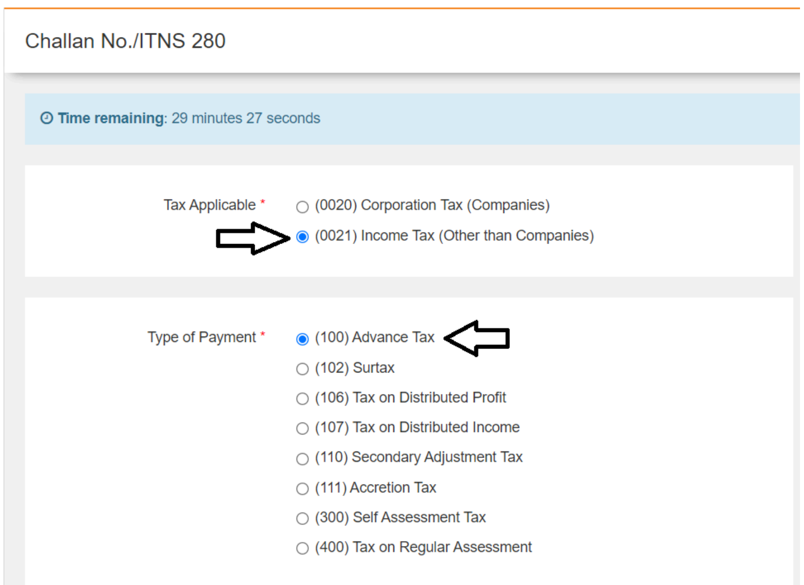


Challan number to be selected on the income tax portal - Light mode

- Select (0021) Income Tax (Other than companies) under *Tax Applicable.*
- Select (100) Advance Tax under *Type of Payment*



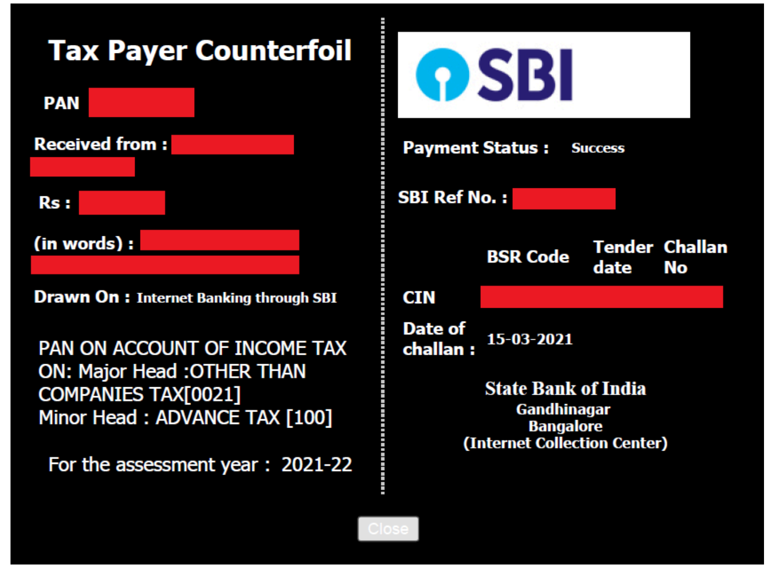
Type of Payment - Dark mode



Type of Payment - Light mode

- Select the mode of payment, enter your PAN, assessment year and other details. Assessment Year (AY), is usually one year ahead of Financial Year (FY). For example, if it's advance tax for FY20-21, then that should be selected as AY21-22.
- Make the payment with Netbanking or Debit card or UPI (as applicable), and keep a copy of the tax receipt /challan, which has details such as
  - BSR Code
  - Tender Date
  - Challan No.

See below for a sample counterfoil after advance tax has been paid.



Tax Payer Counterfoil

PAN [redacted]

Received from : [redacted]

Rs : [redacted]

(in words) : [redacted]

Drawn On : Internet Banking through SBI

PAN ON ACCOUNT OF INCOME TAX ON: Major Head :OTHER THAN COMPANIES TAX[0021]
Minor Head : ADVANCE TAX [100]

For the assessment year : 2021-22

SBI

Payment Status : Success

SBI Ref No. : [redacted]

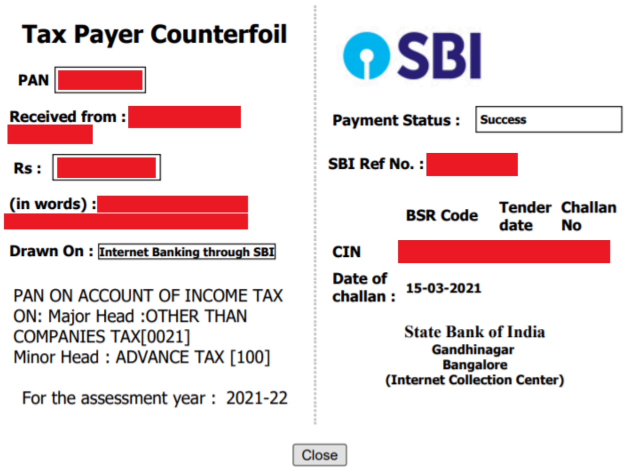
	BSR Code	Tender date	Challan No
CIN	[redacted]		

Date of challan : 15-03-2021

State Bank of India
Gandhinagar
Bangalore
(Internet Collection Center)

Close

Tax Payer Counterfoil - Dark mode



Tax Payer Counterfoil

PAN [redacted]

Received from : [redacted]

Rs : [redacted]

(in words) : [redacted]

Drawn On : Internet Banking through SBI

PAN ON ACCOUNT OF INCOME TAX
ON: Major Head :OTHER THAN
COMPANIES TAX[0021]
Minor Head : ADVANCE TAX [100]

For the assessment year : 2021-22

Payment Status : Success

SBI Ref No. : [redacted]

	BSR Code	Tender date	Challan No
CIN	[redacted]		

Date of challan : 15-03-2021

State Bank of India
Gandhinagar
Bangalore
(Internet Collection Center)

Close

Tax Payer Counterfoil - Light mode

This will be useful at the time of filing of tax returns where details of advance tax paid should be entered.

However, ideally, if the transaction and payment were successful, you should see your 26AS statement updated in a few days after paying advance tax, reflecting the amount. This would also be auto-filled in your ITR, during return filing.

Wrap Up

One might wonder, if there's any value in paying taxes in advance. Why can't we just pay it during filing returns?

Section 234, in particular section 234B and section 234C, deal with penalties of not paying right taxes at the right time. Rest assured, if you owe the Govt. any taxes, you'd have to pay it.

If you don't do it on time, you'd be paying that with exorbitant interest as penalty for late payment.

If you've any concerns over how to estimate advance taxes, it's prudent to do a tax planning at the beginning of the financial year, and review that once a quarter. If needed, it's of extreme value to employ a tax professional for a fee. Might save you a lot of headache and surprises down the line.

You might want to refer to some online articles or posts about more details on this process, and various corner-cases. Here are a few examples, provided below.

- Clear Tax article on Advance Tax ↗ | archive.org link ↗ | archive.is link ↗
- Clear Tax article on paying advance tax ↗ | archive.org link ↗ | archive.is link ↗

STOCKS

Introduction to the Stocks Series

This series on Stocks will go into detail about how to read an annual report, how to research industry sectors, financial ratios, preparing a due diligence checklist, and much more.

During the course of one's investing journey, one may come across their friends, relatives, colleagues, or simply hear about it in the newspaper or a website, about how profitable stock investing can be.

As on April 2021, there are 3,947 companies available for trade on BSE, the oldest stock exchange in India. Only 500 companies among these are qualified to be on the S&P BSE 500 TRI index while only 30 companies make it to the premier S&P BSE SENSEX TRI index.

Considering that there are approximately four thousands listed companies in the stock market in India, how does one go about deciding which companies to invest in? Where do we even begin? Which companies are "better" than their peer companies also listed on a stock exchange? Which parameters should we employ to judge companies and their stock? Perhaps we should also be asking ourselves — can we beat the market, benchmark indices like S&P BSE SENSEX TRI and Nifty 50 TRI, if we invest in stocks? If one isn't able to consistently beat easily investable indices after dabbling in stocks for several years, is stock investing even worth it?

We'll attempt to answer these questions in this series.

Can You Beat the Market?

An individual investor needs to invest time and effort, have a capability to think on a higher level than the consensus view, adapt to changes in market dynamics, and have patience and conviction.

Here you'll find,

- What does beating the market mean? Is it possible?
- Whether one can consistently beat the market - and what it takes

Beating the market — what it means

The phrase *beating the market* can mean different things for different people. The intuitive definition is to earn returns on a portfolio level that consistently beats the market index. However, more people allocate their equity investments in funds managed actively than passively - so it makes sense to see how your returns stack up against that of professional investors (simply put, those who invest money on behalf of others), or at-least try to understand how an individual investor has a fighting chance against institutions in the chase for every possible rupee gain.

Beating the index

It's easy to achieve average market performance, one simply needs to *buy the market* through a low cost index or exchange trading fund - and there's nothing wrong with aiming to get what is known as market returns; between February 2000 to 2020, over a 20 year period, Nifty Total Return Index returned a compounded annualized growth rate of 14.3% per year, comfortably beating inflation.

If **efficient market hypothesis** is to be believed, stock prices reflect consensus view of all publicly available information that can have a material impact on the price action of the stock. However, that doesn't render the exercise of finding mismatches between price and intrinsic value of a stock ineffectual. Instead, it involves finding instances where the consensus view of the market is itself inaccurate, thus creating an opportunity to make money from the divergence.

So, if an analytical mind is willing to invest time and effort in pursuit of such mismatches, earning profits higher than the market returns is possible, and can be a great tool to create wealth for goals.

Beating professional investors

There are several logical, financial and regulatory obstructions that a professional investor has to face, which makes the prospects of individual investors beating them higher. Some are,

- The account size of professional investors is such that any meaningful investment in a midcap or smallcap stock has an impact on its price. And so, they're constrained with a limited universe of companies to pick from.
- Professional investors are bound by the mandate of the fund they manage, and so any investment that falls outside of this mandate is out of the question, further constraining the universe of companies to invest in.
- Like an individual investors, the performance of a professional investor is compared to market returns. However, unlike an individual investor, a professional investor can't pragmatically afford to underperform the market for a long duration at the risk of losing their clients. To a professional investor, this is known as *benchmark risk,* and the only way to keep up for them is to imitate an index once a reasonable alpha is generated. Once this happens, the professional investor generally tends to stop caring about additional returns, and rather focuses on averting losses that could cost them their jobs.
- Most professional investors lean towards having a diversified portfolio as a consequence of avoiding these risks, and thus outperforming the market with such diversification is relatively improbable compared to a curated portfolio maintained by an individual investor.

Is beating the market the only goal in stock picking?

It is worth noting that the exercise of comparing an individual investor's returns against that of the market, and that of professional investors is relative in nature. However, picking stocks should encompass more than that. Critics would be correct to note that majority of individual investors beating the market luck out on taking incremental risks that they don't necessarily know or acknowledge. As Seth Klerman notes in his annotation in Howard Marks' *The Most Important Thing —*

> "Beating the market matters, but limiting risk matters just as much. Ultimately, investors have to ask themselves whether they are interested in relative or absolute returns. Losing 45 percent while the market drops 50 percent qualifies as market outperformance, but what a pyrrhic victory this would be for most of us."

Another upside to the exercise of stock picking is that if it is done correctly, the comprehension / understanding of risks associated with the equity you hold is higher than when investing in a fund — active or passive. The reasons are simple:

- The investor is more likely to be doing their own due diligence for the underlying stocks in their direct stock portfolio.
- Generally, a retail investor's stock portfolio is more concentrated than an equity fund (let alone more than one in aggregate, which seems to be the norm), so it takes less time and effort to keep track of stocks in a direct stock portfolio than stocks in an equity fund.

Also, as Seth explains, an investor has to think in terms of both absolute, and relative returns - beating the market matters, but absolute returns are equally important; the inverse of this is also true - one may be able to reach their self-defined goals in terms of returns, but under perform the market in a bull run.

Apart from benchmarking against the market, or self-defined goals, some investors often pick up direct stock picking for much simpler reasons - enjoying the process behind evaluating a business, and acting upon opportunities provided by the market. That is, there's a certain pleasure in *doing it yourself.*

So can you beat the market?

Establishing the possibility of beating the market is futile if one doesn't acknowledge what it takes to do it consistently — a brutal cocktail of time, effort, discipline, conviction, contrarianism, and an investment philosophy to invest the time, effort, discipline, and conviction in.

Sticking to an investment philosophy

An investment philosophy can be thought of as a construct of mental models upon which the investor builds his portfolio upon. If the universe of stocks under the investor's circle of competence is chaos - an unexplored territory of potential, the investor mines out order from this chaos in the form of a portfolio, using mental models as forklifts. The lack of having an investment philosophy generally results in owning stocks that are not a perfect fit for the portfolio. As Chuck Palahniuk writes in his book,

> 'If you don't know what you want, you end up with a lot you don't.'

So, mental models help investors validate their strategy by providing a confined framework, and an investment philosophy is a set of mental models that the investor follows. Luckily, mental models in stock picking have been figured out to a large extent (such as momentum, growth, low multiples and value investing), one simply needs to recognize, study, and implement them.

Second level thinking — having an *'edge'*

For all intents and purposes, every investor (professional and individual) competes in pursuit of profits in any asset working with the same information available in the public forum. The consensus on the impact of this information is what establishes the stock price in the short run, and so if your view aligns with that of the majority, it makes sense that you'll largely make market returns - every investor can't beat the market as together they are the market. To get extraordinary returns, you need to have an extraordinary perspective. This is what Howard Marks calls *second level thinking*, Ben Graham calls *trace of wisdom*, and Warren Buffett & Charlie Munger call *having an edge*.

This is not to say the consensus view of information is always wrong, in all likeliness millions of other investors may be smarter and more knowledgeable than you. The idea is to find instances where the individual investor can use contrarian insight that the market isn't reflecting, and it has to be accurate, or at-least *more correct* than the consensus view.

To quote Howard Marks' *The Most Important Thing,*

> Only if your behaviour is unconventional is your performance likely to be unconventional, and only if your judgments are superior is your performance likely to be above average. For your performance to diverge from the norm, your expectations— and thus your portfolio—have to diverge from the norm, and you have to be more right than the consensus. Different and better: that's a pretty good description of second-level thinking.

Marks also proceeds to provide a framework, a set of questions that an investor must ask when working with contrarian thinking,

- What is the range of likely future outcomes?
- Which outcome do I think will occur?
- What's the probability I'm right?
- What does the consensus think?
- How does my expectation differ from the consensus?
- How does the current price for the asset comport with the consensus view of the future, and with mine?
- Is the consensus psychology that's incorporated in the price too bullish or bearish?
- What will happen to the asset's price if the consensus turns out to be right, and what if I'm right?

To sum it up, holding consensus view on any material information comes naturally to us — specially if an investor relies on financial news channels or social media to acquire information; but that's not how above average returns can be achieved, by definition consensus views largely yields market return. The ability to accurately spot market inefficiencies requires *an edge.*

Reading it all

Taking the time and effort to read annual reports, brokerage reports, primers, conference call transcripts, and various other filings are all part of what an investors signs up for while performing due diligence for a company. Skim, and you may miss what disproves your investment thesis, which is perhaps one of the major reasons for higher churn rates in an individual investor's portfolio.

When asked on how to make smart investments, Warren Buffett said,

> "Read 500 pages like this every week. That's how knowledge builds up, like compound interest."

To beat the market, you need to bring what's needed to be a succesful investor, and that means sacrificing a lot of time and effort that could have been used elsewhere, like your day job. **At some point, an investor needs to decide whether the cost of time and effort exceeds the benefit of outperformance in his/her stock picking journey.**

Conviction and patience is everything

Having an accurate non-consensus view will only get you as far as your conviction on the investment thesis goes. Remember, the market can stay irrational for long durations of time. As Sanjay Bakshi notes in his appearance in an episode of the We Study Billionaires podcast, unlike many other professions, an investor rarely receives an immediate feedback on his operations. Sometimes it takes years for the market to catch up to intrinsic value of an asset, and so it is hard to separate luck from genuine success — so hold on to the underlying process rather than focusing on the outcome. A good handle on your conviction helps you to hang in until other investors catch up on the market's inefficiencies. On this subject, Joel Greenblatt annotates on *The Most Important Thing,*

> I always tell my students, "If you do a good job valuing a stock, I guarantee that the market will agree with you." I just don't tell them when. It could be weeks or years.

Another thing to note is an investor should never rely on borrowed conviction, primarily because it's never enough to hold on to. If you don't do your own research, and rather rely on someone else's, the conviction tends to be weak, and so emotions act up, and exit plans are broken before the thesis fully appreciates. The other reason is that you have to rely on the goodwill of the researcher, as they may not warn you if something disproves their thesis.

Investing can't be perfectly routinized

As Howard Marks notes in *The Most Important Thing,* investing is more art than science — in the sense that past results can't be relied upon with confidence, the cause and effect relationships can't be depended upon. And so, investing can't be routinized. An investor must be able to adapt to changes in the market dynamics to consistently outperform the market.

Conclusion

To sum it up, an individual investor needs to invest time and effort, have a capability to think on a higher level than the consensus view, adapt to changes in market dynamics, and have the capacity for patience and conviction to consistently beat the market.

References/Further Reading

- Howard Marks -- The Most Important Thing (Illuminated Edition) ↗
- Joel Greenblatt -- You Can Be a Stock Market Genius ↗
- Sanjay Bakshi's episode on The Investor's Podcast's We Study Billionaires ↗
- Joel Greenblatt -- The Little Book That Beats the Market ↗

Reading an Annual Report

Reading an Annual Report — in the Indian context

Disclaimer & Disclosures

- The author of this section **DOES NOT** have any long or short position for companies used in this section for illustration purposes as of the date of being published. This may or may not change in the future.
- The companies used as examples are mentioned solely for educational purposes, mention of any company is random and is certainly **NOT** an investment recommendation.
- Readers are advised to read the complete fine-print of an annual report while conducting due-diligence and avoid skipping contents that went unmentioned in this section.

Introduction

There are various filings & documents an investor should read before making an investment decision, such as the company's annual reports, quarterly reports, transcripts of conference calls held by the company, credit rating reports, brokerage reports, and so on. Of these, **annual reports are unquestionably the most critical to study.**

What is an Annual Report?

An annual report is a document that any listed company is required to provide to its shareholders at the end of every accounting year, containing information about the financial & operational activities undertaken for the year in review. Apart from this, the report also contains information about the management, the board of directors, and the products sold by the company. **For an investor, it serves as the primary document to gather information about a company.** In general, we want to see an attempt made by a company to make its business understandable to its shareholders.

Where can an investor access annual reports of a company?

As per the Securities and Exchange Board of India (SEBI) listing obligations and disclosure requirements, a listed entity must

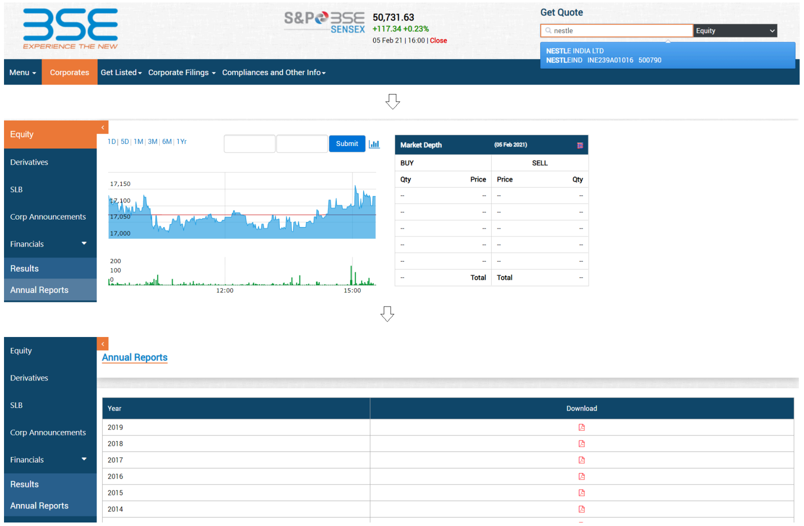
- submit its annual report on the stock exchanges, and
- upload it on the company's official website

Apart from the stock exchanges and the company's website, annual reports can also be found on various screeners and other financial data aggregators.

Stock Exchange Filings

- The **Bombay Stock Exchange**'s (BSE) website can be found at https://www.bseindia.com/ ↗

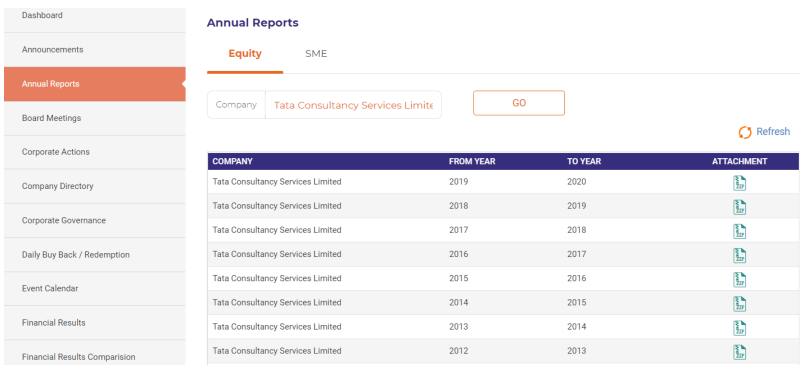
  Once you are on BSE's websites, you can search for the company on the search bar located at top right of the website > scroll down to find *Financials* toggle in the left sidebar > and click on *Annual Reports* to find the past ten years of annual reports of the company.



Bombay Stock Exchange (BSE)'s website

- The **National Stock Exchange of India**'s website can be found at https://www.nseindia.com/ ↗

  You can simply search for the company's name in corporate filings > annual reports page ↗ on NSE's website.



Annual Reports page on Natinal Stock Exchange of India (NSE)'s website

Investor Relations page on Company's website

As mentioned earlier, companies must upload their annual reports on their official website to provide easy access to shareholders. These can generally be found under *Investor Relations* page on the company's website.

For instance, Bajaj Auto's annual report can be found here ↗. A screenshot is shown below as an example.

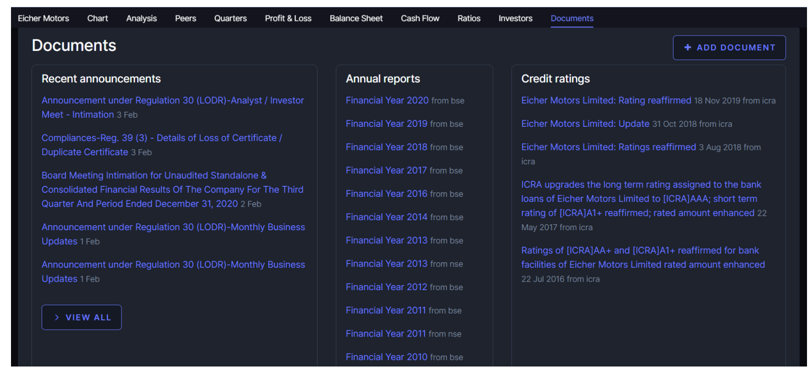
13/04/2025, 11:10 r/IndiaInvestments

Investor Relations page on Bajaj Auto Ltd's website

Screeners & Aggregators

You can also find annual reports of companies on various screener and financial data aggregator websites. Generally, they're just links to the PDFs used for company's filings on stock exchanges.

For instance, on Screener.in ↗, you can find annual reports of past few years under the documents section of a company's page. Screener.in ↗ generally links this to BSE's repository of filings.



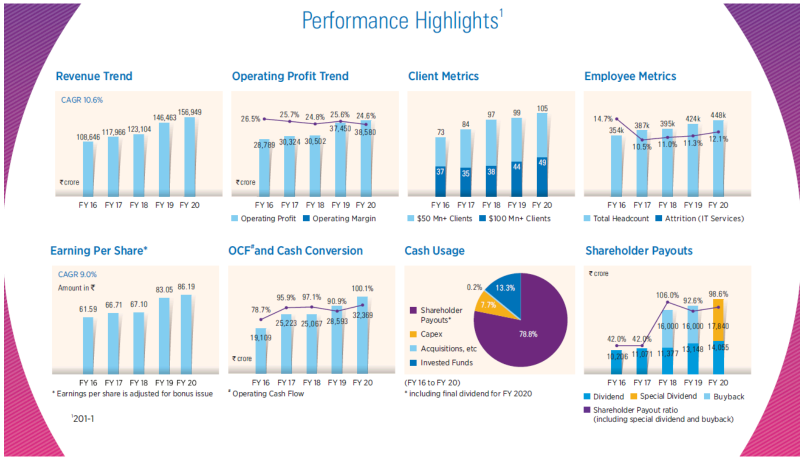
Eicher Motor's company page on Screener.in

Contents of an Annual Report

More often than not, an annual report will begin with information about the company's product, its operational activities, management, board of directors, and ends with financial statements of the year under review.

Financial & Product mix highlights

This section gives a brief overview of the financial performance of the company in the form of slick visual representations designed to market the prospects of the company to the reader. It is important that you ensure to judge the data for what its worth, not for how it has been shaped to woo you over.



Tata Consultancy Services Ltd's Annual Report (FY20)

Oftentimes, the company also showcases their portfolio of products under this section (sometimes, a company will only showcase new additions to their product portfolio).

Products overview

Writing and printing papers

Brand	Variants	Colours	GSM	Brightness	Usage
Kora	White Lined: Hindi/ Eng/Math/ Science	-	58-160 GSM	+88%	Writing & Printing, Notebooks, Textbooks, Stationery, Note pads, Registers and Base paper for thermal coating
Safeda	Super White	-	58-160 GSM	+90%	Writing & Printing, High quality Notebooks, Textbooks, Stationery, Note Pads, Registers, Children's Books, Diaries and Calendars
Savera	Super White	-	58-160 GSM	+92%	Writing & printing, High Quality Notebooks, Textbooks, Stationery, Note pads and Registers
Karigar	White	-	90-160 GSM	+85%	Writing & printing, High bulk, Drawing sheets, Cards, Notes and Labels
Gehua	Natural	-	58-160 GSM		Writing & printing, Brochures, Annual reports, Diaries, Paper Bags and Envelopes
Mela	Coloured	Lemon Mint Rose Sky	49-160 GSM	-	Multipurpose colour printing, Bill books, Brochures, Leaflets, Advertising material, Spiral note books, Bill books, Hand bills, Scrapbooks and Lottery tickets
Pahari	Coloured	sand	95 GSM	-	Print & packaging, High quality envelopes, Cards, Boxes and Paper bags

Ruchira Paper's Annual Report (FY20) [Note: This screenshot doesn't capture the full page]

Management's Letters to the Shareholders

Though it is not mandated by law, companies usually take the opportunity to communicate to its shareholders,

- Comments on operational activities conducted under the year in review
- Review of the financial performance achieved under the year in review

13/04/2025, 11:10 r/IndiaInvestments

- Company's broad position in the sector in which they operate
- General economical conditions under which the sector is conducting business
- Threats that the company may face, and risk mitigation strategies
- Plans to undertake new projects, or investments
- Updates to the projects, or investments announced in the past years
- Any other key event that took place in relation to the company

Dear Stakeholder,

Adversity, they say, is the true test of character.
Your company achieved many admirable wins and milestones through the first 11 months of FY 2020. But it was in the final days of the year that the true nature of its purpose-driven worldview truly shone through. Your company prioritized the health and safety of its employees, kept customers' mission-critical systems running under very difficult circumstances and pitched in to help communities across the world battle the pandemic.

When we emerge out of this crisis, the world will be a very different place. We are witnessing many of those changes already. With cloud and the new class of collaboration tools, people are discovering that they are able to collaborate with each other just as well working from home, as they did in person in the pre-COVID era. Employers are discovering that the productivity is just as good, if not better, in this new way of working.

In many sectors, digital channels have gone from being secondary, nice-to-have options to become the primary channels, and in some instances, the only channels. Schools, colleges and even courts have shifted to an online-only mode. Farmers' cooperatives are taking online orders and directly delivering fresh produce to city-dwellers. This is the transformation that we had spoken of five years go, when we said that Default is Digital, but even I am still amazed by the scale and speed of the change.

Tata Consultancy Services Ltd's Annual Report (FY20)

You may find this section sometimes containing two letters, one from the Managing Director (representing the board of directors) and the other from Chief Executive Officer (representing the management team) of the company.

Dear Stakeholder,

It is a measure of how quickly and profoundly our world has changed, that when we look back at the year gone by, it feels like a different era altogether.

In FY 2020, your Company delivered revenue of **₹156,949 crore**, growing **7.2%** over the prior year in reported terms, and **7.1%** in constant currency terms.

Our operating margin continued to be best in class, at **24.6%**. Net profit was **₹32,340 crore**, a net margin of **20.6%**. Our cash conversion continues to be very strong, with a cash conversion ratio of **100.1%** and free cash flow of **₹29,281 crore**.

The Board has recommended a final dividend of **₹6** for the year, bringing the total dividend for the year to **₹73** per share. This translates into **₹31,895 crore** returned to shareholders in FY 2020, which is **108.9%** of the free cash flow.

We had a very productive year, engaging with customers in their innovation, growth and transformation initiatives, expanding and deepening our relationships, deploying very impactful solutions, and winning some of our largest deals till date.

However, it is our response to the events of the last ten days of the fiscal year that will be our most defining accomplishment of FY 2020.

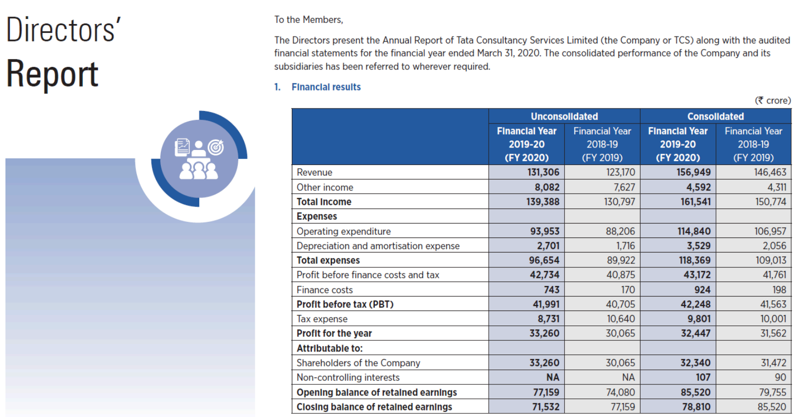
[1]102-14

Tata Consultancy Services Ltd's Annual Report (FY20)

Board of Directors Report

The directors' report comes from the perspective of representatives of the shareholders.

You will often come across the same phrases or coverage of points used in multiple sections of the annual report. Essentially, the directors report elaborates and sets some context for the same points found under *Management's letter to the shareholders* section, but with further explanation and data points to support their claims, that is, this section expands on the company's operational activities, financial performance, position in the market, capital allocation policy, dividends distribution policy & dividends proposed for the year, capital expenditure plans, updates regarding the capital expenditure taken up by the company in the past, and the economic conditions under which the company is conducting its business.



Directors' Report

To the Members,

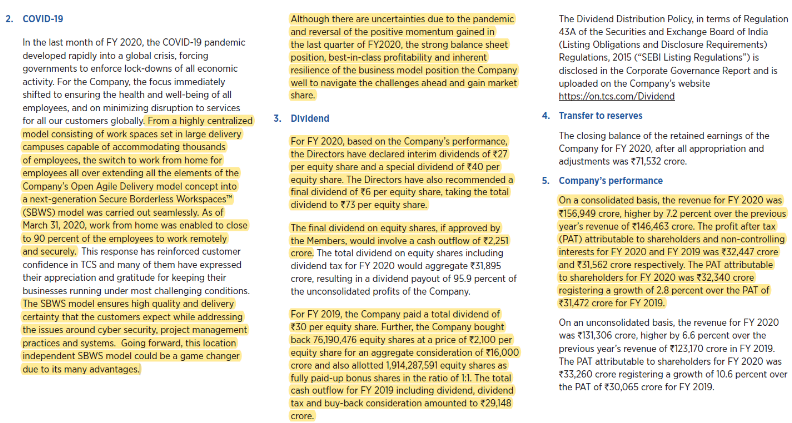
The Directors present the Annual Report of Tata Consultancy Services Limited (the Company or TCS) along with the audited financial statements for the financial year ended March 31, 2020. The consolidated performance of the Company and its subsidiaries has been referred to wherever required.

1. Financial results

(₹ crore)

	Unconsolidated		Consolidated	
	Financial Year 2019-20 (FY 2020)	Financial Year 2018-19 (FY 2019)	**Financial Year 2019-20 (FY 2020)**	Financial Year 2018-19 (FY 2019)
Revenue	**131,306**	123,170	**156,949**	146,463
Other income	**8,082**	7,627	**4,592**	4,311
Total Income	**139,388**	130,797	**161,541**	150,774
Expenses				
Operating expenditure	**93,953**	88,206	**114,840**	106,957
Depreciation and amortisation expense	**2,701**	1,716	**3,529**	2,056
Total expenses	**96,654**	89,922	**118,369**	109,013
Profit before finance costs and tax	**42,734**	40,875	**43,172**	41,761
Finance costs	**743**	170	**924**	198
Profit before tax (PBT)	**41,991**	40,705	**42,248**	41,563
Tax expense	**8,731**	10,640	**9,801**	10,001
Profit for the year	**33,260**	30,065	**32,447**	31,562
Attributable to:				
Shareholders of the Company	**33,260**	30,065	**32,340**	31,472
Non-controlling interests	**NA**	NA	**107**	90
Opening balance of retained earnings	**77,159**	74,080	**85,520**	79,755
Closing balance of retained earnings	**71,532**	77,159	**78,810**	85,520

Tata Consultancy Services Ltd's Annual Report (FY20)



2. COVID-19

In the last month of FY 2020, the COVID-19 pandemic developed rapidly into a global crisis, forcing governments to enforce lock-downs of all economic activity. For the Company, the focus immediately shifted to ensuring the health and well-being of all employees, and on minimizing disruption to services for all our customers globally. From a highly centralized model consisting of work spaces set in large delivery campuses capable of accommodating thousands of employees, the switch to work from home for employees all over extending all the elements of the Company's Open Agile Delivery model concept into a next-generation Secure Borderless Workspaces™ (SBWS) model was carried out seamlessly. As of March 31, 2020, work from home was enabled to close to 90 percent of the employees to work remotely and securely. This response has reinforced customer confidence in TCS and many of them have expressed their appreciation and gratitude for keeping their businesses running under most challenging conditions. The SBWS model ensures high quality and delivery certainty that the customers expect while addressing the issues around cyber security, project management practices and systems. Going forward, this location independent SBWS model could be a game changer due to its many advantages.

Although there are uncertainties due to the pandemic and reversal of the positive momentum gained in the last quarter of FY2020, the strong balance sheet position, best-in-class profitability and inherent resilience of the business model position the Company well to navigate the challenges ahead and gain market share.

3. Dividend

For FY 2020, based on the Company's performance, the Directors have declared interim dividends of ₹27 per equity share and a special dividend of ₹40 per equity share. The Directors have also recommended a final dividend of ₹6 per equity share, taking the total dividend to ₹73 per equity share.

The final dividend on equity shares, if approved by the Members, would involve a cash outflow of ₹2,251 crore. The total dividend on equity shares including dividend tax for FY 2020 would aggregate ₹31,895 crore, resulting in a dividend payout of 95.9 percent of the unconsolidated profits of the Company.

For FY 2019, the Company paid a total dividend of ₹30 per equity share. Further, the Company bought back 76,190,476 equity shares at a price of ₹2,100 per equity share for an aggregate consideration of ₹16,000 crore and also allotted 1,914,287,591 equity shares as fully paid-up bonus shares in the ratio of 1:1. The total cash outflow for FY 2019 including dividend, dividend tax and buy-back consideration amounted to ₹29,148 crore.

The Dividend Distribution Policy, in terms of Regulation 43A of the Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015 ("SEBI Listing Regulations") is disclosed in the Corporate Governance Report and is uploaded on the Company's website https://on.tcs.com/Dividend

4. Transfer to reserves

The closing balance of the retained earnings of the Company for FY 2020, after all appropriation and adjustments was ₹71,532 crore.

5. Company's performance

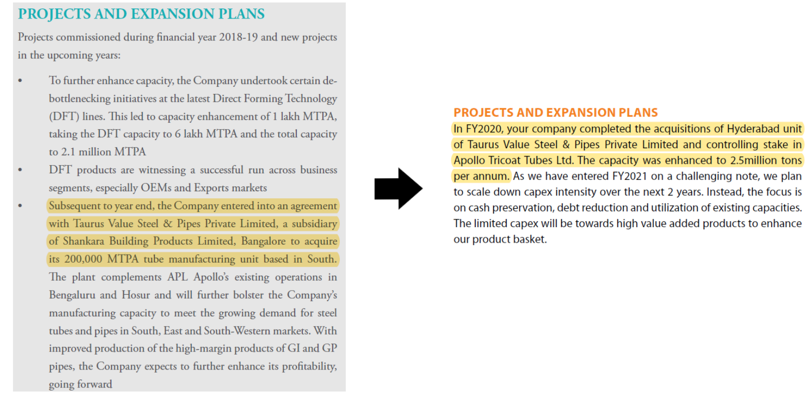
On a consolidated basis, the revenue for FY 2020 was ₹156,949 crore, higher by 7.2 percent over the previous year's revenue of ₹146,463 crore. The profit after tax (PAT) attributable to shareholders and non-controlling interests for FY 2020 and FY 2019 was ₹32,447 crore and ₹31,562 crore respectively. The PAT attributable to shareholders for FY 2020 was ₹32,340 crore registering a growth of 2.8 percent over the PAT of ₹31,472 crore for FY 2019.

On an unconsolidated basis, the revenue for FY 2020 was ₹131,306 crore, higher by 6.6 percent over the previous year's revenue of ₹123,170 crore in FY 2019. The PAT attributable to shareholders for FY 2020 was ₹33,260 crore registering a growth of 10.6 percent over the PAT of ₹30,065 crore for FY 2019.

(continued) Tata Consultancy Services Ltd's Annual Report (FY20)

You can, and should check whether the management is able to deliver on commitments made previously by comparing the operational or financial activities conducted in the year in review to plans announced in the past few year's annual reports.

13/04/2025, 11:10 r/IndiaInvestments



PROJECTS AND EXPANSION PLANS

Projects commissioned during financial year 2018-19 and new projects in the upcoming years:

- To further enhance capacity, the Company undertook certain de-bottlenecking initiatives at the latest Direct Forming Technology (DFT) lines. This led to capacity enhancement of 1 lakh MTPA, taking the DFT capacity to 6 lakh MTPA and the total capacity to 2.1 million MTPA
- DFT products are witnessing a successful run across business segments, especially OEMs and Exports markets
- Subsequent to year end, the Company entered into an agreement with Taurus Value Steel & Pipes Private Limited, a subsidiary of Shankara Building Products Limited, Bangalore to acquire its 200,000 MTPA tube manufacturing unit based in South. The plant complements APL Apollo's existing operations in Bengaluru and Hosur and will further bolster the Company's manufacturing capacity to meet the growing demand for steel tubes and pipes in South, East and South-Western markets. With improved production of the high-margin products of GI and GP pipes, the Company expects to further enhance its profitability, going forward

PROJECTS AND EXPANSION PLANS

In FY2020, your company completed the acquisitions of Hyderabad unit of Taurus Value Steel & Pipes Private Limited and controlling stake in Apollo Tricoat Tubes Ltd. The capacity was enhanced to 2.5million tons per annum. As we have entered FY2021 on a challenging note, we plan to scale down capex intensity over the next 2 years. Instead, the focus is on cash preservation, debt reduction and utilization of existing capacities. The limited capex will be towards high value added products to enhance our product basket.

APL Apollo Tubes Ltd's Annual Report (FY19 & FY20)

Management Discussion & Analysis

Unlike *Management's letters to shareholders*, this section is mandated^2 ↗ to be placed in an annual report either as a part of Directors report, or as its own entity. SEBI regulations^1 ↗ instruct the management of companies to include the following discussions/analysis under this section (*We've added relevant excerpts from ARs of two different companies*):

- Industry structure & developments

Excerpt (1) Indian paper industry overview

India accounts for 4% share of the global paper production. The Indian paper industry size was estimated at ₹70, 000 Crores in FY19-20, contributing ₹5000 Crores to the exchequer. Indian paper production was estimated to reach 20.7 million tons in FY19-20. The industry provides direct employment to 5 Lakhs people and indirect employment to 15 Lakhs individuals.

India is the fastest growing paper market, the increasing demand addressed by imports, leading to a relative under-utilisation of domestic manufacturing capacity. The Indian paper industry operated at only 80% of its overall manufacturing capacity, considered low for a capital-intensive and continuous process industry. India's per capita paper consumption is around 13 kg compared to global per capita of 57 kg, indicating headroom for growth.

Excerpt (2) The Indian paper market can be classified on the basis of raw material and application. On the basis of raw materials used, the market is categorised into waste and recycled paper, wood and agro-residue, of which the waste and recycled paper segment is expected to grow faster owing to growing concerns about felling trees to produce pulp. On the basis of application, the market is classified into writing and printing paper, paperboard and packaging, newsprint and specialty paper. The packaging segment accounts for over 50% of the total paper demand, followed by writing & printing paper at 30%. However, the demand for WPP was affected by the closure of most educational institutions since the beginning of March 2020 due to the COVID-19 pandemic and work from home.

(Source: New Indian Express, Paper first, Business Today)

Ruchira Papers Ltd's Annual Report (FY20)

- Opportunities & threats

Demand drivers for India's paper industry

Rising incomes
The nominal per-capita net national income during FY19-20 is estimated at ₹1,35,050, a rise of 6.8% compared to ₹1,26,406 during FY18-19. (Source: MoSPI)

Urbanisation
Nearly 34% of India's population resides in urban areas. It is projected to increase to ~40% by 2030, driving paper demand.

E-commerce boost
India had an internet user base 665 million in 2019 and projected to reach 829 million by 2021. The projected transaction size of the e-commerce market was estimated to reach US$ 91 billion by 2021, catalysing packaging paper demand.

Demographic dividend
India's population among the youngest in the world. By 2022, the median age in India will be 28 years, compared to 37 in China and United States. A larger workforce could strengthen domestic demand in a sustainable way. (Source: The Hindu)

Youth education
India's youth literacy is expected to grow at a rate of 90% by 2020 from 74% in 2017. The rise in national literacy is expected to increase the expenditure on textbooks, notebooks and other paper products.

Ruchira Papers Ltd's Annual Report (FY20)

- Segment-wise, or product-wise performance

SEGMENT REVIEW

Excerpt (1) Retail - Reliance Retail continues to grov in scale, driven by new store expansion across the geography, improving store throughput and favourable product mix. Operating leverage is resulting in release of strong operating cash flows t continue making requisite investments f securing future readiness and deliverinc profitable growth. The business continu to improve customer experience across store concepts and focuses on providin unmatched value proposition, which has resulted in robust growth in footfalls anc operating metrics. Roll-out of the Digital Commerce initiative will open up further growth opportunities for the organised retail business, leveraging the best of ou consumer and digital platforms.

Organised Retail revenues grew by 24.8 y-o-y to ₹ 1,62,936 crore. Segment EBITI for FY 2019-20 grew by 55.7% y-o-y to ₹ 9,654 crore. EBITDA margins improvec 130 bps to 6.6% boosting operating profitability. Reliance Retail further consolidated its leadership position and India's largest, most profitable and faste growing retailer.

Excerpt (2) Digital Services - Reliance Jio has been the key catalyst in creating the broadband data market in India. It is now the #1 ranked mobile telecom operator in the country by both Adjusted Gross Revenue (AGR) and subscribers. Building on this success, Jio is rolling out its state-of-the-art wireline services across Homes and Enterprises. All this will help lay a strong foundation for offering platform based digital services. To further facilitate this from the perspective of business organisation, Jio has consolidated all its technology capabilities, investments and connectivity business into a single holding company called Jio Platforms Limited.

The business recorded revenues of ₹ 68,462 crore, as against ₹ 48,660 crore in previous year, with year-end subscribers base at 387.5 million. Reliance Jio reported strong financial performance for the year. Segment EBITDA was at ₹22,517 crore for the year, as against ₹15,341 crore in previous year

Excerpt (3) The fallout of the global pandemic impacted commodity markets and prices in the last quarter of FY 2019-20. Despite the challenging industry conditions, Oil to Chemicals (O2C) business delivered a resilient performance.

Refining and Marketing – Revenue (including inter segment transfers) decreased by 1.6% y-o-y to ₹ 3,87,522 crore (US$51.2 billion). Segment EBITDA decreased by 6.1% to ₹24,461 crore (US$3.2 billion). The impact in revenue was because of lower price realisation in domestic and export markets due to fall in crude prices. GRM for FY 2019-20 stood at US$8.9/bbl, outperforming Singapore complex margins by US$5.7/bbl.

Excerpt (4) Petrochemicals – Revenue (including inter segment transfers) decreased by 15.6% y-o-y to ₹ 1,45,264 crore (US$19.2 billion), primarily due to lower price realisations with weaker demand in well-supplied market. Segment EBITDA decreased by 18.3% to ₹30,933 crore (US$4.1 billion) due to lower margins in key products - Paraxylene, MEG, PET, Polypropylene and Polyethylene.

Oil and Gas – Revenues decreased by 35.8% y-o-y to ₹ 3,211 crore. Volumes from domestic upstream fields and US shale were lower on account of natural decline and slowdown in development activity. Segment EBITDA was at ₹353 crore as against ₹1,642 crore in the previous year. For the year, domestic production (RIL share) was at 38.8 BCFe, down 34.1% y-o-y and US Shale production (RIL Share) was 80.4 BCFe, down 14.9% y-o-y basis.

Reliance Industries Ltd's Annual Report (FY20)

- Risks and concerns

13/04/2025, 11:10 r/IndiaInvestments

Risk management

Competition risk
Increase in the number of competitors could lead to reduced market share and profitability.

Mitigation: Over the years, the Company has established itself as one of the leading printing and kraft paper manufacturers in North India (using agricultural residues.

Raw material risk
Unavailability of raw materials could affect operations.

Mitigation: The Company uses a nominal amount of imported softwood pulp. The Company uses available resources like bagasse (byproduct of the sugarcane industry), wheat straw, sarkanda and long-fibres like indigenous and imported waste paper. The Company keeps sufficient stock of Baggase for its availability throughout the year.

Liquidity risk
A liquidity crunch could affect operations.

Mitigation: The Company's working capital cycle was at 86 days during FY19-20, while its debt-equity ratio strengthened from 0.11 to 0.06.

Environment risk
Inability to comply with environmental regulations could lead the disruption in the Company's operations.

Mitigation: The Company invested in a state-of-the-art effluent treatment and chemical recovery plant to ensure the recycling of the entire black liquor generated in the pulping process.

Quality risk
Inability to service the customers with quality products could affect the demand for the Company's products.

Mitigation: The Company emphasises quality products and has multiple procedures in place to ensure this. The result is that the Company has been accredited with ISO 9001:2015, validating its quality commitment.

People risk
Lack of qualified professionals could affect quality.

Mitigation: The Company emphasises the training and development of employees, which increases the productivity.

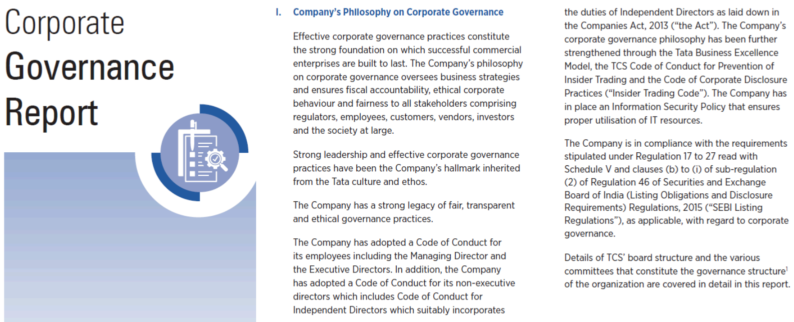
Ruchira Papers Ltd's Annual Report (FY20)

SEBI regulations make the inclusion of following points mandatory in this section:

- Outlook for the business conducted
- Internal control systems and their adequacy
- Financial performance with respect to operational performance
- Material development in Human Resources / Industrial Relations front, including number of people employed
- details of significant changes in key financial ratios with explanations: debtors turnover, inventory turnover, interest coverage ratio, current ratio, debt to equity ratio, operating profit margin, net profit margin, and sector-specific ratios
- details of any change in net-worth

Corporate Governance report

This section explains the company's governance philosophy and the workings of governance structure, provides some details of the upcoming Annual General Meeting, and gives information about the key management personnel & the board of directors. Corporate governance refers to a structure that regulates and manages companies, encompassing the complete dynamics of its functioning. Good corporate governance practices are a *sine qua non* that helps to create long-term value for both its shareholders and other stakeholders.


Corporate Governance Report

I. **Company's Philosophy on Corporate Governance**

Effective corporate governance practices constitute the strong foundation on which successful commercial enterprises are built to last. The Company's philosophy on corporate governance oversees business strategies and ensures fiscal accountability, ethical corporate behaviour and fairness to all stakeholders comprising regulators, employees, customers, vendors, investors and the society at large.

Strong leadership and effective corporate governance practices have been the Company's hallmark inherited from the Tata culture and ethos.

The Company has a strong legacy of fair, transparent and ethical governance practices.

The Company has adopted a Code of Conduct for its employees including the Managing Director and the Executive Directors. In addition, the Company has adopted a Code of Conduct for its non-executive directors which includes Code of Conduct for Independent Directors which suitably incorporates the duties of Independent Directors as laid down in the Companies Act, 2013 ("the Act"). The Company's corporate governance philosophy has been further strengthened through the Tata Business Excellence Model, the TCS Code of Conduct for Prevention of Insider Trading and the Code of Corporate Disclosure Practices ("Insider Trading Code"). The Company has in place an Information Security Policy that ensures proper utilisation of IT resources.

The Company is in compliance with the requirements stipulated under Regulation 17 to 27 read with Schedule V and clauses (b) to (i) of sub-regulation (2) of Regulation 46 of Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015 ("SEBI Listing Regulations"), as applicable, with regard to corporate governance.

Details of TCS' board structure and the various committees that constitute the governance structure[1] of the organization are covered in detail in this report.

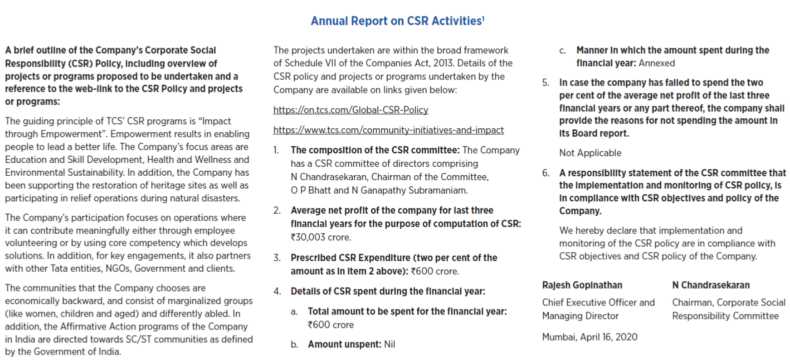
Tata Consultancy Services Ltd's Annual Report (FY20)

The corporate governance report includes,

- Short profiles on the directors and key management personnel
- Changes (appointments, reappointments, and retirements) to be undertaken in board of directors and the key management personnel team
- Remuneration, or compensation paid to the directors and key management personnel in the year in review (this includes sitting fees)
- Compositions and mandates of board committees
- Attendance of directors for board meetings, and
- Details of the upcoming Annual General Meeting (AGM)

Corporate Social Responsibility

Corporate Social Responsibility activities refer to investments made by a company to responsibly handle the social, environmental and economic consequences of its activities. These expenditures incurred are mandatory by law[3] for companies having net worth of at least 500 crores, or turnover of at least 1000 crores, or a net profit of at least 5 crores, as a result of the obligation on the companies operating in a social environment.


Annual Report on CSR Activities[1]

A brief outline of the Company's Corporate Social Responsibility (CSR) Policy, including overview of projects or programs proposed to be undertaken and a reference to the web-link to the CSR Policy and projects or programs:

The guiding principle of TCS' CSR programs is "Impact through Empowerment". Empowerment results in enabling people to lead a better life. The Company's focus areas are Education and Skill Development, Health and Wellness and Environmental Sustainability. In addition, the Company has been supporting the restoration of heritage sites as well as participating in relief operations during natural disasters.

The Company's participation focuses on operations where it can contribute meaningfully either through employee volunteering or by using core competency which develops solutions. In addition, for key engagements, it also partners with other Tata entities, NGOs, Government and clients.

The communities that the Company chooses are economically backward, and consist of marginalized groups (like women, children and aged) and differently abled. In addition, the Affirmative Action programs of the Company in India are directed towards SC/ST communities as defined by the Government of India.

The projects undertaken are within the broad framework of Schedule VII of the Companies Act, 2013. Details of the CSR policy and projects or programs undertaken by the Company are available on links given below:

https://on.tcs.com/Global-CSR-Policy

https://www.tcs.com/community-initiatives-and-impact

1. **The composition of the CSR committee:** The Company has a CSR committee of directors comprising N Chandrasekaran, Chairman of the Committee, O P Bhatt and N Ganapathy Subramaniam.
2. **Average net profit of the company for last three financial years for the purpose of computation of CSR:** ₹30,003 crore.
3. **Prescribed CSR Expenditure (two per cent of the amount as in item 2 above):** ₹600 crore.
4. **Details of CSR spent during the financial year:**
   a. **Total amount to be spent for the financial year:** ₹600 crore
   b. **Amount unspent:** Nil
   c. **Manner in which the amount spent during the financial year:** Annexed
5. **In case the company has failed to spend the two per cent of the average net profit of the last three financial years or any part thereof, the company shall provide the reasons for not spending the amount in its Board report.**

   Not Applicable
6. **A responsibility statement of the CSR committee that the implementation and monitoring of CSR policy, is in compliance with CSR objectives and policy of the Company.**

   We hereby declare that implementation and monitoring of the CSR policy are in compliance with CSR objectives and CSR policy of the Company.

Rajesh Gopinathan
Chief Executive Officer and Managing Director

N Chandrasekaran
Chairman, Corporate Social Responsibility Committee

Mumbai, April 16, 2020

Tata Consultancy Services Ltd's Annual Report (FY20)

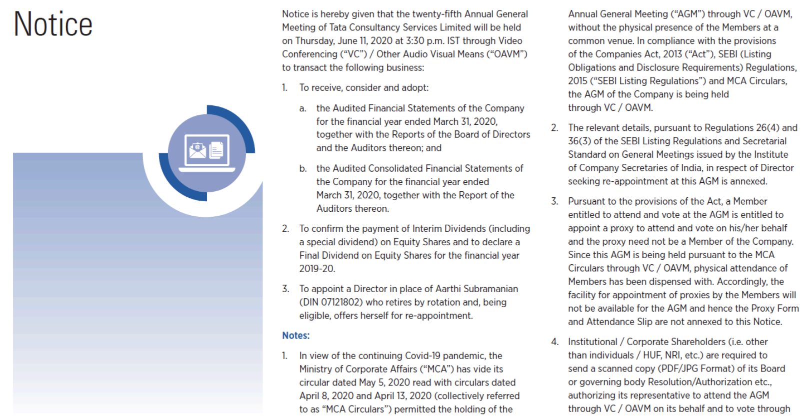
- If the company doesn't spend the required minimum of 2 percent of average net profits for the past 3 years, this section contains an explanation, and mentions how it will proceed with the unspent amount.

- If the company spends more than the required minimum amount mandated by the law, you may appreciate that the company is willing to spend more on social development, or shudder at the decision of increasing CSR expenditure at the cost of decreasing shareholder value.

Notice for the Annual General Meeting (AGM)

This section notifies the shareholders of the company of all relevant details regarding the upcoming Annual General Meeting, such as

- date and venue at which the meeting shall take place,
- the agendas to be discussed in the meeting, and
- information regarding shareholders voting process


Notice

Notice is hereby given that the twenty-fifth Annual General Meeting of Tata Consultancy Services Limited will be held on Thursday, June 11, 2020 at 3:30 p.m. IST through Video Conferencing ("VC") / Other Audio Visual Means ("OAVM") to transact the following business:

1. To receive, consider and adopt:
   a. the Audited Financial Statements of the Company for the financial year ended March 31, 2020, together with the Reports of the Board of Directors and the Auditors thereon; and
   b. the Audited Consolidated Financial Statements of the Company for the financial year ended March 31, 2020, together with the Report of the Auditors thereon.
2. To confirm the payment of Interim Dividends (including a special dividend) on Equity Shares and to declare a Final Dividend on Equity Shares for the financial year 2019-20.
3. To appoint a Director in place of Aarthi Subramanian (DIN 07121802) who retires by rotation and, being eligible, offers herself for re-appointment.

Notes:

1. In view of the continuing Covid-19 pandemic, the Ministry of Corporate Affairs ("MCA") has vide its circular dated May 5, 2020 read with circulars dated April 8, 2020 and April 13, 2020 (collectively referred to as "MCA Circulars") permitted the holding of the Annual General Meeting ("AGM") through VC / OAVM, without the physical presence of the Members at a common venue. In compliance with the provisions of the Companies Act, 2013 ("Act"), SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015 ("SEBI Listing Regulations") and MCA Circulars, the AGM of the Company is being held through VC / OAVM.
2. The relevant details, pursuant to Regulations 26(4) and 36(3) of the SEBI Listing Regulations and Secretarial Standard on General Meetings issued by the Institute of Company Secretaries of India, in respect of Director seeking re-appointment at this AGM is annexed.
3. Pursuant to the provisions of the Act, a Member entitled to attend and vote at the AGM is entitled to appoint a proxy to attend and vote on his/her behalf and the proxy need not be a Member of the Company. Since this AGM is being held pursuant to the MCA Circulars through VC / OAVM, physical attendance of Members has been dispensed with. Accordingly, the facility for appointment of proxies by the Members will not be available for the AGM and hence the Proxy Form and Attendance Slip are not annexed to this Notice.
4. Institutional / Corporate Shareholders (i.e. other than individuals / HUF, NRI, etc.) are required to send a scanned copy (PDF/JPG Format) of its Board or governing body Resolution/Authorization etc., authorizing its representative to attend the AGM through VC / OAVM on its behalf and to vote through

Tata Consultancy Services Ltd's Annual Report (FY20)

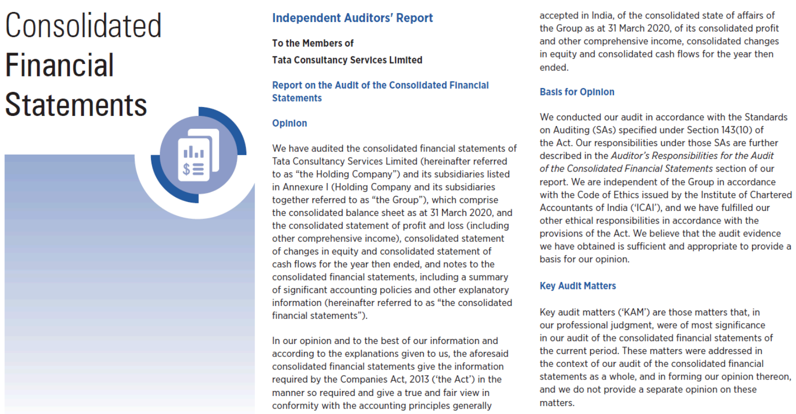
Notice of the AGM can also come as a separate email, notice to the investor, or as a newspaper ad in an English and a local language publication, as mandated by SEBI.

With this, the non-financial half of an annual report concludes.

Auditor's Report

The financial part of annual report begins with an Auditor's report, which contains an assessment done by an auditing entity evaluating the compliance of forthcoming financial statements with Indian Accounting Standards (Ind-AS) or International Financial Reporting Standards (IFRS). The auditor is expected to disclose,

- any deviations noticed from Indian account standards (Ind-AS) or International Financial Reporting Standards (IFRS)
- any fraudulent accounting observed
- **alignment and agreement with the company on the compliance and reporting of numbers**


Consolidated Financial Statements

Independent Auditors' Report

To the Members of
Tata Consultancy Services Limited

Report on the Audit of the Consolidated Financial Statements

Opinion

We have audited the consolidated financial statements of Tata Consultancy Services Limited (hereinafter referred to as "the Holding Company") and its subsidiaries listed in Annexure I (Holding Company and its subsidiaries together referred to as "the Group"), which comprise the consolidated balance sheet as at 31 March 2020, and the consolidated statement of profit and loss (including other comprehensive income), consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies and other explanatory information (hereinafter referred to as "the consolidated financial statements").

In our opinion and to the best of our information and according to the explanations given to us, the aforesaid consolidated financial statements give the information required by the Companies Act, 2013 ('the Act') in the manner so required and give a true and fair view in conformity with the accounting principles generally accepted in India, of the consolidated state of affairs of the Group as at 31 March 2020, of its consolidated profit and other comprehensive income, consolidated changes in equity and consolidated cash flows for the year then ended.

Basis for Opinion

We conducted our audit in accordance with the Standards on Auditing (SAs) specified under Section 143(10) of the Act. Our responsibilities under those SAs are further described in the *Auditor's Responsibilities for the Audit of the Consolidated Financial Statements* section of our report. We are independent of the Group in accordance with the Code of Ethics issued by the Institute of Chartered Accountants of India ('ICAI'), and we have fulfilled our other ethical responsibilities in accordance with the provisions of the Act. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key Audit Matters

Key audit matters ('KAM') are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Tata Consultancy Services Ltd's Annual Report (FY20)

Financial Statements

The financial statements section includes standalone and consolidated (where applicable) statements of profit and loss, balance sheet, cash flow, and change in equity. The statements usually have figures from the previous year for easier comparison.

- The Profit & Loss (P&L) statement deals with information about revenues received by the company, expenses incurred, and profits earned by the company in the year under review.

Statement of Profit and Loss for the period ended 31st March 2020

(Amount in ₹)

	Particulars	Note No.	2019-20	2018-19
I	Revenue From Operations	19	4810139714	4939903805
II	Other Income	20	15386283	18910003
III	**Total Income (I+II)**		**4825525997**	**4958813808**
IV	**EXPENSES**			
	Cost of materials consumed	21	3227388528	3108569850
	Purchases of Stock-in-Trade		-	-
	Changes in inventories of finished goods, Stock-in -Trade and work-in-progress	22	52939250	(111953126)
	Employee benefits expense	23	464714913	433752648
	Finance costs	24	68608753	80993337
	Depreciation and amortization expense	2A	137198843	130883716
	Other expenses	25	624467892	688336902
	Total expenses (IV)		**4575318179**	**4330583327**
V	**Profit/(loss) before exceptional items and tax (III- IV)**		**250207818**	**628230481**
VI	Exceptional Items - (profit)/loss		(1153277)	4036942
VII	**Profit/(loss) before tax (V-VI)**		**251361095**	**624193539**
VIII	Tax expense:			
	(1) Current tax		63117585	200557551
	(2) Deferred tax		(85382274)	21285423
	(3) Earlier year Taxes		(116618)	-
IX	**Profit (Loss) for the period from continuing operations (VII-VIII)**		**273742402**	**402350565**
X	**Profit/(loss) from Discontinued operations (after tax)**		-	-
XI	**Profit/(loss) for the period (IX+X)**		**273742402**	**402350565**

Tata Consultancy Services Ltd's Annual Report (FY20) [Note: This screenshot doesn't capture the full P&L statement]

- The Balance Sheet statement is essentially taken as a snapshot at any specific time, providing information about the assets, liabilities, and shareholder's equity held by the company. Since it is taken as a snapshot at the end of year and carried forward, it shows us this information as a resultant of operations of the company since its incorporation.

Balance Sheet as at 31st March 2020

(Amount in ₹)

	Particulars	Note No.	As at 31st March 2020	As at 31st March 2019
A	ASSETS			
1	**Non-current assets**			
	(a) Property, Plant and Equipment	2A	2339592784	2306190137
	(b) Capital work-in-progress	2B	54104585	30152630
	(c) Financial Assets:			
	(i) Investments	3	2500	2500
	(d) Other non-current assets	4	3466228	3466228
	Total Non Current Assets(A1)		**2397166097**	**2339811495**
2	**Current assets**			
	(a) Inventories	5	773534994	838385920
	(b) Financial Assets			
	(i) Trade receivables	6	631959901	631138143
	(ii) Cash and cash equivalents	7	16246360	14722141
	(iii) Loans & Advances	8	193942711	285922185
	Total Current Assets(A2)		**1615683966**	**1770168389**
	Total Assets(A1+A2)		**4012850063**	**4109979884**

Tata Consultancy Services Ltd's Annual Report (FY20) [Note: This screenshot doesn't capture the full balance sheet statement]

- The cash flow statement gives us transactional details of the cash collected / earnt by the company *(inflows)* from its operational and investment activities, and cash spent *(outflows)* on financial, operational, and investment activities by the company.

Statement of Cash Flow for the year ended 31st March 2020

(Amount in ₹)

	Particular	For the year ended 31st March 2020		For the year ended 31st March 2019	
A	**CASH FLOW FROM OPERATING ACTIVITIES**				
	Net Profit Before Tax as per Profit and Loss Account		251361095		624193539
	Adjusted for:				
	Loss/(Profit) on sale of Fixed Assets (Net)	(1153277)		4036942	
	Depreciation and amortization expenses	137198843		130883716	
	Net Defined Benefits Plans Charged to OCI	(7712616)		(6714249)	
	Interest/Dividend Income	(13259760)		(13978457)	
	Interest Expense	63228267		77045963	
			178301457		191273915
	Operating Profit before working capital changes				
	Adjusted for:				
	Decrease/(increase) in Trade Receivables	(821758)		(155224979)	
	Decrease/(increase) in Inventories	64850926		(154266273)	
	Decrease/(increase) in Loans & advances	(5365321)		(34359018)	
	(Decrease)/increase in Trade Payables	(4806309)		(2376895)	
	(Decrease)/increase in Other Current Liabilities	(1723128)		(15641929)	
			52134410		(361869094)
	Cash generated from Operations		**481796962**		**453598360**
	Income Tax Paid(Net)		(99824946)		(218968952)
	Net Cash from Operating Activities		**381972016**		**234629408**

Tata Consultancy Services Ltd's Annual Report (FY20) [Note: This screenshot doesn't capture the full cash flow statement]

- The statement of change in equity deals with transactions related to shareholder's equity in the year under review.

Statement of Change in Equity for the period ended 31st March 2020

A. Equity Share Capital

(Amount in ₹)

Particular	No. of Share	Amount in ₹
Balance as at 01/04/2019	24251804	242518040
Changes in equity share capital during the period	-	-
Balance as at 31/03/2020	**24251804**	**242518040**

B. Other Equity

(Amount in ₹)

Particulars	Reserves and Surplus			Other items of Other Comprehensive Income	Money received against share warrants	Total
	Securities Premium Reserve	General Reserve	Retained Earnings	Remeasurements of net defined benefits plans		
Balance as at 01/04/2019	419901954	39626724	1748027105	(6624044)	-	2200931739
Changes in account ing policy or prior period errors						-
Restated balance at the beginning of the reporting period	419901954	39626724	1748027105	(6624044)	-	2200931739
Profit for the Year	-	-	273742402	-	-	
Other Comprehensive Income for the year	-	-	-	(5736212)	-	(5736212)
Dividends paid	-	-	54566559	-	-	54566559
Dividend Tax paid	-	-	11216317	-	-	11216317
Transfer to retained earnings	-	-	-	-	-	-
Cash Proceeds/(Payments)	-	-	-	-	-	-
Balance as at 31/03/2020	**419901954**	**39626724**	**1955986631**	**(12360256)**	**-**	**2403155053**

Tata Consultancy Services Ltd's Annual Report (FY20)

Notes to Financial Statements

You can refer to detailed calculation or breakup of figures reported in financial statements of the company under the *Notes to Financial Statement* section to get a better understanding of the business. For instance, you can often find the interest rates at which the company has taken up a loan under the note elaborating borrowings of a company. Figures in financial statements are accompanied by an index consisting of the serial number of the note interlinked with a specific figure. Take this screenshot taken from Tata Consulatancy Services' profit and loss statement.

Consolidated Statement of Profit and Loss

(₹ crore)

	Note	Year ended March 31, 2020	Year ended March 31, 2019
Revenue	12	156,949	146,463
Other income	13	4,592	4,311
TOTAL INCOME		161,541	150,774
Expenses			
Employee benefit expenses	14	85,952	78,246
Cost of equipment and software licences	15(a)	1,905	2,270
Depreciation and amortisation expense		3,529	2,056
Other expenses	15(b)	26,983	26,441
Finance costs	16	924	198
TOTAL EXPENSES		119,293	109,211
PROFIT BEFORE TAX		42,248	41,563
Tax expense			
Current tax	17	10,378	9,502
Deferred tax	17	(577)	499
TOTAL TAX EXPENSE		9,801	10,001
PROFIT FOR THE YEAR		32,447	31,562

Tata Consultancy Services Ltd's Annual Report (FY20)

Suppose you want to investigate about the finance costs reported, you simply have to check the note number in front of the heading, and look for note 16 under the *Notes to financial statements* section. You'll find the breakup of finance costs given

under the note.

Notes forming part of the Consolidated Financial Statements

(a) Cost of equipment and software licences

Cost of equipment and software licences consist of the following:

(₹ crore)

	Year ended March 31, 2020	Year ended March 31, 2019
Raw materials, sub-assemblies and components consumed	18	40
Equipment and software licences purchased	1,888	2,230
	1,906	2,270
Finished goods and work-in-progress		
Opening stock*	-	-
Less: Closing stock*	1	-
	(1)	-
	1,905	2,270

*Represents value less than ₹0.50 crore.

(b) Other expenses

Other expenses consist of the following:

The Company made a contribution to an electoral trust of NIL and ₹220 crore for the years ended March 31, 2020 and 2019, respectively, which is included in other expenses.

(c) Research and development expenditure

Research and development expenditure including capital expenditure aggregating ₹306 crore and ₹308 crore was incurred in the years ended March 31, 2020 and 2019, respectively.

16) **Finance costs**

Finance costs consist of the following:

(₹ crore)

	Year ended March 31, 2020	Year ended March 31, 2019
Interest on lease liabilities	492	8
Interest on tax matters	354	169
Other interest costs	78	21
	924	198

Tata Consultancy Services Ltd's Annual Report (FY20)

Apart from calculation / breakup of figures, this section also provides information about accounting policies followed by the company in preparing the financial statements, and specifically mentions any change to the policy introduced in the year under review.

Related Party Transactions

Companies are required by law to disclose all transactions (transfer of resources/services/obligations) taken up by the company with entities controlled or significantly influenced by the company's promoters, directors, key management personnel, and their family members. These disclosures can be found under the *Related Party Transactions* section of an annual report. Often, this section is under *Notes to Financial Statements*

Notes forming part of the Consolidated Financial Statements

22) **Related party transactions**

Tata Consultancy Services Limited's principal related parties consist of its holding company Tata Sons Private Limited and its subsidiaries, its own subsidiaries, affiliates and key managerial personnel. The Group's material related party transactions and outstanding balances are with related parties with whom the Group routinely enter into transactions in the ordinary course of business. Refer note 21 for list of subsidiaries of the Company.

Transactions and balances with its own subsidiaries are eliminated on consolidation.

Transactions with related parties are as follows:

(₹ crore)

	Year ended March 31, 2020				
	Tata Sons Private Limited	Subsidiaries of Tata Sons Private Limited	Associates / Joint ventures of Tata Sons Private Limited and their subsidiaries	Other related parties	Total
Revenue	31	432	2,193	-	2,656
Purchases of goods and services (including reimbursements)	1	556	457	-	1,014
Brand equity contribution	162	-	-	-	162
Facility expenses	-	3	1	-	4
Lease rental	2	68	26	-	96
Bad debts and advances written off, allowance for doubtful trade receivables and advances (net)	1	-	-	-	1

(₹ crore)

	Year ended March 31, 2020				
	Tata Sons Private Limited	Subsidiaries of Tata Sons Private Limited	Associates / Joint ventures of Tata Sons Private Limited and their subsidiaries	Other related parties	Total
Contribution and advance to post employment benefit plans	-	-	-	2,684	2,684
Purchase of property, plant and equipment	-	219	110	-	329
Loans and advances given	-	4	85	-	89
Loans and advances recovered	-	3	30	-	33
Dividend paid	22,971	9	-	-	22,980

Tata Consultancy Services Ltd's Annual Report (FY20)

We have talked about understanding related party transactions under the *'Evaluation of management of a company from an investing perspective'* ↗ chapter of this series.

Some Recommendations

- **Reading order for annual reports of a company:** Personally, I prefer and recommend reading at-least past 5 years of annual report of a company before making an investment decision, ordered from oldest to newest or you may take a small, immaterial token position (i.e. capital you can afford to lose) and then study the company reports in detail before increasing your position. I've often encountered companies that have a listing history of nearly 5 years. In that case, I read the Red Herring Prospectus of the company as well, since it's usually more comprehensive regarding risks and threats the company may face.

- As mentioned in the disclaimer, you are advised to avoid skipping any contents of an annual report that I may have missed in this section. The contents and organization of annual reports vary from company to company, and so I've tried to include sections I've come across under most annual reports, but more importantly, all sections that are mandated to be included in an annual report[2] by Schedule V of LODR Regulations, and Section 134 and other applicable provisions of the Companies Act.
- The ability to create & export highlights helps in efficiently going through an annual report — So use a PDF viewer if you can! Personally, I use Polar -- its online, tracks progress, and gives you the ability to export your highlights.

Conclusion

We've previously mentioned the importance of conducting thorough due diligence while researching a company in the section *Can you beat the market?* chapter of this series. Reading an annual report is essential to get a better understanding of the business a company is engaged in, but sometimes the technical terms used in an annual report may repel the uninitiated, and so we've tried to explain most sections found in an annual report.

Researching a Sector

How do we research a sector — in the Indian context

Disclaimer & Disclosures

- The author of this section **DOES NOT** have any long or short position for companies used in this section for illustration purposes as of the date of being published. This may or may not change in the future.
- The companies used as examples are mentioned solely for educational purposes, mention of any company is random and is certainly **NOT** an investment recommendation.

Introduction

As individual investors, our primary focus is to,

- find disparities between a company's market price *(the price at which it trades)* and its intrinsic value *(the underlying value of the company we find fair).*
- make an assessment on this disparity, and attempt to exploit it to make money.

Can't catch 'em all

A prerequisite to finding such a disparity is having a set of companies to work with. Collectively, the market is made up of thousands of companies[1]; *it is chaos, an unexplored territory with limitless potential, if you will.*

It would be naive to take a shot at tracking all the listed companies. So, we need a method to *carve out order from this chaos* so to speak. Intuitively, arranging companies under different buckets based on some basis seems like a good starting point. One such basis is categorizing companies on the basis of the sector/industry under which it conducts business, then further categorizing them based on sub-sectors, and so on.

For example, a company 'A' selling chocolates and a company 'B' selling pencils would both broadly be part of the *'fast moving consumer goods' (FMCG)* sector, however, company 'A' would come under *Foods* sub-sector, and company 'B' would come under *Stationary* sub-sector.

This categorization helps us keep track of a broader universe of stocks - it gives us an approach for thinking about companies based on the sector under which they operate before we even begin conducting our due-diligence on them. Once categorised, we can work with the sectors that we understand.

Categorization, sure — but then what?

There are two investing strategies with which we can use this categorization,

1. **Top-down strategy:** This strategy involves studying macroeconomic factors to narrow down preferred sectors to invest in, then finding the best opportunities in such sectors. The focus on individual companies is lower here, and sector conditions are the prime focus. Sometimes, top-down strategy investors also prefer buying baskets of 2-3 stocks in a sector rather than finding the strongest player in the sector.
2. **Bottom-up strategy:** In this approach, we first find potential opportunities in companies based on some set of criteria or a checklist, and then slowly *move up* to studying the sector and its players. The focus on sector conditions is lower here than in top-down strategy; the idea is to find companies that can remain healthy even in sector downturns, and so can outperform its peers over the long term.

Either of them does involve at least some sectoral research, so let's get to how we can do that.

A framework for Sectoral Analysis

Broadly speaking, a sectoral research should include,

1. Information about the product, and its applications,
2. Understanding the value chain of the sector,
3. Market history, key events, and an overview on current conditions, and,
4. Benchmarks, and metrics to keep track of the sector.

To keep up with this section, I implore you to pick a sector, and try answering the questions I frame for each of these points. I will try to provide examples from different industries for each section for your understanding, but you can stick to the sector of your preference and pencil down the answers for the sector you picked.

Information about the product, and its applications

What is the sector selling?

Quite self-explanatory and perhaps overly simplistic, but noting down does help to answer a few forthcoming questions that are often ignored. For example,

- Fast moving consumer goods sector, often abbreviated as FMCGs, sell products that are generally cheap, and sell quickly as a consequence of frequently being used, such as packaged foods, beverages, stationery products, etc.
- Financial sector, often abbreviated as BFSIs in India, deals with financial products such as loans, insurance, brokerage services for capital markets, etc.
- Pharmaceuticals sector sells medicines, drugs, vaccines and other health related products.

How is the sector sub-categorized?

Most, if not all sectors can further be divided into different segments, and you'll often find the economic dynamics of such segments differ from one another, but generally not contradicting that of the sector itself. Often, a company operating under a segment eventually forays into all sub-sectors. For example,

- Fast moving consumer goods sector can be categorized into personal care, home care, packaged foods, beverages, and stationary/office segments.
- Automobile & components sector can be categorized into pureplay automobile manufacturers, and auto-ancillaries.
- Utilities sector can be categorized into Power, Gas, Water, etc.

What is the market size?

Market sizing refers to the estimation of a variable with little or no data available. In general, market size refers the potential revenue / volume a company can attain if it had 100 percent of estimated market share in the sector. Determining market size helps us perceive,

- the growth potential of companies operating within a sector, and
- the growth potential of the sector itself under conducive macroeconomic factors.

For example,

- Domestic automobile sectors sold 21.5 million vehicles in financial year 2020.^2 ↗

- Fast moving consumer goods sector *was a 3.4 lakh crore market* in India as of financial year 2018.^3 ↗

Is the sector prone to disruption?

There is great value in identifying potential disruptions in a sector. There are two kinds of disruptions a sector can face,

- A change in business dynamics of the sector. The obvious example of this kind of disruption is the entry of Reliance's Jio into the telecom sector forcing the incumbent players to either match its prices, or shut shop.^4 ↗
- A fundamental change in the product itself. An example of this is the introduction of affordable electric vehicles in the automobile sector.

Understanding the value chain of a sector

A value chain analysis refers to evaluating various aspects involved in running a business, such as,

- Procuring required raw materials & machinery,
- Recruitment of labor / workforce,
- Conducting Research & Development (R&D),
- Building, testing, and releasing the product,
- Managing & storing inventory, and
- Marketing, distribution, delivery, installation & post-installation services of the product.

We evaluate value chain of a company to,

- Understand the value created by a company in a marketplace,
- Understand potential inefficiencies and bottlenecks faced by a company in building & selling its product,
- Take account of steps taken by a company to weed out such inefficiencies and bottlenecks.
- Analyse the value chain to see where costs can be reduced, and thus profits can be maximised, and
- Understand the differentiation of various players which offers them competitive advantage.

If you think about it, a company's intrinsic value is *some* function of the **additional** value it exclusively creates in the marketplace, and the **relative** efficiency with which it conducts its business. I feel this is roughly what people mean when they're referring to a company's *competitive edge*, or what Warren Buffett calls *moat*, which Investopedia^5 ↗ defines as,

> a distinct advantage a company has over its competitors which allows it to protect its market share and profitability.

This additional value in the company's products can be many things - brand power, brand recall, pricing power, first movers advantage, technological superiority and so on.

You will find commonalities in value chain analysis of most companies working under the same sector. Thus, a broad understanding of value chain of a sector essentially gives you a bird's-eye view of any company operating in it. Paradoxically, the process of understanding value chain of a sector itself needs an assessment of value chain of a few companies in the sector. In due-diligence, there truly are no shortcuts.

Let us go through the mentioned aspects of a value chain with some examples—

Preferred geographical locations

Though this aspect doesn't necessarily belong to value chain analysis, the destination of production sites is often relevant in a company's business model. This can be in terms of keeping costs of building the product low, procurement of relevant raw materials, or recruitment of skilled labor.

For example, Ruchira Papers, a paper manufacturing company, prefers Himachal Pradesh as a preferred manufacturing destination as the energy costs in the state are favorable, and raw materials (softwood pulp, wheat straw) are readily available from Punjab and Haryana.^6 ↗

A sectoral example of this is a large number of cement production plants in Rajasthan^8 ↗ due to the state being rich in limestone.

Procurement of raw materials

Companies like to keep their raw material *landed* costs as low / benign as possible without compromising on intended quality of their products. This is, of course, because volatility in raw material prices would affect the cost of production, which in turn affects the profitability of the company.

A company has few avenues to keep raw material costs benign, such as,

- Using raw materials efficiently by optimizing usage and minimizing wastage.
- Having favorable long term contracts with suppliers to safeguard against volatility and achieve security of supply at favorable prices.
- Minimizing the proximity of the company's production site to the supplier, since transportation of raw materials is generally borne by the procurer, directly or indirectly.
- Vertically integrating supply of raw materials.

For example, Tata Metalliks, a company that was initially engaged in producing and selling pig iron, has opportunistically pivoted to primarily selling ductile iron pipes in recent years. Note that one of the key raw materials needed for producing ductile iron pipes is pig iron, which the company has been producing for years.^9 ↗

Recently as you may have heard, pharmaceutical manufacturers have started relying on backward integration for the supply of active pharmaceutical ingredients (APIs), which is the raw material needed for production of drugs.^10 ↗

Procurement of machinery and equipment

Some sectors require frequent capital expenditures on machinery and equipment. This may be for,

- Capacity expansions,
- Maintenance, or
- Replacement of older equipment / machinery

In such cases, it may be worthwhile to understand the costs and specifics associated with such capital expenditures.

Nascent sectors are a good example of this. As you may know, the Electric Vehicles (EV) sector needs constant investments for building charging stations — the adoption of the technology heavily depends on it. The CEEW Centre for Energy Finance estimates in its report that an investment of $2.9B is needed to develop 2.9 million public charging points in the country by FY30.^11 ↗

However, this is not to imply the capital expenditure needed for machinery and equipment is frequently done only in nascent companies. Some traditional sectors require constant upgrades too, and thus are capital intensive in nature.

For example, consider the telecommunications sector with evolving technology standards for their network infrastructure. It is estimated that Reliance's Jio, Airtel, and VI (formerly known as Vodafone Idea) will need to spend a combine of roughly $28B in capital expenditures^12 ↗ in the next few years to build infrastructure of 5G.

Recruitment of labor / workforce

Different sectors require varied kinds of the workforce needed to conduct its business. The cost of recruiting a company's workforce would depend on,

- The skills required of the labor to conduct business, as different qualifications would dictate different wages.
- The availability of such labor, as the fundamental supply and demand principles apply.

For example, the IT sector would consider software developers and project managers as its workforce, which for reasons not in the scope of this section, requires skills that command higher wages. Employee costs are generally 50-60 percent of operating costs in these Tier-1 players of this sector^13 ↗. Thus, while tracking the IT sector, employee costs would be one of the key metrics to keep in mind.

Conducting Research & Development (R&D)

Research and Development (R&D) costs refer to expenses incurred in innovation & enhancements of products, services, and various activities of a company. Such investments are essential for a company to stay competitive in the market. Generally, sectors with higher rate of change in underlying technology have higher R&D costs, such as health care, telecommunications, and automobiles.

Building, testing, and releasing the product

While the various input costs we've discussed so far affect the margins *(a measure of profitability)* of a company, the real value addition of a company in the marketplace comes from its manufacturing or production activities. In other words, a company purchases inputs *(such as raw materials, power, etc)* from its suppliers, and transforms these inputs into finished and marketable goods.

Consider a company that purchases such inputs, and for some reason can't convert it into a finished good. What will the company do with these inputs? If it is sellable in the market, such as raw material, it would do that. But since there's no value added by the company, it would at best fetch the same prices for such inputs that it bought it for *(considering there's no price arbitrage)*. The company wouldn't get any profits.

So, studying the production *(or value addition)* process of a company is essential to understand how a company generates its profits. Let us take an example here, that of manufacturing of solar modules.^14 ↗ If you are not aware, solar module are components that convert solar radiations into electricity. A solar module manufacturing process is as follows,

1. The company would purchase inputs in the form of semiconductors (typically Silicon), tempered glass (specialized for solar modules), silver paste, and electrodes.
2. Silicon in crystalline form is melted and cast into blocks. These blocks are cut into thin wafers.
3. The wafers are then used as diodes, so that charges flow in only one direction. Thus, current is generated.
4. Many such wafers are combined to form a single solar cell producing about a watt of power. And, many solar cells are combined in a single solar module.
5. The diodes are connected with metals, so that current can be directed out of the cells.
6. To prevent the solar light from being reflected *(the light reflected of course cannot be used to generate current)*, an antireflective coating of Titanium Dioxide (TiO_2) or Silicon Nitride (SiN) is applied on the surface of cells.
7. An encapsulant material *(typically Ethyl Vinyl Acetate)* holds together solar cells between the top surface and rear surface. The top surface is tempered glass specifically made to protect solar modules and let solar radiation pass through. The rear surface is a thin polymer back sheet *(typically made of Tedlar)* that prevents ingress of water and gases.
8. The panel itself is typically put in a protective frame made of Aluminum.
9. A junction box is used to direct electrical connections outside the Aluminum frame.

Suppose you had bought a company that sells solar modules. If you had not studied the manufacturing/assembling pipeline, you would probably not be aware of the existence *(let alone importance)* of solar glass in the modules. In an event where there is shortage of solar glass in the market, the company would have to either pay extraordinary prices, or in the rare occasion, shut production. You, as an investor in the company, would be caught off guard with the margins of the company being affected. Thus, it is important to understand the importance of studying every aspect of the value chain of a company.

Managing & storing inventory

Once inputs are transformed into finished products, a company has to store the products and the raw material that remained unused. The finished product will be packaged and delivered to customers, and the raw material will be used as input at a later production cycle. This is referred to as *inventory management*.

An example of this is the rice sector. As you may know, some kinds of rice are *aged* before being sold. The company would need to ensure that the rice is kept safely with proper hygienic measures for long durations to safeguard against the rice being ruined.

Marketing, distribution, & delivery of the product

Marketing, distribution, delivery, installation (if applicable), & post-installation services (if applicable) of the product are all customer-facing activities, associated with the part of value chain that is carried out after the company produces its finished goods. Essentially, marketing refers to a company's ability in effectively promoting the value of its products & creating an image of the brand, distribution refers to the various paths a product takes in reaching the end-user, and delivery refers to *how* the company hands over the product to the end-user.

You'll often find companies with *moats* create value in this part of the value chain.

- A great example of a marketing campaign is the Ambuja Cement ad^16 ↗ we've all seen at some point, in which after terribly failing to destroy a war between their houses, Boman Irani asks Boman Irani '*Bhaiya yeh deewar toot ti kyu nahi!?*' and Boman Irani replies '*Kyuki yeh deewar Ambuja Cement se bani hai*'. Fun times.
- For fast-moving consumer goods, distribution channels are key to ensuring their brands have a consistent mind share with customers. We all know the brand value that Nestle's Maggi enjoys, but another competitive edge of the company lies in its extensive distribution channels. It doesn't matter where you are in the country, you are very likely to find stores that sell Maggi & Nescafe coffee.

Hopefully, the significance of understanding value chains has struck you by now.

Market history & key events

Any sector with a couple of years of existence has some past/forthcoming events that have a material financial impact on its players. This can be a major disruption, a government policy, a new player bent on capturing the position of incumbents, a black swan event and so on.

Take the airlines industry in the recent past as an example of a black swan event & intervention by the government. In April/May 2020, airlines had to ground their flights due to rampant spread of coronavirus. While domestic flights have resumed, operations are still at ~50% of pre-COVID levels. The Ministry of Civil Aviation (MoCA) has mandated fare bands, limiting the revenues earned by airlines.^17 ↗

For the telecom sector, a major event in its history dictates the fate of its player for the next few years; the Supreme Court of India asked 15 telecom players to pay a combine of roughly 90,000 crores to the government.^18 ↗ For the coming years, two of the total four players have to take strategic decisions with this liability in mind.

Studying such events gives you a lot of context on how a sector operates.

Overview on current market conditions

Having a finger on the pulse is vital to concluding your research on a sector. This includes catching onto a sector's growth headwinds, market maturity *(where the sector is in its cycle)*, consumption split between organized versus unorganized market, consumption split between domestic and international players, split between the consumption in domestic and international markets, the players responsible for setting the trend in the sector *(in terms of pricing power, product innovation, etc)*, the emerging players that could disrupt the set trends, the barrier to entry faced by new players, and so on. Look, it's impossible to list such things down here, specially since different sectors can have different things to look at, but the gist is to have an eye on what the participants of a sector as a collective are doing.

Benchmarks & metrics to keep track of

Tracking every number associated with the sectors you're tracking becomes impossible very quickly. And so, the flip side of performing due diligence is the ability to keep track of companies / sectors within your circle of competence as simply as possible. In fact, performing thorough due diligence yourself essentially allows you to abstract what's relevant in a sector, and track that. For example, with the telecom sector, much of what you need to know apart from your research is encapsulated in one number - average revenue per user (ARPU). With fast-moving consumer goods, a lot of information that you would need to keep an eye on cuts down to value/volume growth.

Sahil Bloom, VP of Altamont Capital Partners describes this beautifully in his appearance^19 ↗ on the *We Study Billionaires* podcast,

> Occam's razor is all about simplicity. The simplest explanation is often the best one. [...] And it really just enables you to the razor cut through the noise on an issue and just boil it down to the critical path towards an outcome. The best investors are able to boil down investment decisions to the fewest possible variables. [...] They have this unbelievable ability to aggregate all of this information about a company and just say the one or two things that actually matter. [...] They're able to boil something complicated down to the simplest possible variable for them to look at. Gavin Baker [...] talks about this a lot in a number of interviews that I've heard with him, he talked about it as it related to electric vehicles, as an example. All that matters is the battery efficiency. And so, you just focus on that. You don't need to get caught up in all the other metrics because battery efficiency is what matters for driving these businesses forward and for their success as a business model. And so you focus on that. That's really what this is all about. Don't add unnecessary assumptions, variables, and noise, when really only one thing matters. So identify that one thing, and then ruthlessly focus on it as a means to just bring simplicity into extremely complex companies.

Conclusion

To sum up what we've covered in this chapter, we essentially perform due-diligence over sectors to get a birds-eye view of its participants. A sectoral research includes the understanding of its products, an analysis of its value chain, looking at key events in its history, getting an overview on its current conditions, and an effective way to keep adding to it.

Financial Metrics and Ratios

Financial metrics and ratios are numbers which can help investors interpret the financial performance, health, and efficiency of a company.

Financial ratios are numbers which can help investors interpret the financial performance, health, and efficiency of a company.

Although financial ratios can seem like an attractive tool to make quick judgments about a company, **in isolation**, a financial ratio conveys little information and, in some cases, can even be misleading.

One of the most popular financial ratios, the price to earnings (PE) ratio, is used by a lot of investors to somehow judge the "value" of a company which may or may not always make sense. Avenue Supermarts, a chain of supermarkets across India, operating under the brand name DMart, made its debut on the NSE on 21st March 2017 at a PE ratio of approximately 105 and since then it has rarely exhibited a PE ratio of less than 90.

Of course, this doesn't mean that PE ratio isn't useful, but one should know how and, more importantly, when to use it. That goes for all financial ratios we're going to talk about.

All that being said, financial ratios can become a powerful tool in an investor's repertoire if

- the method of calculation of the ratio in question is accurate
- the ratio in question is calculated for a period of time (we suggest looking at, at least, the past 5 years of financial statements) to create a **trend** of how the company has performed
- the ratio in question for a company is compared against its peers and an **industry wide analysis** is performed

When we say trend, think of Google Trends. Plotting financial ratio data points on a graph over a period of time would tell us a lot about how a company is evolving. Similarly, comparing these trends in financial ratios data against industry peers helps us gauge whether the evolution of the company is satisfactory and competitive.

In the following sections, we'll take a look at various financial ratios, their implications, and their relevance across different sectors.

Profitability >

Profitability

Profitability Ratios, also known as Performance Ratios, help investors evaluate the ability of a business to generate profit considering its sales, assets, and shareholder's equity.

Gross Profit

There are three major types of profits -

- gross profit
- operating profit
- net profit

Each of them are significant in their own way.

Gross Profit is the amount of money a company earns after deducting the costs *directly* associated with producing their goods/products/services from the revenue. These costs are collectively known as **Cost of Goods Sold** or **COGS**.

How do we define COGS though and what do *directly associated* costs mean? Interestingly, the answer can vary depending upon the company we're looking at. Let's look at some examples.

(All amounts in ₹ Million, unless otherwise stated)

CONSOLIDATED STATEMENT OF PROFIT AND LOSS

	Notes	For the year ended March 31, 2020	For the year ended March 31, 2019
Revenue			
Revenue from contract with customers	25 (a)	630,705	631,575
Other operating revenue	25 (b)	4,663	3,654
Total revenue from operations		**635,368**	**635,229**
Other income	26	2,307	2,202
Total income		**637,675**	**637,431**
Expenses			
Cost of materials consumed	27	355,470	363,694
Purchase of stock-in-trade		7,100	5,340
Change in inventories of finished goods, work-in-progress and stock in trade	28	145	(1,651)
Employee benefit expense	29	150,769	141,694
Depreciation and amortisation expense	32	27,780	20,582
Finance costs	31	5,986	4,232
Other expenses	30	69,871	72,668
Total expenses		**617,121**	**606,559**

The Profit and Loss statement of Motherson Sumi for the financial year 2020

For a capital intensive company like Motherson Sumi which deals with a lot of tangible raw materials, it should be expected that the *cost of materials consumed* would be relatively high. *Purchase of stock-in-trade* measures the expenses incurred in buying products used as intermediates to create the finished products sold by the company. *Change in inventories of finished goods, work-in-progress, and stock-in-trade*, as the name implies, are the expenses incurred on creating the products left in the inventory of Motherson Sumi at the end of the financial year 2020.

These costs can be considered directly associated with creating the end product. Expenses like the *finance costs* or *depreciation & amortization* aren't directly related to the creation of the end product. We can ask the following question to think whether an expense qualifies as COGS — **would this expense have emerged even if no sales were generated?** If yes, then it probably shouldn't be included in COGS.

The labor costs incurred to produce the end product are also direct costs eligible for inclusion in COGS. However, this should only include actual labor costs paid to employees responsible for creating the product, not employees in marketing or HR, for example. This is a conundrum because the notes for *employee benefit expenses* looks like this

29 Employee benefit expense

	For the year ended	
	March 31, 2020	March 31, 2019
Salary, wages & bonus	129,108	120,646
Contribution to provident, superannuation & other fund	14,475	13,650
Gratuity & pension (Refer note 21)	661	582
Staff welfare expenses	6,304	6,318
Restructuring/ severance costs	221	498
Total	**150,769**	**141,694**

Note 29 of the financial statements of Motherson Sumi for the financial year 2020

We don't know the details of how much of the *salary, wages, & bonus* are direct costs. The details are not mentioned possibly due to competitive and logistical reasons.

We leave the decision of inclusion of *employee benefit expenses* in COGS up to the reader and his/her judgement which will possibly be influenced by the company in question and its nature of business. Please note that these expenses would still be reported under the operating expenses and end up getting reflected in the operating profit.

In this case, we'll consider COGS as

```
COGS = Cost of Materials Consumed + Purchase of Stock-in-Trade + Changes in Inventories of Finished Goods
```

This gives us $₹35,547 + ₹710 + ₹14.5 = ₹36,271.5$ crores.

Consolidated Statement of Profit and Loss

	Note	Year ended March 31, 2020
Revenue	12	156,949
Other income	13	4,592
TOTAL INCOME		161,541
Expenses		
Employee benefit expenses	14	85,952
Cost of equipment and software licences	15(a)	1,905
Depreciation and amortisation expense		3,529
Other expenses	15(b)	26,983
Finance costs	16	924
TOTAL EXPENSES		119,293

A section of the Profit & Loss Statement of TCS for the financial year 2020

Since TCS is a services company, it doesn't deal with or manufacture any raw materials or tangible goods. TCS' tangible material is its software licenses and employees who provide services worldwide. In this case, the COGS would be $₹85,952 +$

$₹1,905 = ₹87,857$ crores.

Now that we know how to calculate COGS, we can calculate the gross profit.

```
Gross Profit = Revenue from Operations - COGS
```

Motherson Sumi's gross profit for the financial year 2020 was $₹63,536.8 - ₹36,271.5 = ₹27,265.3$ crores. Similarly, TCS' gross profit for the year 2020 was $₹1,56,949 - ₹87,857 = ₹69,092$ crores.

The **Gross Profit Margin** of Motherson Sumi and TCS for the year 2020 are as follows

```
Gross Profit Margin = Gross Profit / Revenue from Operations
```

$$\frac{₹27,265.3}{₹63,536.8} = 42.9\%$$

$$\frac{₹69,092}{₹1,56,949} = 44\%$$

Earnings Before Interest, Taxes, (Depreciation and Amortization) (EBIT/EBITDA)

EBIT, as the name implies, is the amount of profit a company earns **before** interest and tax expenses have been subtracted. It is also known as the **Operating Profit**. We can also strip out depreciation costs of tangible assets and amortization costs of intangible assets from the expenses to obtain the **EBITDA**.

FOR THE YEAR ENDED MARCH 31, 2020

(All amounts in ₹ Lakhs, unless otherwise stated)

	Notes	For the year ended March 31, 2020	For the year ended March 31, 2019
INCOME			
Revenue from operations	24	4093,14.41	3678,60.30
Other income	25	114,38.58	113,28.60
TOTAL INCOME		4207,52.99	3791,88.90
EXPENSES			
Cost of materials consumed	26	451,75.97	40,640.20
Purchases of stock-in-trade	27	1802,64.23	168,437.85
Changes in inventories of finished goods, stock-in-trade and work-in-progress	28	61,24.98	(2,18.48)
Employee benefits expense	29	476,10.69	435,58.24
Finance costs	30	8,53.23	2,24.84
Depreciation and amortisation expense	31	59,60.91	16,92.13
Other expenses	32	544,93.83	549,68.71
TOTAL EXPENSES		3404,83.84	3093,03.49
PROFIT BEFORE TAX		802,69.15	698,85.41
TAX EXPENSES			
Current tax expense	18	208,03.56	248,45.92
Tax adjustment for earlier years	18	24.65	(2,58.43)
Deferred tax - charge/(credit)	18	1,47.68	2,64.74
TOTAL TAX EXPENSES		209,75.89	248,52.23
PROFIT FOR THE YEAR		592,93.26	450,33.18

The Profit & Loss statement of Abbott India for the financial year 2020

The revenue from operations for the year ended March 2020 was $₹4,093.14$ crores. We won't consider other income here because it isn't generated from operations. The total expenses excluding taxes are $₹3,404.83$ crores. If we exclude finance costs (interest) of $₹8.53$ crores from the total expenses, it gives us operational expenses of $₹3,396.3$ crores. Thus, the EBIT in this case turns out to be $₹4,093.14 - ₹3,396.3 = ₹696.84$ crores.

You can use the following formula to calculate EBIT.

```
EBIT = Revenue from Operations - ( Total Expenses Excluding Taxes - Finance Costs )
```

To calculate the EBITDA, we can simply exclude the depreciation and amortization expenses. The formula then becomes

```
EBITDA = EBIT + Depreciation and Amortization Expense
```

In this case, the EBITDA is $₹696.84 + ₹59.60 = ₹756.44$ crores.

Why is the EBIT and EBITDA of a company relevant?

EBIT and EBITDA present us with an ideal view of the companies' core operational performance by excluding non-operational expenses like interests and taxes. While the net profit might be skewed by variables like taxes, EBIT and EBITDA will present the true picture of how much the company actually earned from its operations.

EBIT and EBITDA are influenced by the ability of the company to earn revenue and the operational expenses it incurs. The **EBIT margin** (EBIT in terms of % of revenue) or the **Operating Profit Margin** of Abbott India for the financial year 2020 was 17.02% while that of Pfizer India for the same period was 21.81%. Using these numbers, we can infer that Pfizer India was operationally more profitable than Abbott India during the financial year 2020. Again, keep in mind that this is just one of many data points.

Like most financial ratios and metrics, EBIT and EBITDA are best used for comparison of companies in the same sector. Comparing the EBIT margin of a MNC pharmaceutical company with that of a capital intensive auto ancillary company doesn't make sense.

EBITDA can, however, be misleading and it may not be useful, especially in asset heavy companies with significant depreciation and amortization costs. Here's what Warren Buffet has to say about EBITDA.

> People who use EBITDA are either trying to con you or they're conning themselves. Telecoms, for example, spend every dime that's coming in. Interest and taxes are real costs.

Here's what Charlie Munger has to say about EBITDA.

> I think that, every time you saw the word EBITDA, you should substitute the word "bullshit" earnings.

Profit Before Tax (PBT) and Profit After Tax (PAT)

As the name implies, **Profit Before Tax (PBT)** is the amount of profit a company earns before subtracting the taxes it has to pay. Although PBT doesn't get the same amount of focus as gross profit, operating profit, and net profit do, it can still be useful in its own right. Corporate taxation laws can change and this can end up skewing the net profit that a company earns in a financial year. For example, India slashed its corporate tax rates ↗ (archive.org link ↗ | archive.is link ↗) for domestic companies from 30% to 22% in September 2019. Some companies in certain sectors might also enjoy tax incentives from the government for a specific period of time. In such cases, focusing on PBT might be a good idea.

You should be able to find PBT in the profit and loss statement in an annual report.

Depreciation and amortisation expense	31	59,60.91
Other expenses	32	544,93.83
TOTAL EXPENSES		**3404,83.84**
PROFIT BEFORE TAX		**802,69.15**
TAX EXPENSES		
Current tax expense	18	**208,03.56**

Profit Before Taxes, as shown in the Profit & Loss statement of Abbott India's 2020 annual report

Profit After Tax (PAT), also known as the **Net Profit**, is arguably one of the most important metrics in an annual report. It is what we usually mean when we ask "how much profit did the company earn?". PAT is the metric which tells how profitable a company is after all its expenses are considered and deducted from the revenue.

Like PBT, you should be able to find PAT in the profit and loss statement in an annual report.

TAX EXPENSES		
Current tax expense	18	**208,03.56**
Tax adjustment for earlier years	18	**24.65**
Deferred tax - charge/(credit)	18	**1,47.68**
TOTAL TAX EXPENSES		**209,75.89**
PROFIT FOR THE YEAR		**592,93.26**

Profit After Taxes, as shown in the Profit & Loss statement of Abbott India's 2020 annual report

The **PAT margin**, also called **net profit margin**, is a widely used metric to calculate and compare the ability of companies to generate profit.

For the financial year 2020, Abbott India has a PAT margin of $\frac{₹592.93}{₹4,207.52} = 14.09\%$ and Pfizer India has a PAT margin of $\frac{₹509.13}{₹2,335.67} = 21.79\%$.

Unlike operating profit, note that we're using *total income*, which includes *other income* as well, to calculate the net profit and net profit margin.

Return on Equity (ROE) and Return on Assets (ROA)

Return on Equity is a widely used profitability ratio that measures how many rupees of profit are generated for each rupee of shareholders equity. It highlights how efficiently a company uses the shareholders equity to generate profits. It can be calculated using the following formula:

```
Return on Equity = Profit after Taxes / Shareholders Equity
```

Depending on the source, we might find a slightly different formula for ROE.

```
Return on Equity = Profit after Taxes / Average Shareholders Equity
```

You can calculate average shareholders equity by calculating the average of the shareholders equity at the beginning and at the end of a financial year.

One might ask — why consider the average of shareholders equity and not the total shareholders equity for a specific financial year?

	Notes	For the year ended 31st March, 2020	For the year ended 31st March, 2019 (₹ in Crores)
Income			
Revenue from operations	27	24,870.20	20,004.52
Other income	28	59.99	48.35
Total income		**24,930.19**	**20,052.87**
Expenses			
Purchase of stock-in-trade		21,441.68	17,445.49
Changes in inventories of stock-in-trade	29	(338.75)	(444.65)
Employee benefits expense	30	456.10	355.42
Finance costs	31	69.12	47.21
Depreciation and amortisation expense	32	374.41	212.49
Other expenses	33	1,182.86	1,014.97
Total expenses		**23,185.42**	**18,630.93**
Profit before tax		1,744.77	1,421.94
Tax expense			
Current tax	34	459.74	509.13
Deferred tax charge/(credit)		(15.97)	18.02
Adjustment of tax related to earlier years		0.02	(7.67)
Total tax expenses		**443.79**	**519.48**
Net profit after tax		1,300.98	902.46

The Profit & Loss statement of Avenue Supermarts for the financial year 2020

	Notes	As at 31st March, 2020	As at 31st March, 2019
Assets			
Non-current assets			
(a) Property, plant and equipment	2	5,107.36	4,274.03
(b) Capital work-in-progress	2	364.40	376.84
(c) Right to use assets	3	717.33	-
(d) Investment properties	4	16.53	18.10
(e) Goodwill		78.27	78.27
(f) Intangible assets	5	28.54	29.97
(g) Financial assets			
(i) Other non-current financial assets	6	3,122.67	31.74
(h) Income tax assets (net)		8.25	0.64
(i) Deferred tax assets (net)	7	0.29	0.22
(j) Other non-current assets	8	285.14	113.33
Total non-current assets		**9,728.78**	**4,923.14**
Current assets			
(a) Inventories	9	1,947.40	1,608.65
(b) Financial assets			
(i) Investments	10	14.68	16.53
(ii) Trade receivables	11	19.55	64.37
(iii) Cash and cash equivalents	12	105.87	124.98
(iv) Bank balances other than cash and cash equivalents	13	2.01	94.09
(v) Other current financial assets	14	109.06	59.10
(c) Other current assets	15	149.10	114.86
Total current assets		**2,347.67**	**2,082.58**
Total assets		12,076.45	7,005.72
Equity and liabilities			
Equity			
(a) Equity share capital	16	647.77	624.08
(b) Other equity	17	10,431.97	4,963.37
Equity attributable to equity holders of the parent		**11,079.74**	**5,587.45**
Non-controlling interest		0.46	0.56
Total equity		**11,080.20**	**5,588.01**

Part 1 of the Balance Sheet of Avenue Supermarts for the financial year 2020

Liabilities			
Non-current liabilities			
(a) Financial liabilities			
(i) Borrowings	18	-	125.67
(ii) Lease liability	3	221.11	-
(iii) Other non-current financial liabilities	19	0.47	0.78
(b) Provisions	20	1.48	1.05
(c) Deferred tax liabilities (net)	21	47.39	63.29
Total non-current liabilities		**270.45**	**190.79**
Current liabilities			
(a) Financial liabilities			
(i) Borrowings	22	3.73	304.15
(ii) Lease liability	3	74.35	-
(iii) Trade payables due to:-	23		
Micro and small enterprises		17.47	5.44
Other than micro and small enterprises		415.98	457.83
(iv) Other current financial liabilities	24	177.94	396.93
(b) Current tax liabilities (Net)		0.45	26.78
(c) Other current liabilities	25	20.70	22.95
(d) Provisions	26	15.18	12.84
Total current liabilities		**725.80**	**1,226.92**
Total equity and liabilities		12,076.45	7,005.72

Part 2 of the Balance Sheet of Avenue Supermarts for the financial year 2020

17 Other equity

	As at 31st March, 2020	As at 31st March, 2019 (₹ in Crores)
(a) Securities premium		
Opening balance	1,809.77	1,809.77
Exercise of share options	21.64	-
Issue of share capital	4,184.65	-
Transaction cost of QIP	(21.49)	-
Closing balance	**5,994.57**	**1,809.77**
(b) Debenture redemption reserve		
Opening balance	59.65	86.95
Appropriations/reversal during the year	(51.15)	(27.30)
Closing balance	**8.50**	**59.65**
(c) Share options outstanding account		
Opening balance	39.83	22.67
Share option expense	8.45	17.16
Transferred from retained earnings account on lapse of vested options	0.01	-
Exercise of share option	(21.64)	-
Closing balance	**26.65**	**39.83**
(d) Retained earnings		
Opening balance	3,054.12	2,125.59
Net Profit for the year	1,301.08	902.54
Items of other comprehensive income recognised directly in retained earnings		
- Remeasurements of post-employment benefit obligation, net of tax	(4.09)	(1.31)
Transfer to/from debenture redemption reserve	51.15	27.30
- Transferred from share options outstanding account on lapse of vested options	(0.01)	-
Closing balance	**4,402.25**	**3,054.12**
Total other equity	10,431.97	4,963.37

Note 17 of the financial statements of Avenue Supermarts for the financial year 2020

Avenue Supermarts issued additional shares in the financial year 2020 to comply with SEBI regulations of bringing down the promoter holding below 75% within 3 years of IPO. This is a one-off event which won't happen regularly. To avoid presenting skewed ROE numbers, we'll consider the *average* shareholders equity rather than the total shareholders equity. This gives us $\frac{₹11{,}080.20+₹5{,}588.01}{2} = ₹8,334.10$ crores. The PAT for the year 2020 was $₹1,300.98$. This gives us an ROE of $\frac{₹1{,}300.98}{₹8{,}334.10} = 15.61\%$.

Of course, if the difference between shareholders equity in successive financial years isn't driven by one-off events like buybacks or additional issue of share capital, considering the *average* shareholders equity may not be needed.

Similarly, **Return on Assets** can be defined as the amount of profit generated by a company relative to its total assets. We can use this metric to judge how well a company utilizes their assets to generate profits. It can be calculated by using the following formula:

```
Return on Assets = Profit after Taxes / Total Assets
```

Just like ROE, we can use *average total assets* instead of just *total assets* when needed to calculate ROA.

The ROE of Avenue Supermarts for the year 2020 is 15.6% and the ROA is

$$\frac{₹1,300.98}{\frac{₹12,076.45+₹7,005.72}{2}} = 13.6\%$$

Even though ROE is a popular metric, it's important to understand its quirks and limitations. Bombay Dyeing & Manufacturing Company Ltd, one of India's largest producers of textiles, had a ROE of -124% in the year 2017,7.2% in 2018, 299% in 2019, and 269% in 2020. As you might have suspected, these ROE figures are misleading (but not incorrect). We'll attempt to showcase the limitations of ROE as a financial ratio and why it should be used with caution in cases where the net profit is negative or when the company is in significant debt.

Besides the definition that we shared above, ROE and ROA can be expressed using the **DuPont Identity**, also known as the DuPont Method, which breaks down ROE and ROA into several ratios and presents us with a detailed and an alternative view.

According to the DuPont method, ROE can be written as

```
Return on Equity = Profitability Ratio x Efficiency Ratio x Leverage Ratio
```

Profitability Ratio is the PAT margin we've seen before. The Efficiency Ratio is `Total Income / Average Assets` and the Leverage Ratio is `Average Assets / Average Shareholders Equity`. If you observe closely, the DuPont Identity gives back the original definition we shared if we cancel out the relevant numerators and denominators from the above formula. However, by breaking up ROE into 3 different ratios, we can now know how the ROE figures of Bombay Dyeing ended up getting inflated.

(₹ in Crores)

	NOTES	As at March 31, 2019	As at March 31, 2018
ASSETS			
Non-current Assets			
a. Property, Plant and Equipment	3	523.75	552.17
b. Capital Work-in-progress	4	4.81	74.04
c. Investment Property	5	3.63	3.68
d. Goodwill	6a	-	-
e. Intangible Assets	6b	0.21	0.11
f. Financial Assets			
i. Investments	7	1,061.96	950.47
ii. Loans	8	0.05	0.13
iii. Others	9	38.22	42.26
g. Other Non-current Assets	10	73.19	72.12
Total Non-current Assets		**1,705.82**	**1,694.98**
Current Assets			
a. Inventories	11	2,200.52	409.00
b. Financial Assets			
i. Trade Receivables	12	1,092.22	212.36
ii. Cash and Cash Equivalents	13	34.89	14.15
iii. Bank Balances other than (ii) above	14	41.97	119.23
iv. Loans	15	0.61	1.86
v. Others	16	1.49	1,512.20
c. Current Tax Assets (Net)	17	61.80	63.10
d. Other Current Assets	18	41.33	119.93
Total Current Assets		**3,474.83**	**2,451.83**
TOTAL ASSETS		**5,180.65**	**4,146.81**

Part 1 of the Balance Sheet of Bombay Dyeing for the financial year 2020

EQUITY AND LIABILITIES			
Equity			
a. Equity Share capital	19	41.31	41.31
b. Other Equity	20	167.69	595.57
c. Non-controlling Interest		(26.53)	-
Total Equity		**182.47**	**636.88**
Liabilities			
Non-current Liabilities			
a. Financial Liabilities			
i. Borrowings	21	3,373.38	2,312.45
ii. Other Financial Liabilities	22	7.97	15.16
b. Provisions	23	17.77	16.22
Total Non-current Liabilities		**3,399.12**	**2,343.83**
Current Liabilities			
a. Financial Liabilities			
i. Borrowings	24	574.39	414.83
ii. Trade Payables	25		
A. total outstanding dues of micro enterprises and small enterprises		20.71	2.02
B. total outstanding dues of creditors other than micro enterprises and small enterprises		502.30	349.09
iii. Other Financial Liabilities	26	43.05	93.35
b. Other Current Liabilities	27	394.78	251.79
c. Provisions	28	57.03	46.77
d. Current Tax Liabilities (Net)	29	6.80	8.25
Total Current Liabilities		**1,599.06**	**1,166.10**
TOTAL EQUITY AND LIABILITIES		**5,180.65**	**4,146.81**

Part 2 of the Balance Sheet of Bombay Dyeing for the financial year 2020

(₹ in Crores)

		NOTES	Year Ended March 31, 2019	Year Ended March 31, 2018
	INCOME			
I	Revenue from Operations	30	4,429.76	2,692.75
II	Other Income	31	40.22	51.25
III	**Total Income (I + II)**		**4,469.98**	**2,744.00**
IV	**EXPENSES**			
	Cost of Materials Consumed	32	1,177.03	968.27
	Purchases of Stock-in-Trade	33	220.90	164.52
	Changes in inventories of Finished Goods, Stock-in-trade and Work-in-progress	34	494.40	12.03
	Excise Duty		-	30.43
	Employee Benefits Expense	35	94.66	87.31
	Finance Costs	36	489.70	412.51
	Depreciation and Amortisation expense	37	29.79	29.88
	Other Expenses	38	731.60	848.61
	Total Expenses (IV)		**3,238.08**	**2,553.56**
V	**Profit /(Loss) before exceptional items and tax (III-IV)**		**1,231.90**	**190.44**
VI	Exceptional items	39	3.87	(153.25)
VII	**Profit /(Loss) before tax (V+VI)**		**1,235.77**	**37.19**
VIII	Share of Profit of Equity Accounted Investees (net of Income Tax)		0.13	0.77
IX	**Profit /(Loss) before tax (VII+VIII)**		**1,235.90**	**37.96**
X	Tax Expenses:			
	i. Current tax		7.64	-
	ii. (Excess) / Short provision of tax of earlier years		(1.85)	2.78
	Total Tax Expenses (X)		**5.79**	**2.78**
XI	**Profit / (Loss) for the period from continuing operations after tax (IX-X)**		**1,230.11**	**35.18**
	Profit / (Loss) for the period from discontinued operations		(1.90)	-
	Tax expense of discontinued operations		-	-
XII	Profit / (Loss) for the period from discontinued operations after tax		(1.90)	-
XIII	**Profit / (Loss) for the period after tax (XI + XII)**		**1,228.21**	**35.18**

The Profit & Loss statement of Bombay Dyeing for the financial year 2020

Let's start with the year 2019. We can break down Bombay Dyeing's ROE as follows:

Profitability Ratio = $\frac{₹1,228.21}{₹4,469.98} = 0.27$

Efficiency Ratio = $\frac{₹4,469.98}{\frac{₹5,180.65 + ₹4,146.81}{2}} = 0.95$

Leverage Ratio = $\frac{\frac{₹5,180.65 + ₹4,146.81}{2}}{\frac{₹182.47 + ₹636.88}{2}} = 11.38$

Return on Equity = $0.27 \times 0.95 \times 11.38 = 291\%$

The difference of 8% may be ignored because ratios were rounded to 2 decimal places.

Although the profitability ratio and efficiency ratio (also known as **asset turnover ratio**) are decent, what ends up inflating ROE is the leverage ratio (also known as **equity multiplier**) which indicates that Bombay Dyeing's assets are mostly funded through debt rather than equity which is a point of concern.

Let's assume a hypothetical company called A Ltd. Its accounting equation looks like $10 = 8 + 2$ where assets are 10, equity is 8, and liabilities are 2. Its leverage ratio is $\frac{10}{8} = 1.25$. A Ltd decides to take on 20 units of loan to finance its operations. The equation now looks like $30 = 8 + 22$. The financial leverage now becomes $\frac{30}{8} = 3.75$. This would end up inflating the ROE of A Ltd but that doesn't necessarily mean that its a good thing. Taking on a lot of debt may or may not pay off. If, however, the profitability ratio and efficiency ratio increase in the subsequent financial years, taking on debt could be considered a worthwhile decision.

The DuPont formula for ROE ends up revealing ROA as well when we multiply the Profitability Ratio with the Efficiency Ratio. This means that ROA is a function of a firm's profitability and its asset turnover capability.

Besides the highlighted limitations in this section, the usual caveats apply. ROA and ROE are best compared against firms in the same sector with similar business models.

Return on Capital Employed (ROCE)

Return on Capital Employed (ROCE) is a measure of how much money can a company generate in the form of profits considering the amount of money invested in it for the long term.

After reading that definition, one might think, how do we calculate the "amount of money invested in a company for the long term"?

Let's say you decide to buy a house worth $₹50$ lakh. In addition to this cost, you need another $₹5$ lakh rupees for repair and renovation which means you need $₹55$ lakh. However, you only have $₹20$ lakh for down payment. You decide to borrow $₹30$ lakh from your nearby bank as a long term loan and $₹5$ lakh from an elder sibling for completing repair and renovations. The acquisition, repair, and renovation process takes about 6 months and you're able to pay back the $₹5$ lakh loan you took from your sibling within an year.

If we use the accounting equation in this case, we can say that

Assets = $₹55$ lakh (the house)

Shareholders Equity = $₹20$ lakh (the downpayment you made)

Non-current Liabilities = $₹30$ lakh (the long term bank loan)

Current Liabilities = $₹5$ lakh (the money borrowed from your sibling)

The long term investment in this company (the house) seems to be $₹50$ lakh — the sum of shareholders equity (your contribution) and non-current liabilities (the bank loan). This is what we call **Capital Employed**. It's the amount of money *employed* by a business to fund its assets and, ultimately, generate profits.

We can define ROCE using the following formula

```
ROCE = EBIT / Capital Employed
```

where

```
Capital Employed = Shareholders Equity + Non Current Liabilities
```

One might find Capital Employed defined as `Total Assets - Current Liabilities` which is just another way of using the accounting equation. The former method of looking at capital is called the *financing approach* and the latter method is called the *operating approach*. We can also use `Average Capital Employed` to prevent looking at skewed ratios because of abrupt changes in Shareholders Equity or Non Current Liabilities.

The ROCE of Bombay Dyeing for the year 2019 is

EBIT = $₹4,429.76 - (₹3,238.08 - ₹489.7) = ₹1,681.38$ crores

Average Shareholders Equity = $\frac{₹182.47 + ₹636.88}{2} = ₹409.675$ crores

Average Non-current Liabilities = $\frac{₹3,399.12 + ₹2,343.83}{2} = ₹2,871.475$ crores

ROCE = $\frac{₹1,681.38}{₹409.675 + ₹2,871.475} = 51.2\%$

and 8.42% for the year 2020 as opposed to its ROE of 299% and 269% for the years 2019 and 2020 respectively.

Abbott India's ROCE for the year 2020 is 29.4% as opposed to its ROE which is 26.7%. Avenue Supermarts' ROCE for the year 2020 is 20.4% and its ROE is 15.6%.

It should be apparent that ROCE is a "better" profitability ratio to use compared to ROE, especially in capital intensive sectors like telecom and auto where assets being funded by significant debt isn't unusual.

However, ROCE isn't free from limitations. Even though retained earnings is being counted as part of capital employed, it may not be employed for any financial activities. A company with high amounts of cash reserves would be negatively affected when calculating ROCE. This should be apparent in the case of Abbott India. If we exclude the retained earnings, we'll get a ROCE of 113% for the year 2020.

	Reserves and Surplus						Items of Other Comprehensive Income	Total Other Equity
	Amalgamation Reserve	Capital Reserve	Capital Redemption Reserve	Share Based Compensation Reserve	General Reserve	Retained Earnings	Remeasurement of defined benefit plan	
As at April 1, 2018	37.82	5,22.62	2,52.48	20,95.22	337,25.95	1309,12.39	(3,95.36)	1671,51.12
Profit for the year	-	-	-	-	-	450,33.18	-	450,33.18
Remeasurement of defined benefit plan (net of tax)	-	-	-	-	-	-	(2,08.82)	(2,08.82)
Transfer from Profit and Loss to General Reserve	-	-	-	-	45,03.32	(45,03.32)	-	-
Dividend for the year ended March 31, 2018 (Refer Note 15)	-	-	-	-	-	(116,87.12)	-	(116,87.12)
Dividend distribution tax (Refer Note 15)	-	-	-	-	-	(24,02.32)	-	(24,02.32)
Share based compensation to employees (Refer Note 29)	-	-	-	8,47.55	-	-	-	8,47.55
Transfer from Share based compensation reserve to General Reserve*	-	-	-	(1,68.13)	1,68.13	-	-	-
As at March 31, 2019	37.82	5,22.62	2,52.48	27,74.64	383,97.40	1573,52.81	(6,04.18)	1987,33.59
Profit for the year	-	-	-	-	-	592,93.26	-	592,93.26
Remeasurement of defined benefit plan (net of tax)	-	-	-	-	-	-	(4,95.35)	(4,95.35)
Transfer from Profit and Loss to General Reserve	-	-	-	-	59,29.33	(59,29.33)	-	-
Dividend for the year ended March 31, 2019 (Refer Note 15)	-	-	-	-	-	(138,12.05)	-	(138,12.05)
Dividend distribution tax (Refer Note 15)	-	-	-	-	-	(28,39.11)	-	(28,39.11)
Share based compensation to employees (Refer Note 29)	-	-	-	8,76.75	-	-	-	8,76.75
Transfer from Share based compensation reserve to General Reserve*	-	-	-	(75.83)	75.83	-	-	-
Impact due to adoption of Ind AS 116 Leases under modified retrospective approach	-	-	-	-	-	(9,50.52)	-	(9,50.52)
Deferred tax impact due to adoption of Ind AS 116 Leases under modified retrospective approach	-	-	-	-	-	2,39.23	-	2,39.23
As at March 31, 2020	**37.82**	**5,22.62**	**2,52.48**	**35,75.56**	**444,02.56**	**1933,54.29**	**(10,99.53)**	**2410,45.80**

Note 16 of the financial statements of Abbott India for the financial year 2020

Return on Invested Capital (ROIC)

One of the drawbacks of ROCE, as we saw earlier, was that it considers cash reserves as part of the capital employed which ends up subduing the ROCE of Abbott India. Instead of looking at *capital employed*, how about we consider the *capital invested* in a business? After all, the ability to generate cash isn't the only thing that matters. A company sitting on huge amounts of cash isn't necessarily a good thing since the returns generated from that cash is not going to exceed the cost of capital employed and the expected returns by shareholders. We'd want a company to make use of that cash effectively and grow its business better than its competitors. Efficient capital allocation matters just as much, if not more, than how capital is employed and it is one of the most important responsibilities of the management of a company. Its importance is perhaps best highlighted by the following excerpt from Warren Buffet's 1987 letter to shareholders.

> The heads of many companies are not skilled in capital allocation. Their inadequacy is not surprising. Most bosses rise to the top because they have excelled in an area such as marketing, production, engineering, administration or, sometimes, institutional politics. Once they become CEOs, they face new responsibilities. They now must make capital allocation decisions, a critical job that they may have never tackled and that is not easily mastered.
>
> In the end, plenty of unintelligent capital allocation takes place in corporate America. (That's why you hear so much about "restructuring.") Berkshire, however, has been fortunate. At the companies that are our major non-controlled holdings, capital has generally been well-deployed and, in some cases, brilliantly so.

The **Return on Invested Capital (ROIC)**, also known simply as **Return on Capital (ROC)**, is the measure of profit generated by a company relative to the amount of capital invested in its business.

Okay, so how do we define what **capital invested** is?

We defined capital employed as `Shareholders Equity + Non-current Liabilities` but it can also be written as `Total Assets - Current Liabilities` using the operational approach. We can exclude

- cash and cash equivalents, bank balances, term deposits, and interest income from cash
- goodwill
- unusual and one-time items

Excess cash sitting in a bank or in debt funds isn't invested in a business and isn't an operational asset. Goodwill is an intangible asset usually resulting from the acquisition of a company at a premium value. We exclude goodwill because it is the leftover premium from the past, not an investment for future growth. Similarly, other one-time items like asset write downs aren't included in the capital invested since they are not core operational assets.

This gives us

```
Non-operational Assets = Cash and Cash Equivalents - Goodwill - Misc One Time Items
Capital Invested = Total Assets - Current Liabilities - Non-operational Assets
```

This gives the denominator in the formula for ROIC. Since we are focusing on the invested capital from an operational standpoint, we'll use operational profit in the numerator. However, instead of using just EBIT, we'll adjust EBIT for taxes to get a more standardized version of operating income. This is known as **net operating profit after taxes (NOPAT)**.

ROIC can now be defined as

```
NOPAT = EBIT x (1 - tax rate)
Capital Invested = Total Assets - Current Liabilities - Non-operational Assets
ROIC = NOPAT / Capital Invested
```

There's another caveat we should keep in mind when calculating ROIC. The NOPAT generated at the end of a financial year won't be because of capital invested at the end of the same financial year. To account for this timing difference, the amount of capital invested used in calculating ROIC will be as it was at the end of the preceding financial year.

Let's start with Abbott India. The EBIT for the year 2020 was ₹696.8 crores. The tax rate can be considered as 25.17% as mentioned in Note 18 of the financial statements. This gives us a NOPAT of

NOPAT = ₹$696.8 \times (1 - 25.17\%) =$ ₹521.4 crores

13/04/2025, 11:10 r/IndiaInvestments

18. INCOME TAXES

The major components of income tax expense for the years ended March 31, 2020 and March 31, 2019 are :

Extract of Statement of Profit and Loss :

Profit and Loss Section :

	For the year ended March 31, 2020	For the year ended March 31, 2019
Current income tax :		
Current tax expense	**208,03.56**	248,45.92
Tax adjustment for earlier years	**24.65**	(2,58.43)
Deferred tax :		
Relating to origination and reversal of temporary differences	**1,47.68**	2,64.74
Income tax expense reported in the Statement of Profit and Loss	**209,75.89**	248,52.23

Other Comprehensive Income (OCI) Section - Deferred tax related to items recognised in OCI during the year :

	For the year ended March 31, 2020	For the year ended March 31, 2019
Net loss/(gain) on remeasurement of defined benefit plans	**45.27**	1,12.17
Income tax expense charged to OCI	**45.27**	1,12.17

Reconciliation of tax expense and the accounting profit multiplied by India's domestic tax rate for March 31, 2020 and March 31, 2019 :

	For the year ended March 31, 2020	For the year ended March 31, 2019
Accounting profit before income tax	**802,69.15**	698,85.41
	802,69.15	698,85.41
At India's statutory income tax rate of **25.168%** (March 31, 2019 : 34.944%)	**202,02.14**	244,20.76
Adjustments in respect of current income tax of previous years	**24.65**	(2,58.43)
Impact of change in income tax rate on deferred tax	**2,74.97**	-
Non-deductible expenses for tax purposes	**4,74.13**	6,89.90
	209,75.89	248,52.23
At the effective income tax rate of 26.132% (March 31, 2019 : 35.561%) **Income tax expense reported in the Statement of Profit and Loss**	**209,75.89**	248,52.23

Note 18 of the financial statements of Abbott India for the financial year 2020

The capital invested of Abbott India for the year 2019 is

Cash and Cash Equivalents (Note 10) = ₹137 crores

Term Deposits (Note 11) = ₹$1,542.07$ crores

Interest on Bank Deposits (Note 13) = ₹27.13 crores

Non-operational Assets = ₹$137 +$ ₹$1,542.07 +$ ₹$27.13 =$ ₹$1,706.2$ crores

Capital Invested = ₹$2,940.91 -$ ₹$856.89 -$ ₹$1,706.2 =$ ₹377.82 crores

10. CASH AND CASH EQUIVALENTS

	As at March 31, 2020	As at March 31, 2019
Balances with banks		
In current accounts	**23,13.79**	107,00.61
Deposits with original maturity of less than three months @	**122,00.00**	30,00.00
	145,13.79	137,00.61

@ Represents time deposits at fixed rates maintained with various banks by the Company.

11. BANK BALANCES OTHER THAN CASH AND CASH EQUIVALENTS

	As at March 31, 2020	As at March 31, 2019
Margin deposit and deposit against guarantees and tenders	**2,15.38**	1,70.02
Earmarked bank balance towards dividend #	**3,40.71**	3,50.09
Term deposits with original maturity of more than three months but less than twelve months @	**2046,67.58**	1542,07.60
	2052,23.67	1547,27.71

These balances are available for use only towards settlement of corresponding unpaid dividend liabilities.

@ Represents time deposits at fixed rates maintained with various banks by the Company.

12. CURRENT FINANCIAL ASSETS - LOANS (UNSECURED, CONSIDERED GOOD)

	As at March 31, 2020	As at March 31, 2019
Deposits with body corporates and others :		
For Premises	**6,14.13**	7,30.24
	6,14.13	7,30.24

13. CURRENT FINANCIAL ASSETS - OTHERS (UNSECURED, CONSIDERED GOOD)

	As at March 31, 2020	As at March 31, 2019
Interest accrued but not due on bank deposits	**18,54.69**	27,13.79
Receivables from related parties (Refer Note 40 (D))	**7,84.08**	6,13.94
Expected reimbursement towards likely sales return - reimbursable (Refer Note 23)	**26,68.57**	27,90.73
Other receivables	**19,30.22**	12,15.93
	72,37.56	73,34.39

Notes 10, 11, and 13 for the financial statements of Abbott India for the financial year 2020

This gives us a ROIC of $\frac{₹521.4}{₹377.8} = 138\%$. The ROIC of Pfizer India for the year 2020 is $\frac{₹351.1}{₹603.8} = 58.1\%$.

Motherson Sumi, an auto ancillary company which is significantly more capital intensive, has a ROIC of 9.82% for the year 2020. Of course, this doesn't mean we can compare Motherson's ROIC with Abbott's. An appropriate comparison would be with a company like Minda Corporation which is also a capital intensive auto ancillary company. It's ROIC for the year 2020 was $\frac{₹98.7}{₹761.7} = 12.9\%$. One may notice that although Minda Corporation had a negative PAT for the year 2020, its operational profit was positive. The reason for the negative PAT seems to an exceptional event which is not considered when calculating ROIC.

13/04/2025, 11:10 r/IndiaInvestments

Consolidated Statement of Profit and Loss

for the year ended 31 March 2020

(₹ in Million)

	Notes	For the year ended 31 March 2020	For the year ended 31 March 2019
Revenue from operations	2.29	28,131	30,920
Other income	2.30	443	355
Total revenue		**28,574**	**31,275**
Expenses			
Cost of materials consumed (including packing material)	2.31	15,377	18,303
Purchase of stock-in-trade		753	617
Change in inventories of finished goods, work-in-progress and stock-in-trade	2.32	861	112
Employee benefits expense	2.33	5,027	5,092
Finance costs	2.34	499	490
Depreciation and amortization expense	2.1, 2.2	1,179	883
Other expenses	2.35	3,614	3,872
Total expenses		**27,310**	**29,369**
Profit from operations before share of profit/(Loss) of joint ventures/ associate and taxes		**1,264**	**1,906**
Share of profits/ (loss) of joint ventures/associate (net of taxes)		125	280
Profit from operations before exceptional item and taxes		**1,389**	**2,186**
Exceptional item (refer note 2.46 & 2.41)		(2,933)	175
Profit from operations after exceptional item and before taxes		**(1,544)**	**2,361**
Tax expense			
Current tax	2.20	520	686
Income tax for earlier year	2.20	7	(19)
Deferred tax charge/ (credit)	2.20	(73)	2
Profit after taxes		**(1,998)**	**1,692**

The Profit & Loss statement of Minda Corporation for the financial year 2020

Of course, like any other ratio, ROIC has its limitations.

ROIC, and its constituents, are non-standard metrics that we may not find anywhere in an annual report. We have to calculate NOPAT and Capital Invested ourselves, manually, to avoid mistakes and incorrect calculations. Although we considered the timing difference when calculating capital invested, some stock screening websites may not do so and use capital invested at the end of the year in question which is incorrect.

ROIC can also mislead investors into preferring asset light companies with relatively higher ROIC than asset heavy companies with relatively lower ROIC.

- How Return on Equity is Deceiving You ↗ (archive.org link ↗ | archive.is link ↗)
- Return on Assets So Useful ... and so Misused ↗ (archive.org link ↗ | archive.is link ↗)
- Warren Buffet's 1987 Letter to Shareholders of Berkshire Hathaway ↗ (archive.org link ↗ | archive.is link ↗)
- ROC, ROIC, and ROE: Measurement and Implications ↗ (archive.org link ↗ | archive.is link ↗)
- Return on Invested Capital: How to Get It Right ↗ (archive.org link ↗ | archive.is link ↗)
- Questions About ROIC & Valuation ↗ (archive.org link ↗ | archive.is link ↗)

Using Screeners

How can we use various screener websites to our advantage and analyze stocks

Disclaimer & Disclosures

- The author(s) of this section does not hold any position (long or short) in any of the companies used in this section at the time of writing this. The purpose of using these companies is purely illustrative and educational in nature. Mention of any company in this section is **NOT** financial advice.
- The screens run in this section are purely for educational and illustrative purposes. The results of queries run in this section are **NOT** stock recommendations. The screens themselves are **NOT** financial advice.
- The watchlists in the screenshot of this section are **NOT** the author(s) actual watchlist. They are just resultants of arbitrary screens run for illustration and educational purposes. Stocks under these screenshots are **NOT** stock recommendations.
- The author(s) of this section did not get incentivised for recommending or not recommending any websites/tools/products mentioned in this section.

> Don't trust numbers reported on any screener at their face value, always verify the numbers shown. Since calculations are done based on one-size-fits-all formulaes, factoring in nuances in input values is not possible. **The methods of calculating these numbers may vary between different websites. Sometimes, the numbers can even be absurd and the methods used in calculating them can differ from generally accepted definitions.** Making investment decisions solely based on the reported idea can be extremely risky.

Introduction

As of December 2020, the number of actively traded listed companies are nearly 4200 on the Bombay Stock Exchange (BSE)^1 ↗, and nearly 1800 on the National Stock Exchange of India (NSE)^2 ↗. This absolute abundance of companies to choose from makes the task of creating a watchlist challenging.

Fortunately, there are tons of screeners available, that can filter through these listed securities to build a universe of companies based on constraints set by an investor. These constraints can be,

- based on financial criteria set by an investor
- based on *alternate market data* based criteria set by an investor
- based on *circle of competence* of an investor

Using different screeners to your benefit

In India, there are many screeners available to you for free. Some of these screeners stand out with distinct use cases, so it makes sense to use different screeners as per the need of the hour. These are,

- Tijori ↗ differentiates itself from other screeners by providing company's alternate data (financial or operational information that is typically beyond the scope of a company's stock exchange filings), such as market share of its products, or number of stores the company operates. It also has some neat features, such as a macro page ↗ to track economic indicators, sector indices, and sector-based market data. However, the platform has moved to a paid subscription-based model. Whether it's worth for you is going to be a personal call.
- Tickertape ↗ has a friendly interface for beginners, and explains relevance of figures presented in financial data. However, this is a double-edged sword, a screener's commentary on figures can eliminate its neutrality as a tool, and induce bias.
- Screener ↗'s interface/feature set is **mostly** neutral and thus doesn't introduce a lot of bias. The screening itself is more flexible/comprehensive than most other screeners (maybe barring Tijori), and allows exporting

financial data to an excel sheet (you can customize the sheet's template!). However, the interface can be slightly overwhelming for beginners, and some data that is freely available in annual reports, or other screeners is behind a paywall.
- Trendlyne ↗ aggregates research reports for a company, and you can usually find audio files of conference calls held by a company about a day after being conducted. However, the actual screening is limiting, and the interface is not the most intuitive of the bunch.

Screener.in

The two primary reasons we chose Screener (capital S will refer to screener.in ↗ subsequently) for illustration purposes of this section are,

- Screener doesn't induce simplification, nudges, or potential biases.
- We would recommend you to start building your own excel sheet for financial data once you're comfortable. Screener's *Export to excel* feature and the ability to customize the sheet's template helps as a transitional step towards that.

Outline of a company's page

You can land to a company's page on Screener by using the search bar located on the top right of any page. Once you are on a company's page, you will find,

Overview section

You can find quick access to frequently sought information here such as,

- links to company's official website, NSE page, and BSE page,
- market information (market cap, current price, shares outstanding), and key ratios (you can customize this to your liking!),
- a short outline/history about the company,
- an option to export the company's financial data to an excel sheet, and
- the ability to add the company to your watchlist (more on this later)

Overview section of Tata Consultancy Services Ltd's Screener page

Chart section

You can check financial graphs for a company under different timeframes in this section. There are a few options,

- Price line chart with volume and a couple of daily moving averages.

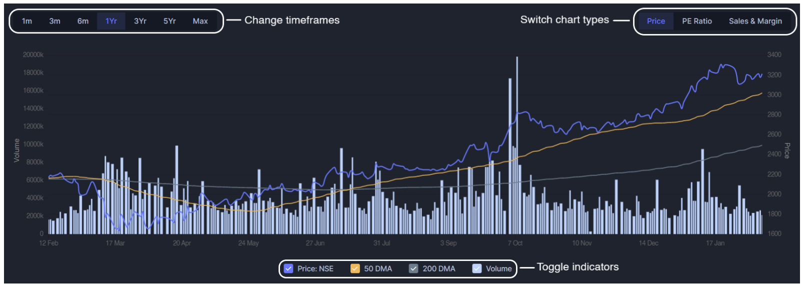


Chart section of Tata Consultancy Services Ltd's Screener page

- Price to Earnings (P/E) line chart with trailing twelve months (TTM) Earnings per share (EPS), and a line indicating the median P/E for the selected timeframe.

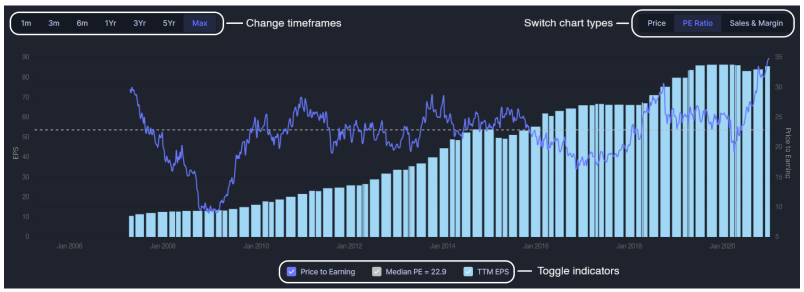


Chart section of Tata Consultancy Services Ltd's Screener page

- Quarterly sales chart with gross profit margins (GPM), operating margins (OPM), and net profit margins (NPM) for the respective quarters.

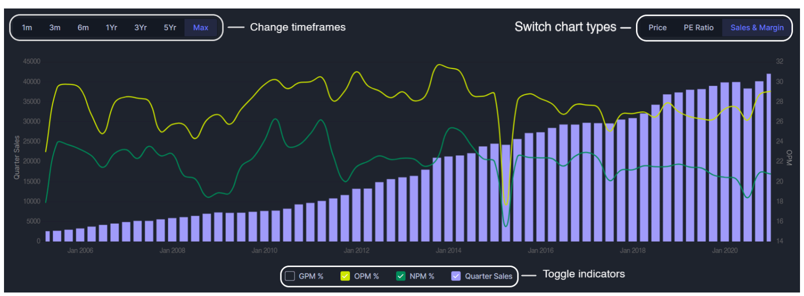


Chart section of Tata Consultancy Services Ltd's Screener page

Though the charts here are good enough to serve their purpose, they are not as customizable, or comprehensive compared to other tools available, such as TradingView ↗.

13/04/2025, 11:10 r/IndiaInvestments

Analysis section

This section can safely be ignored, as it lists pros and cons of a company based on some ratios. You might find your unbiased conclusion to be different from conclusions listed here, so shortcuts such as this section in a screener can induce potential bias in your investment decisions.

PROS

- Company is almost debt free.
- Company has a good return on equity (ROE) track record: 3 Years ROE 34.50%
- Company has been maintaining a healthy dividend payout of 52.46%

CONS

- Stock is trading at 12.49 times its book value
- The company has delivered a poor sales growth of 10.64% over past five years.

Analysis section of Tata Consultancy Services Ltd's Screener page

Peers section

This is where things start to get interesting! You can compare a company to its listed competitors in this section, on the basis of financial data selected by you --- say you want to check how a company's operating margins stack up against that of its peers to determine if its products have pricing power, or say you want to check if the company's quarterly results are in line with the sector --- you can do this here.

Peer comparison

Sector: IT - Software Industry: Computers - Software - Large — full list of public competitors

add, remove, or change the order of ratios — EDIT COLUMNS

S.No.	Name	CMP Rs.	Mar Cap Rs.Cr.	EV Rs.Cr.	CMP / Sales	P/E	Ind PE	5Yrs PE	EV / EBITDA	CMP / FCF	OPM %	5Yr OPM %	ROIC %	ROCE %	ROCE 5Yr %	ROE %	ROE 7Yr %	Qtr Sales Var %	Qtr Profit Var %	Sales Var 3Yrs %	Profit Var 3Yrs %	Sa 5
1.	TCS	3213.30	1188616.18	1185920.18	7.41	36.86	28.69	21.17	24.88	45.14	27.88	27.12	57.12	47.76	45.74	37.34	36.23	5.42	7.17	9.99	7.14	10
2.	Infosys	1296.50	552255.78	535237.78	5.67	29.56	28.69	16.41	18.74	38.47	26.99	25.86	31.10	32.58	31.57	25.31	24.12	12.28	16.77	9.85	5.18	11
3.	HCL Technologies	959.45	260362.60	260500.60	3.50	19.68	28.69	15.44	12.30	38.91	27.39	22.86	23.59	27.40	30.07	23.66	26.85	6.44	35.09	14.11	8.53	17
4.	Wipro	439.00	250943.89	242806.59	4.08	24.51	28.69	15.65	14.87	31.71	22.56	20.07	25.41	19.86	19.36	17.49	19.32	1.29	21.71	3.31	4.68	5
5.	Tech Mahindra	974.90	94340.89	92797.59	2.51	23.38	28.69	14.33	13.12	28.46	16.03	15.78	22.26	22.35	24.68	18.49	22.13	-0.08	16.15	8.16	11.09	10
6.	L & T Infotech	3999.90	69876.86	70149.26	5.77	38.39	28.69	16.36	24.79	61.87	21.36	18.40	42.43	40.38	43.78	29.53	36.66	12.16	37.86	18.72	16.71	16
7.	Mindtree	1726.80	28443.81	28774.11	3.60	28.46	28.69	20.74	17.45	52.47	19.02	14.63	25.81	27.28	28.00	19.52	22.91	2.97	65.74	14.03	14.65	16

Detailed Comparison with: infosys — head to head comparison with a competitor

Peers section of Tata Consultancy Services Ltd's Screener page

Don't let the ratios used in the screenshot above overwhelm you. We've covered tons of them under our *Financial Ratios* section if you haven't checked it out already. You can add, remove, or change the order of ratios shown here by clicking on the *'edit columns'* button.

If you click on either the company's *Sector* or *Industry*, you can look at the complete directory of the company's listed competitors (in the peers section, screener only shows you a few).

IT - Software companies

184 results found: Showing page 1 of 4

EXPORT EDIT COLUMNS

S.No.	Name	CMP Rs.	Mar Cap Rs.Cr. ↑	EV Rs.Cr.	CMP / Sales	P/E	Ind PE	5Yrs PE	EV / EBITDA	CMP / FCF	OPM %	5Yr OPM %	ROIC %	ROCE %	ROCE 5Yr %	ROE %	ROE 7Yr %	Qtr Sales Var %
1.	TCS	3213.30	1188616.18	1185920.18	7.41	36.86	28.69	21.17	24.88	45.14	27.88	27.12	57.12	47.76	45.74	37.34	36.23	5.42
2.	Infosys	1296.50	552255.78	535237.78	5.67	29.56	28.69	16.41	18.74	38.47	26.99	25.86	31.10	32.58	31.57	25.31	24.12	12.28
3.	HCL Technologies	959.45	260362.60	260500.60	3.50	19.68	28.69	15.44	12.30	38.91	27.39	22.86	23.59	27.40	30.07	23.66	26.85	6.44
4.	Wipro	439.00	250943.89	242806.59	4.08	24.51	28.69	15.65	14.87	31.71	22.56	20.07	25.41	19.86	19.36	17.49	19.32	1.29
5.	Tech Mahindra	974.90	94340.89	92797.59	2.51	23.38	28.69	14.33	13.12	28.46	16.03	15.78	22.26	22.35	24.68	18.49	22.13	-0.08
6.	L & T Infotech	3999.90	69876.86	70149.26	5.77	38.39	28.69	16.36	24.79	61.87	21.36	18.40	42.43	40.38	43.78	29.53	36.66	12.16
7.	Mphasis	1639.15	30640.42	30086.00	3.21	24.45	23.85	15.41	15.57	33.34	18.65	16.62	25.70	26.16	20.33	21.37	14.32	8.68
8.	Mindtree	1726.80	28443.81	28774.11	3.60	28.46	28.69	20.74	17.45	52.47	19.02	14.63	25.81	27.28	28.00	19.52	22.91	2.97
9.	L&T Technology	2622.15	27543.85	27796.05	5.05	40.66	23.85	18.60	23.90	54.03	18.01	17.87	34.54	42.59	42.16	31.40		-1.56
10.	Oracle Fin.Serv.	3197.80	27518.57	23609.45	5.46	17.52	23.85	25.84	9.19	21.19	48.53	41.62	24.72	39.58	44.15	25.42	24.26	6.75
11.	Tata Elxsi	2823.30	17582.51	16897.21	10.07	52.48	23.85	25.57	33.18	87.59	26.51	23.70	23.22	34.96	49.77	25.65	34.24	12.67

IT - Software Industry screen on Screener

You can also use the *'Detailed comparison with'* option to get a head to head comparison of the company with one of its peer if you have a paid subscription.

If you're unsure what to look for, don't worry! We've covered how to compare a company to its peer in *'Researching a sector'* ↗ and *'Reading and Annual Report'* ↗ chapter of this series.

Quarterly Results section

You can find the past few quarters' standalone & consolidated profit and loss (P&L) data in this section.

Quarterly Results

Consolidated Figures in Rs. Crores / View Standalone — switch to view standalone statement

PRODUCT SEGMENTS

	Mar 2018	Jun 2018	Sep 2018	Dec 2018	Mar 2019	Jun 2019	Sep 2019	Dec 2019	Mar 2020	Jun 2020	Sep 2020	Dec 2020
Sales +	32,075	34,261	36,854	37,338	38,010	38,172	38,977	39,854	39,946	38,322	40,135	42,015
Expenses +	23,423	25,190	26,576	27,255	27,936	28,135	28,752	28,983	28,971	28,298	28,622	29,807
Operating Profit	**8,652**	**9,071**	**10,278**	**10,083**	**10,074**	**10,037**	**10,225**	**10,871**	**10,975**	**10,024**	**11,513**	**12,208**
OPM %	27%	26%	28%	27%	26%	26%	26%	27%	27%	26%	29%	29%
Other Income	994	1,225	730	1,163	1,193	1,675	1,361	818	738	598	-304	691
Interest	12	17	137	16	28	257	193	223	251	142	174	183
Depreciation	505	493	507	519	537	817	864	897	950	976	998	1,024
Profit before tax	**9,129**	**9,786**	**10,364**	**10,711**	**10,702**	**10,638**	**10,529**	**10,569**	**10,512**	**9,504**	**10,037**	**11,692**
Tax %	24%	25%	24%	24%	24%	23%	23%	23%	23%	26%	25%	25%
Net Profit	**6,904**	**7,340**	**7,901**	**8,105**	**8,126**	**8,131**	**8,042**	**8,118**	**8,049**	**7,008**	**7,475**	**8,701**
EPS in Rs	18.03	19.17	21.06	21.60	21.66	21.67	21.43	21.63	21.45	18.68	19.92	23.19
	Notes	Notes	Notes	Notes	Notes	Notes	Notes	Notes	Notes	Notes	Notes	Notes

Quarterly Results section of Tata Consultancy Services Ltd's Screener page

There's an option to view the revenue, profit, and return on capital breakup based on product segments and geographical segments for paid users, but you can get this data free of cost from the company's quarterly earnings reports.

Profit & Loss section

This section gives you past ten years & trailing twelve months (ttm) financial data from profit & loss (P&L) statements of the company, in both standalone and consolidated figures, for easy comparison --- for instance, to check the trend of operating margins (OMP) over the past few years, or to check interest on the company's debt it pays each year.

Profit & Loss

Consolidated Figures in Rs. Crores / View Standalone

PRODUCT SEGMENTS

	Mar 2009	Mar 2010	Mar 2011	Mar 2012	Mar 2013	Mar 2014	Mar 2015	Mar 2016	Mar 2017	Mar 2018	Mar 2019	Mar 2020	TTM
Sales -	**27,813**	**30,029**	**37,325**	**48,894**	**62,989**	**81,809**	**94,648**	**108,646**	**117,966**	**123,104**	**146,463**	**156,949**	**160,418**
Sales Growth %	22.96%	7.97%	24.30%	31.00%	28.83%	29.88%	15.69%	14.79%	8.58%	4.36%	18.98%	7.16%	
Expenses -	**21,424**	**21,334**	**26,146**	**34,459**	**44,950**	**56,657**	**70,167**	**77,969**	**85,655**	**90,588**	**106,957**	**114,840**	**115,698**
Material Cost %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Manufacturing Cost %	12%	11%	11%	11%	26%	26%	26%	2%	2%	2%	2%	1%	
Employee Cost %	52%	50%	50%	50%	38%	36%	41%	51%	52%	54%	53%	55%	
Other Cost %	13%	9%	8%	9%	7%	7%	7%	18%	18%	17%	18%	17%	
Operating Profit	**6,388**	**8,695**	**11,178**	**14,435**	**18,040**	**25,153**	**24,482**	**30,677**	**32,311**	**32,516**	**39,506**	**42,109**	**44,720**
OPM %	23%	29%	30%	30%	29%	31%	26%	28%	27%	26%	27%	27%	28%
Other Income	354	272	604	428	1,178	1,637	3,720	3,084	4,221	3,642	4,311	4,592	1,723
Interest	29	16	26	22	48	39	104	33	32	52	198	924	750
Depreciation	564	661	735	918	1,080	1,349	1,799	1,888	1,987	2,014	2,056	3,529	3,948
Profit before tax	**6,150**	**8,290**	**11,021**	**13,923**	**18,090**	**25,402**	**26,298**	**31,840**	**34,513**	**34,092**	**41,563**	**42,248**	**41,745**
Tax %	14%	14%	17%	24%	22%	24%	24%	24%	24%	24%	24%	23%	
Net Profit	**5,256**	**7,001**	**9,068**	**10,413**	**13,917**	**19,164**	**19,852**	**24,270**	**26,289**	**25,826**	**31,472**	**32,340**	**31,233**
EPS in Rs	13.43	17.88	23.17	26.60	35.55	48.92	50.68	61.58	66.71	67.46	83.87	86.19	83.24
Dividend Payout %	26%	56%	30%	47%	31%	33%	78%	35%	35%	37%	36%	85%	

Profit & Loss section of Tata Consultancy Services Ltd's Screener page

13/04/2025, 11:10 r/IndiaInvestments

Again, there is an option for paid subscribers to view the revenue, profit, and return on capital breakup based on product or geographical segments, but you can get this data free of cost from the company's annual reports.

Below the P&L data table, this section shows you compounded sales, profit, & stock price growth, and average return on equity over the past 3, 5, & 10 years, and the trailing twelve months (TTM).

Compounded Sales Growth		Compounded Profit Growth		Stock Price CAGR		Return on Equity	
10 Years:	18%	10 Years:	17%	10 Years:	19%	10 Years:	37%
5 Years:	11%	5 Years:	11%	5 Years:	24%	5 Years:	35%
3 Years:	10%	3 Years:	7%	3 Years:	29%	3 Years:	35%
TTM:	3%	TTM:	-1%	1 Year:	48%	Last Year:	37%

Profit & Loss section of Tata Consultancy Services Ltd's Screener page

We've covered how to read a profit & loss (P&L) statement and related financial data under our *Financial statements* ↗ chapter of this series.

Balance Sheet section

This section gives you the past ten years of financial data from the balance sheets of the company, in both consolidated and standalone figures, for easy comparison --- for instance, you can compare the company's debt over the past few years, or check how much cash the company holds.

Balance Sheet

Consolidated Figures in Rs. Crores / View Standalone — switch to standalone figures

Check past data for buybacks, dividends, stock split, bonus shares, rights and mergers. — CORPORATE ACTIONS

	Mar 2009	Mar 2010	Mar 2011	Mar 2012	Mar 2013	Mar 2014	Mar 2015	Mar 2016	Mar 2017	Mar 2018	Mar 2019	Mar 2020	Sep 2020
Share Capital -	**198**	**296**	**296**	**296**	**296**	**196**	**196**	**197**	**197**	**191**	**375**	**375**	**375**
Preference Capital	100	100	100	100	100	0	0	0	0	0	0	0	
Equity Capital	98	196	196	196	196	196	196	197	197	191	375	375	
Reserves	15,502	18,171	24,209	29,284	38,350	48,999	50,439	70,875	86,017	84,937	89,071	83,751	94,762
Borrowings	564	103	75	127	232	297	358	245	289	247	62	6,906	7,882
Other Liabilities +	6,413	8,856	8,092	11,551	13,154	17,337	22,325	16,974	15,830	19,751	24,393	29,088	30,379
Total Liabilities	**22,577**	**27,326**	**32,572**	**41,157**	**51,932**	**66,829**	**73,318**	**88,291**	**102,333**	**105,126**	**113,901**	**120,120**	**133,398**
Fixed Assets +	6,746	6,738	7,479	8,662	9,828	9,544	11,638	11,774	11,701	11,973	12,290	20,928	20,583
CWIP	705	1,017	1,194	1,446	1,895	3,168	2,766	1,670	1,541	1,278	963	906	1,035
Investments	1,614	3,682	1,763	1,350	1,897	3,434	1,662	22,822	41,980	36,008	29,330	26,356	36,617
Other Assets +	13,512	15,888	22,136	29,698	38,312	50,682	57,252	52,025	47,111	55,867	71,318	71,930	75,163
Total Assets	**22,577**	**27,326**	**32,572**	**41,157**	**51,932**	**66,829**	**73,318**	**88,291**	**102,333**	**105,126**	**113,901**	**120,120**	**133,398**

Balance Sheet section of Tata Consultancy Services Ltd's Screener page

There's also a handy option to check details of past corporate actions (this data goes back up to 2005) taken by the company, such as buybacks, distribution of dividends, allotment of bonus shares, stock splits, mergers, and rights.

Date	Action	Details	Remarks
Jan. 14, 2021	Dividend	₹ 6	Interim 3 - FY21
Nov. 26, 2020	Buy Back	₹ 3000.00	Tender Offer of 16.00 Cr.
Oct. 14, 2020	Dividend	₹ 12	Interim 2 - FY21
July 16, 2020	Dividend	₹ 5	Interim - FY21
June 3, 2020	Dividend	₹ 6	Final - FY20
March 19, 2020	Dividend	₹ 12	Interim - FY20
Jan. 23, 2020	Dividend	₹ 5	Interim 3 - FY20
Oct. 17, 2019	Dividend	₹ 5	Interim 2 - FY20
Oct. 17, 2019	Dividend	₹ 40	Special - FY20
July 16, 2019	Dividend	₹ 5	Interim - FY20
June 4, 2019	Dividend	₹ 18	Final - FY19
Jan. 17, 2019	Dividend	₹ 4	Interim 3 - FY19
Oct. 23, 2018	Dividend	₹ 4	Interim 2 - FY19
July 17, 2018	Dividend	₹ 4	Interim - FY19
May 31, 2018	Bonus	1:1	
May 31, 2018	Dividend	₹ 29	Final - FY18
Jan. 22, 2018	Dividend	₹ 7	Interim 3 - FY18

Corporate actions under the Balance Sheet section of Tata Consultancy Services Ltd's Screener page

Cash Flow section

This section gives you past ten years of financial data for cash flows of the company, in both consolidated and standalone figures, for easy comparison --- for instance, you can check cash outflows due to distribution of dividends by the company to its shareholders, or compare changes in working capital the past few years.

Cash Flows

Consolidated Figures in Rs. Crores / View Standalone

	Mar 2009	Mar 2010	Mar 2011	Mar 2012	Mar 2013	Mar 2014	Mar 2015	Mar 2016	Mar 2017	Mar 2018	Mar 2019	Mar 2020
Cash from Operating Activity +	5,498	7,359	6,614	7,127	11,615	14,751	19,369	19,109	25,223	25,067	28,593	32,369
Cash from Investing Activity +	-3,435	-5,413	-1,431	-2,727	-6,038	-9,452	-1,807	-5,010	-16,895	3,104	1,645	8,968
Cash from Financing Activity +	-1,672	-2,381	-4,659	-3,955	-5,729	-5,673	-17,168	-9,666	-11,026	-26,885	-27,897	-39,915
Net Cash Flow	**392**	**-435**	**524**	**445**	**-152**	**-374**	**394**	**4,433**	**-2,698**	**1,286**	**2,341**	**1,422**

Cash Flows section of Tata Consultancy Services Ltd's Screener page

Figures for Free Cash Flows (est.) are unfortunately missing here, but can be calculated as shown in [*Financial statements*](https://www.indiainvestments.wiki/stocks/reading-an-annual-report#financial-statements chapter of this series.

Ratios section

You can find return on capital employed (in %), debtor days, and inventory turnover of the company for the past few years in this section. This section could be ignored, as it is recommended you calculate these and many other ratios yourself while conducting due diligence for company, as explained in *Financial ratios* ↗ chapter of this series.

Ratios

Consolidated Figures in Rs. Crores / View Standalone

	Mar 2009	Mar 2010	Mar 2011	Mar 2012	Mar 2013	Mar 2014	Mar 2015	Mar 2016	Mar 2017	Mar 2018	Mar 2019	Mar 2020
ROCE %	42%	47%	51%	51%	53%	57%	51%	51%	44%	39%	48%	48%
Debtor Days	80	71	80	86	82	81	79	81	70	74	68	71
Inventory Turnover	4.97	9.21	14.88	18.05	24.45	28.99	36.69	0.00	5.03	3.66	2.22	2.40

Ratios section of Tata Consultancy Services Ltd's Screener page

Investors section

You can find the shareholding pattern of a company's promoter entity, and distribution of its shareholders between promoters, foreign institutional investors (FII), domestic institutional investors (DII), government entities, and retail shareholders for the past few quarters here.

Shareholding Pattern

Numbers in percentages

	Mar 2018	Jun 2018	Sep 2018	Dec 2018	Mar 2019	Jun 2019	Sep 2019	Dec 2019	Mar 2020	Jun 2020	Sep 2020	Dec 2020
Promoters +	71.92	71.92	72.05	72.05	72.05	72.05	72.05	72.05	72.05	72.05	72.05	72.05
FIIs +	16.88	16.59	16.05	15.80	15.80	15.88	15.52	15.90	15.74	15.85	16.00	15.88
DIIs -	**6.93**	**6.87**	**7.44**	**7.68**	**7.78**	**7.87**	**8.21**	**8.04**	**8.00**	**8.02**	**7.85**	**7.71**
Life Insurance Corporation Of India >	3.94	3.94	4.06	4.06	4.06	3.98	4.07	4.12	4.20	4.22	3.93	3.93
Government +	0.05	0.05	0.05	0.05	0.05	0.06	0.06	0.06	0.06	0.07	0.07	0.07
Public +	4.22	4.58	4.42	4.42	4.32	4.15	4.17	3.95	4.14	4.01	4.03	4.29

Investors section of Tata Consultancy Services Ltd's Screener page

Screener also allows you to view other listed companies held a shareholders of the company. For example, if you click on *Life Insurance Corporation of India* in the screenshot above, you'll find a list of other public companies held by LIC.

Life Insurance Corporation Of India

Shareholder name

eg. Rakesh or Modi SEARCH

	Dec 2015	Mar 2016	Jun 2016	Sep 2016	Dec 2016	Mar 2017	Jun 2017	Sep 2017	Dec 2017	Mar 2018	Jun 2018	Sep 2018	Dec 2018	Mar 2019	Jun 2019	Sep 2019	Dec 2019	Mar 2020	Jun 2020	Sep 2020	Dec 2020
3i Infotech			3.33	2.37	2.04	1.80	1.66				1.32	1.32	1.32								
Aban Offshore	1.71																				
A B B					8.74					6.37	6.08	6.08	5.73	4.86	4.86	4.73	4.51	4.51	4.51		
ABB Power Produc																			4.51	4.50	4.51
ABG Shipyard		1.85	1.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
ACC			11.89	11.30	11.30	10.51		10.41	10.33	10.33	10.33	10.33	10.33	6.50	6.50	6.63	5.69	5.19	5.19	4.95	5.06
Adani Enterp.			2.55	2.55	2.55	2.55															
Adani Ports			3.41	3.96	4.32	4.26		7.04	9.63		9.45	9.45	9.45	10.23	10.70	10.85	11.66	11.90	11.90	11.90	11.26
Adani Power			2.06	2.01	1.96	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.61	1.56	1.56	1.56	1.56	1.56	1.56	1.56
Adani Transmissi			2.55	2.55		2.55	2.55	2.55	2.55	2.61	2.61	2.61	2.61	2.55	2.55	2.54	2.42	2.42	2.42	2.42	2.42
Aditya Birla Cap								2.43	2.43	2.43	2.43	2.43	2.43	2.43	2.43	2.43	2.31	2.21	2.21	2.15	

Listed companies held by Life Insurance Corporation (LIC) on Screener

Documents section

This section gives you quick access to recent stock exchange filings and annual report of a company. As far as I've observed, they are usually linked to BSE's repository. Apart from stock exchange filings, Screener also provides links to credit rating reports of a company here.

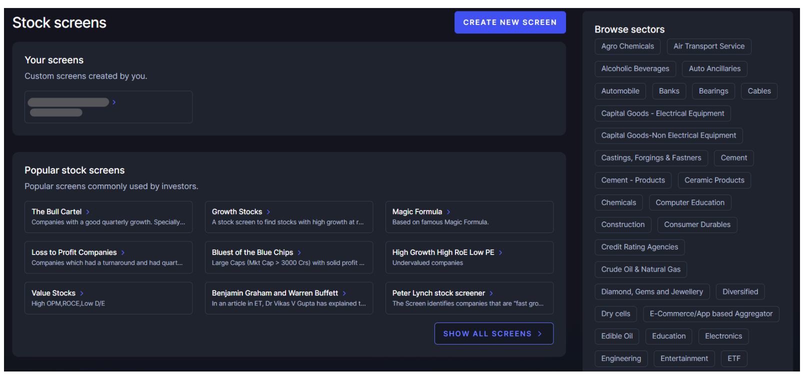
Documents section of Tata Consultancy Services Ltd's Screener page

Now that we have some understanding of a company's Screener page, let's move on to more interesting things.

Creating a screen

As remarked earlier, there are thousands of companies listed on the Bombay Stock Exchange, and the National Stock Exchange of India. We use screeners to make sense of this abundance of companies to choose from, based on criterias set by us. Primarily, Screener allows us to screen companies based only on financial data (you can however filter companies based on industries, so there is some form of a screening option to confine companies based on your circle of competence).

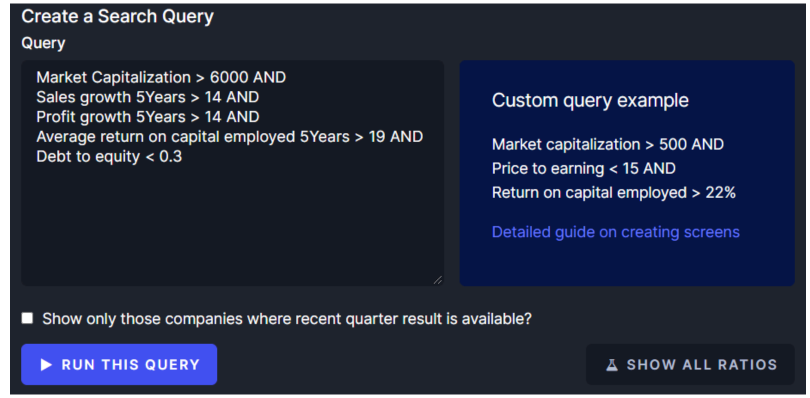
- To screen companies on Screener, click on screens page at the top. You can find your previously saved, and some popular screens here.



Screens page on Screener

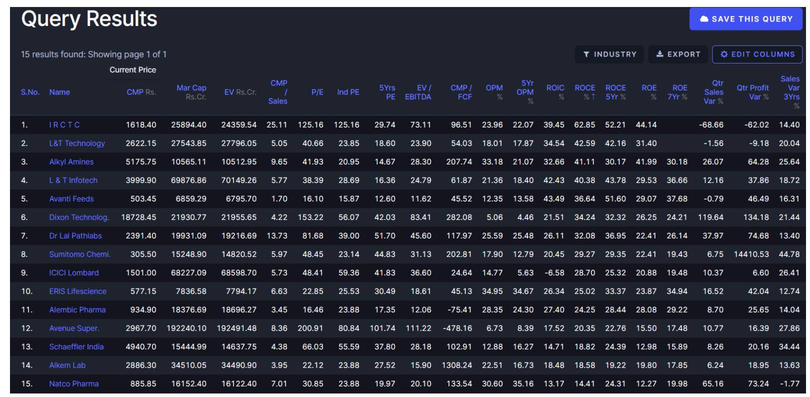
- Click on the *Create new screen* button. Here, you want to start adding your constraints, with the keyword `AND` separating them.

  Suppose you want to get a list of companies with fairly large market cap, decent growth in revenue and earnings in the past few years, consistently good return on capital, and low debt. *Syntax* for this query would look something like this,



Create a Query dialogue on Screener

- This query gives us a list of public companies and some ratios (customizable using the *edit columns* button) that match the financial constraints we've put. You have the option to save a query for conveniently running it again (it can be located at the screens page from the top).


Query Results

SAVE THIS QUERY

15 results found: Showing page 1 of 1

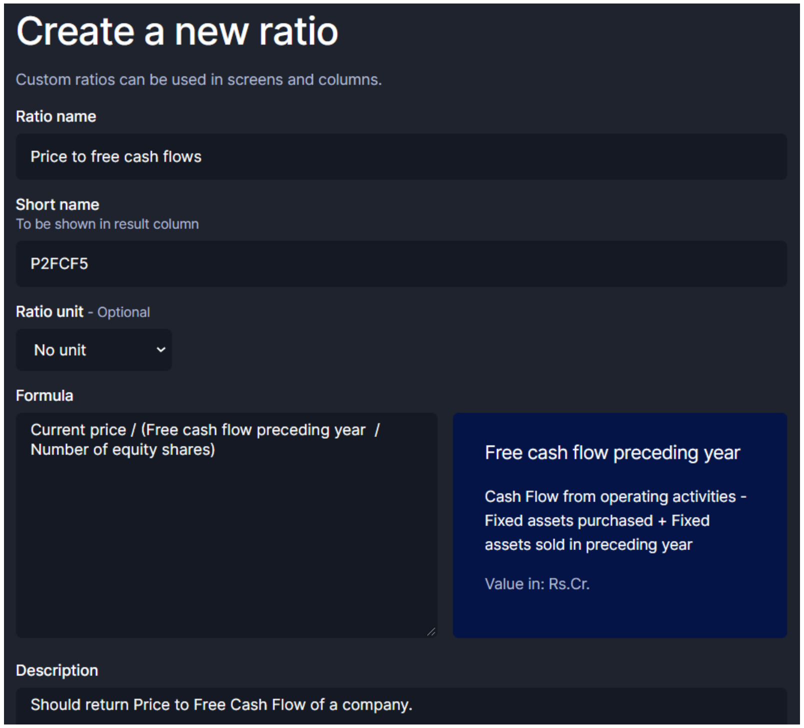
INDUSTRY EXPORT EDIT COLUMNS

S.No.	Name	CMP Rs.	Mar Cap Rs.Cr.	EV Rs.Cr.	CMP / Sales	P/E	Ind PE	5Yrs PE	EV / EBITDA	CMP / FCF	OPM %	5Yr OPM %	ROIC %	ROCE %	ROCE 5Yr %	ROE %	ROE 7Yr %	Qtr Sales Var %	Qtr Profit Var %	Sales Var 3Yrs %
1.	I R C T C	1618.40	25894.40	24359.54	25.11	125.16	125.16	29.74	73.11	96.51	23.96	22.07	39.45	62.85	52.21	44.14		-68.66	-62.02	14.40
2.	L&T Technology	2622.15	27543.85	27796.05	5.05	40.66	23.85	18.60	23.90	54.03	18.01	17.87	34.54	42.59	42.16	31.40		-1.56	-9.18	20.04
3.	Alkyl Amines	5175.75	10565.11	10512.95	9.65	41.93	20.95	14.67	28.30	207.74	33.18	21.07	32.66	41.11	30.17	41.99	30.18	26.07	64.28	25.64
4.	L & T Infotech	3999.90	69876.86	70149.26	5.77	38.39	28.69	16.36	24.79	61.87	21.36	18.40	42.43	40.38	43.78	29.53	36.66	12.16	37.86	18.72
5.	Avanti Feeds	503.45	6859.29	6795.70	1.70	16.10	15.87	12.60	11.62	45.52	12.35	13.58	43.49	36.64	51.60	29.07	37.68	-0.79	46.49	16.31
6.	Dixon Technolog.	18728.45	21930.77	21955.65	4.22	153.22	56.07	42.03	83.41	282.08	5.06	4.46	21.51	34.24	32.32	26.25	24.21	119.64	134.18	21.44
7.	Dr Lal Pathlabs	2391.40	19931.09	19216.69	13.73	81.68	39.00	51.70	45.60	117.97	25.59	25.48	26.11	32.08	36.95	22.41	26.14	37.97	74.68	13.40
8.	Sumitomo Chemi.	305.50	15248.90	14820.52	5.97	48.45	23.14	44.83	31.13	202.81	17.90	12.79	20.45	29.27	29.35	22.41	19.43	6.75	14410.53	44.78
9.	ICICI Lombard	1501.00	68227.09	68598.70	5.73	48.41	59.36	41.83	36.60	24.64	14.77	5.63	-6.58	28.70	25.32	20.88	19.48	10.37	6.60	26.41
10.	ERIS Lifescience	577.15	7836.58	7794.17	6.63	22.85	25.53	30.49	18.61	45.13	34.95	34.67	26.34	25.02	33.37	23.87	34.94	16.52	42.04	12.74
11.	Alembic Pharma	934.90	18376.69	18696.27	3.45	16.46	23.88	17.35	12.06	-75.41	28.35	24.30	27.40	24.25	28.44	28.08	29.22	8.70	25.65	14.04
12.	Avenue Super.	2967.70	192240.10	192491.48	8.36	200.91	80.84	101.74	111.22	-478.16	6.73	8.39	17.52	20.35	22.76	15.50	17.48	10.77	16.39	27.86
13.	Schaeffler India	4940.70	15444.99	14637.75	4.38	66.03	55.59	37.80	28.18	102.91	12.88	16.27	14.71	18.82	24.39	12.98	15.89	8.26	20.16	34.44
14.	Alkem Lab	2886.30	34510.05	34490.90	3.95	22.12	23.88	27.52	15.90	1308.24	22.51	16.73	18.48	18.58	19.22	19.80	17.85	6.24	18.95	13.63
15.	Natco Pharma	885.85	16152.40	16122.40	7.01	30.85	23.88	19.97	20.10	133.54	30.60	35.16	13.17	14.41	24.31	12.27	19.98	65.16	73.24	-1.77

Screen results on Screener

Building custom ratios

If you find a financial ratio missing from the set available by default, Screener allows you to manually create your own here ↗. For example, to create a ratio for P/FCF, you can fill in the following information —



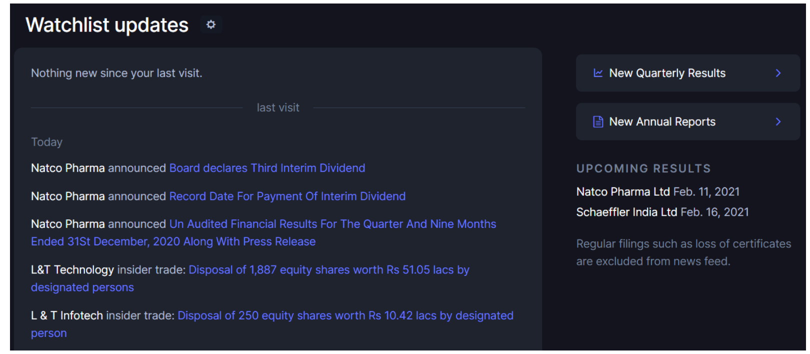
Create a new ratio dialogue on Screener

The ratios you create can be added to *Peers comparison* section of a company's page, or on results returned by a query.

Building a watchlist & tracking them

You can add a company to your watchlist by *following* it from the company's page. There are a couple things you can do with your watchlist. One, you can view it as a query and manage it here, and two, keep track of the company's filings on Screener's home (feed) page. On the left part of this page, you can see latest filings submitted to stock exchanges by the companies you have in your watchlist. On the right, you can check when the upcoming results of companies you have followed are expected.

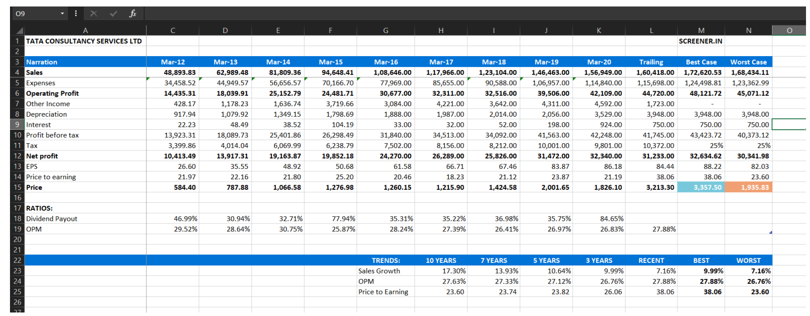
13/04/2025, 11:10 r/IndiaInvestments



Feed page on Screener

Exporting financial data to an excel sheet

You can export a company's financial data to a spreadsheet using the *'Export to excel'* option available on the top of any company's Screener page.

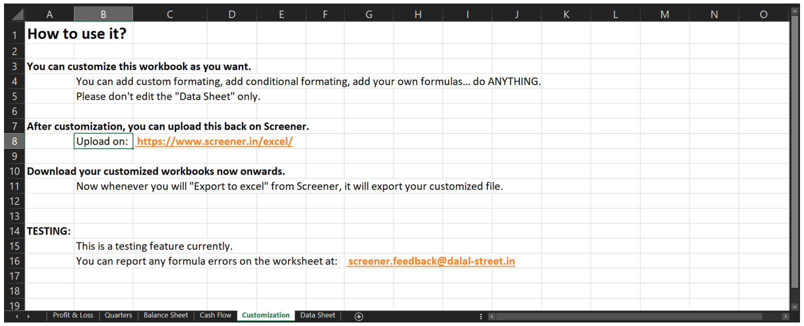


A	C	D	E	F	G	H	I	J	K	L	M	N
TATA CONSULTANCY SERVICES LTD											**SCREENER.IN**	
Narration	**Mar-12**	**Mar-13**	**Mar-14**	**Mar-15**	**Mar-16**	**Mar-17**	**Mar-18**	**Mar-19**	**Mar-20**	**Trailing**	**Best Case**	**Worst Case**
Sales	**48,893.83**	**62,989.48**	**81,809.36**	**94,648.41**	**1,08,646.00**	**1,17,966.00**	**1,23,104.00**	**1,46,463.00**	**1,56,949.00**	**1,60,418.00**	**1,72,620.53**	**1,68,434.11**
Expenses	34,458.52	44,949.57	56,656.57	70,166.70	77,969.00	85,655.00	90,588.00	1,06,957.00	1,14,840.00	1,15,698.00	1,24,498.81	1,23,362.99
Operating Profit	**14,435.31**	**18,039.91**	**25,152.79**	**24,481.71**	**30,677.00**	**32,311.00**	**32,516.00**	**39,506.00**	**42,109.00**	**44,720.00**	**48,121.72**	**45,071.12**
Other Income	428.17	1,178.23	1,636.74	3,719.66	3,084.00	4,221.00	3,642.00	4,311.00	4,592.00	1,723.00	-	-
Depreciation	917.94	1,079.92	1,349.15	1,798.69	1,888.00	1,987.00	2,014.00	2,056.00	3,529.00	3,948.00	3,948.00	3,948.00
Interest	22.23	48.49	38.52	104.19	33.00	32.00	52.00	198.00	924.00	750.00	750.00	750.00
Profit before tax	13,923.31	18,089.73	25,401.86	26,298.49	31,840.00	34,513.00	34,092.00	41,563.00	42,248.00	41,745.00	43,423.72	40,373.12
Tax	3,399.86	4,014.04	6,069.99	6,238.79	7,502.00	8,156.00	8,212.00	10,001.00	9,801.00	10,372.00	25%	25%
Net profit	**10,413.49**	**13,917.31**	**19,163.87**	**19,852.18**	**24,270.00**	**26,289.00**	**25,826.00**	**31,472.00**	**32,340.00**	**31,233.00**	**32,634.62**	**30,341.98**
EPS	26.60	35.55	48.92	50.68	61.58	66.71	67.46	83.87	86.18	84.44	88.22	82.03
Price to earning	21.97	22.16	21.80	25.20	20.46	18.23	21.12	23.87	21.19	38.06	38.06	23.60
Price	**584.40**	**787.88**	**1,066.58**	**1,276.98**	**1,260.15**	**1,215.90**	**1,424.58**	**2,001.65**	**1,826.10**	**3,213.30**	**3,357.50**	**1,935.83**
RATIOS:												
Dividend Payout	46.99%	30.94%	32.71%	77.94%	35.31%	35.22%	36.98%	35.75%	84.65%			
OPM	29.52%	28.64%	30.75%	25.87%	28.24%	27.39%	26.41%	26.97%	26.83%	27.88%		
					TRENDS:	**10 YEARS**	**7 YEARS**	**5 YEARS**	**3 YEARS**	**RECENT**	**BEST**	**WORST**
					Sales Growth	17.30%	13.93%	10.64%	9.99%	7.16%	**9.99%**	**7.16%**
					OPM	27.63%	27.33%	27.12%	26.76%	27.88%	**27.88%**	**26.76%**
					Price to Earning	23.60	23.74	23.82	26.06	38.06	**38.06**	**23.60**

Exported excel sheet's Profit & Loss tab

More importantly, you can set up a custom template for excel sheets downloaded by the *'Export to excel'* option. To do this,

- First use the *'Export to excel'* option for **any** company -- it doesn't matter which one. Then, open the excel sheet and go to the *'Customization'* tab. It should look something like this.



Exported excel sheet's Customization tab as it would appear by default

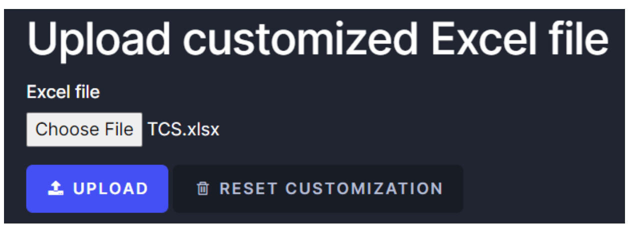
- Delete everything on this tab. This is now a blank slate to put everything you want to see in your custom template. Use the financial data from other tabs of this excel sheet for calculations done in this tab. For ideas, you can refer to *Financial statements* and *Financial ratios* chapters in this series and see what is missing on Screener by default.
- For illustration purposes, I've used this tab to find estimated free cash flows of a company over the past few years. Free cash flows are calculated as `FCF = Cash flows from Operations - Capital expenditure`. I've used `cash flow from operations` data from the cash-flows tab of this sheet, and calculated `capex` using `fixed assets` and `capital work in progress` from the balance sheet tab & using `depreciation` from the profit and loss (P&L) tab of this sheet.

Cash Flow Statement (in crs)

Narrative	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	5y trend	10y trend
Cash flow from Operations	**6614**	**7127**	**11615**	**14751**	**19369**	**19109**	**25223**	**25067**	**28593**	**32369**	**130361**	**189838**
Cash flow from Investments	-1431	-2727	-6038	-9452	-1807	-5010	-16895	3104	1645	8968	**-8188**	**-29643**
Cash flow from Finances	-4659	-3955	-5729	-5673	-17168	-9666	-11026	-26885	-27897	-39915	**-115389**	**-152573**
Net Cash Flow	524	445	-152	-374	394	4433	-2698	1286	2341	1422	**6784**	**7622**
Capital Expenditure		2353	2695	2339	3490	927	1785	2023	2058	12110	**18903**	**29781**
Free Cash Flow (est)		**4774**	**8920**	**12413**	**15878**	**18182**	**23438**	**23044**	**26535**	**20259**	**111458**	**153443**

This is how my customization tab appears while editing it (for illustrative purposes)

- Now, save this excel sheet, and upload it here. You can always upload an updated sheet with more customization done later using the same page.



Upload customized excel file dialogue on Screener

- All done! Try using the *'Export to excel'* option for a different company -- you will find your custom ratios for this company added in the customization tab automatically.

Cash Flow Statement (in crs)

Narrative	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	5y trend	10y trend
Cash flow from Operations	**37**	**65**	**61**	**144**	**93**	**112**	**346**	**464**	**669**	**417**	**2008**	**2408**
Cash flow from Investments	-89	-125	-111	-109	-120	-176	-299	-1116	-611	-175	**-2378**	**-2931**
Cash flow from Finances	77	63	26	-35	29	154	-48	651	-51	-251	**456**	**615**
Net Cash Flow	25	3	-24	0	2	90	-1	-2	7	-9	**86**	**92**
Capital Expenditure		154	227	110	118	134	302	396	447	337	**1616**	**2224**
Free Cash Flow (est)		**-89**	**-166**	**34**	**-25**	**-22**	**44**	**68**	**222**	**80**	**392**	**146**

Customization tab of an exported excel sheet of another company after previous step

Popular screens & further reading

If you're up for it, try running various stock picking strategies as a screen! Here are a few you can try,

- Joel Greenblatt's Magic Formula, an investment technique explained in his book -- *The Little Book that Beats The Market*^3.
- Benjamin Graham's net-net investing, in which a security is valued solely on the basis of its current assets^4.
- Rob Kirby's Coffee Can investing, popularized by Saurabh Mukherjea's book on the subject^5
- Dividend Yield Investing, popularized by investment newsletter publisher Investment Quality Trends, known as IQT^6

Due-Diligence Checklist

A checklist to reference while performing due diligence on a company.

Sector/Industry

- **The Product**
  - [ ] What is the sector primarily selling?
  - [ ] How is the sector sub-classified based on product segments? *(for example, FMCG can be categorized into home care, personal care, food products, etc)*
  - [ ] What is the market size for the product?
  - [ ] Is the product prone to disruption from an alternate solution?
- **Brief History / Key Events**
  - [ ] What are some key events that have had material impact on the industry?
  - [ ] What are the domestic policies that affect the sector; what forthcoming policies are expected; how will they affect the sector?
- **Value Chain**
  - [ ] What are the key raw materials & machinery/equipment required to build the product?
  - [ ] Where does the sector largely source these raw materials & machinery/equipment from?
  - [ ] What are some geographical advantages that preferred production destinations enjoy?
  - [ ] What kind of labour force/workers are required for conducting the production process?
  - [ ] What are steps involved in the core production process?
  - [ ] What is the preferred strategies for marketing, distribution, delivery & installation of the product?
  - [ ] How capital intensive is the production, marketing, distribution, delivery & installation of the product?
- **Market Overview**
  - [ ] How mature is the sector domestically? Is the sector expecting a turnaround from the current trend?
  - [ ] How is the product's market share split between organized & unorganized players? Which way is the market leaning now?
  - [ ] How is the product's market share split between domestic & international players? Which way is the market leaning now?
  - [ ] Who are the key players that set the trend for the sector? *(in terms of pricing power, product innovation, market practices)*
  - [ ] Who are the emerging players that could have material impact on the trend for the sector?
  - [ ] What *barrier to entry* does the sector enjoy?
- **Industry Benchmarks / Key metrics**
  - [ ] Industry's preferred benchmark for capacity
  - [ ] Industry's preferred benchmark for utilization
  - [ ] Industry's preferred benchmark for consumption

Business

- **Brief History/Key Events**
  - [ ] When was the company founded?
  - [ ] What are some key events that have had an impact on the core operations of the company?
  - [ ] What are some key events that have had material impact on the stock price?
- **Value Proposition**

  - [ ] What is the company primarily selling?
  - [ ] What product segment is the company catering to?
  - [ ] Where does the product fit in the market? Is there something that differentiates the product against competitors?
  - [ ] What is the *addressable* market size for the product?
  - [ ] What is the product's market share, mind share, or position in the market?
- **Business Model**
  - [ ] A brief overview of the business model of the company.
  - [ ] What are the growth avenues for the company?
  - [ ] How does the company market its product?
  - [ ] What is the capital allocation policy of the company?
  - [ ] What is the earnings retention policy of the company?
  - [ ] What is the dividend distribution & buyback policy of the company for earnings not retained?

Financials & Ratios

- **Profit & Loss Statement**
  - [ ] What does the revenue & profit breakup look like between different businesses of the company?
  - [ ] What does the revenue & profit breakup look like in terms of the geographies the company sells to?
  - [ ] What has been the revenue growth for the past 3, 5 & 10 years?
  - [ ] What has been the EBIT (*earnings before financial costs & taxes)* growth for the past 3, 5 & 10 years?
  - [ ] What has been the net earnings **growth for the past 3, 5 & 10 years?
  - [ ] Is the revenue of the company overly concentrated within a few clients?
- **Balanced Sheet Statement**
  - [ ] Is the balance sheet clean/strong?
  - [ ] How does equity dilution look like in the past few years for the company?
  - [ ] How much cash, or equivalents does the company hold currently?
  - [ ] What's been the major capital expenditures that the company has done in the past few years?
  - [ ] How does regular capital expenditure look like for the company?
  - [ ] What is the quantum of debt obligations for the company?
  - [ ] Is there inventory building up for the company?
  - [ ] Does the company face issues with collecting cash — Is there receivables building up for the company?
- **Cash Flow Statement**
  - [ ] Are cash flows from operations comparable to net earnings?
    - [ ] If CFO > Earnings, cash is not translating to earnings in the P&L statement
    - [ ] If CFO < Earnings, there may be early revenue recognition without realizing/collecting it
  - [ ] How much cash is being left after tending to operational expenses and capex *(free cash flows)*
  - [ ] Are there any anomalies/red flags in the cash flows of the company?
- **Profitability Ratios**
  - [ ] What has been the trend for operating margins for the past few years?
  - [ ] What has been the trend for net profit margins for the past few years?
  - [ ] What has been the trend for return on capital *(roic/roce)* for the past few years?
- **Capital Ratios**
  - [ ] Is the company over-leveraged? *(in terms of debt to equity etc)*
  - [ ] What is the latest cost of equity, cost of debt, & thus weighted average cost of capital for the company?

- [ ] Is the company able to service its debt obligations? *(in terms of interest coverage ratio, quick ratio etc)*

- **Efficiency/Operational Ratios**
  - [ ] How much time does it take for the company to convert its investments into cash? *(in terms of cash conversion cycle)*
  - [ ] How much time does it take for the company to convert its inventory into sales? *(in terms of inventory days/inventory turnover)*
- **Industry Benchmarks**
  - [ ] How does the company stack up against peers in terms of industry benchmarks *(like capacity utilization, average revenue per user, revenue per room, gross merchandise value etc)*

Management

- **Overview of promoters & management**
  - [ ] Are the managers of the company competent enough to run it?
  - [ ] Is the management style overly conservative or aggressive?
  - [ ] Have the actions of the promoters or managers been in the interest of minority/retail shareholders?
  - [ ] Have the promoters or managers been transparent & integrous in actions that impact the operations or valuations of the company?
  - [ ] Is there a proper succession plan in place for key positions of the company?
  - [ ] Is the management of the company being remunerated more than they should be?
  - [ ] Do the promoters or managers of the company communicate well with the shareholders *(hold conference calls, conduct interviews, answer to investor relation emails, etc)?*
- **Shareholding Pattern**
  - [ ] What has been the trend for promoter shareholding in the recent past?
  - [ ] How does the distribution look between retail and institutional shareholding?
  - [ ] Is there enough free float? Are the shares of the company liquid?
  - [ ] Is the quantum of shares pledged a concern?
- **Red Flags**
  - [ ] Is there any pending litigation against the promoters or managers that can materially impact the stock?
  - [ ] Is there any pending litigation against the company that can materially impact the stock?
  - [ ] Are there too many/suspicious related party transactions taking place?
  - [ ] Is the structure of the company too complex *(in terms of subsidiaries, holding companies etc)*?
  - [ ] Are there any red flags in the auditor notes?

Valuation

- **Multiples**
  - [ ] What multiples have been used to evaluate the valuation of the company, if any?
  - [ ] How do the multiples compare versus peers in the same sector?
  - [ ] Is there a significant discount for risks that the multiples of the company suffer from? Why?
  - [ ] Is there a significant premium for moats that the multiples of the company enjoy? Why? Does the moat show up in financial statements?
  - [ ] Has there been a significant rerating of multiples for the company? Why?
- **Valuation Models**
  - [ ] Have you used any valuation models *(such as Discounted Cash Flow or Discounted Dividend or Sum of parts)* to evaluate the company?

  - [ ] If a valuation model has been used, what is the *approximate intrinsic value* of the stock as per the model? What discount does the stock price enjoy with intrinsic value in context?
- **Valuation Philosophy**
  - [ ] Would you characterize buying of the stock as value investing, or growth investing?
  - [ ] Is there adequate margin of safety in an investment in the stock? What constitutes it?

Investment Thesis

- **Consideration of investment**
  - [ ] What is your primary thesis for investing in the business?
  - [ ] What is the expected duration for which the company is being bought?
  - [ ] What are the quantitative factors that could invalidate this investment thesis?
  - [ ] What are the risks or threats that could cause invalidations to this investment thesis?
  - [ ] What would conclude your investment in the company if everything goes according to the thesis? What is the exit plan?
  - [ ] Is your investment thesis in consensus with other participants of investing forums such as r/IndiaInvestments Subreddit/discord or ValuePickr? Does this classify as a contrarian bet?
  - [ ] Is your investment thesis based on a corporate action or a key event that would have material impact on the stock price? Does it therefore qualify as a workout investment?
- **Should this transaction be avoided?**
  - [ ] Where does the primary thesis for this investment come from? Was it peddled on a news channel/social media post or did it come into your radar as a consequence of independent research?
  - [ ] Is the investment being done due to *Fear of missing out* on positive price action momentum?
  - [ ] Can the investment qualify as a case of *Catching a falling knife?*
  - [ ] If you're exiting an investment because it has fallen significantly/sharply, is it because something has changed fundamentally about the business or its future earning potential?
  - [ ] How does the stock fit into the overall portfolio? How much do you own of that sector/country already?
- **Staying on track**
  - [ ] Does the latest Quarterly earnings report validate or invalidate your investment thesis?
  - [ ] Does the latest Annual report provide you any material information that could validate or invalidate your investment thesis?
  - [ ] Does the latest Investors call or management interview provide you any material information that could validate or invalidate your investment thesis?

Work in Progress

These are chapters in progress that may or may not be reviewed yet. Read with caution.

Content in these pages are being worked upon, and not yet ready for publishing. If you are reading these, expect grammatical and spelling errors, incomplete thoughts, and messed-up text in general.

Diving Deeper into Businesses

We'll learn how to dive deep and analyze businesses

In the previous chapter, we noted that as individual investors, our job is to find and exploit disparities between market and intrinsic values of businesses. Further, we explored a way to build a universe of companies to study and track based on sectoral categorization.

But, a mechanical study of sectors will only take you so far. Sure, we've gathered qualitative information and numbers associated with a sector based on a generic understanding, but that doesn't cut it.

As we noted in our introductory chapter, we require extraordinary perspective to consistently get extraordinary returns. Of course, gaining extraordinary perspective requires an analytical (and not mechanical) understanding of a business. We've touched on this a fair bit whenever we've referred to the phrase circle of competence, but let us dive a bit deeper into this mental model.

The essence of it can be found in Berkshire Hathaway's 1996 edition of Letter to the Shareholders in which Warren Buffett says,

> Intelligent investing is not complex, though that is far from saying that it is easy. What an investor needs is the ability to correctly evaluate selected businesses. Note that word "selected": You don't have to be an expert on every company, or even many. You only have to be able to evaluate companies within your circle of competence. The size of that circle is not very important; knowing its boundaries, however, is vital.

Pretty straightforward - invest only in businesses you understand.

Note that Buffett has used the word businesses, not products; it's a common misconception of the mental model that Buffett was referring to understanding the value a product adds to the life of its consumer. That would have been far more inclusive, most products are simple enough to understand. Instead, it is the economics of the business that needs to be understood and reasonably predicted.

Another misinterpretation of the model is that we're stuck with what we know, and that's that. This may be due to the phrasing often associated with discussions regarding the model, the purpose of which is not to discourage one from expanding your circle, only to be cautious of staying in your circle, whatever it is during the time you're making an investment decision. Sahil Bloom, in his appearance in We Study Billionaires podcast explains this delicate balance beautifully,

> I really would impress upon people that your circle should grow, it should shrink, it should morph into different areas as you learn, and as you grow. The whole point is you need to be a continuous learner, and go down the rabbit hole on things that you're excited about. [...] the reality is, life is dynamic. The world is dynamic, situations change. You need to be constantly learning and trying to grow your circle of competence over time. I think that's point number one is the circle of competence should be dynamic, you should be striving to build it. The other point is you need to be absolutely ruthless in identifying the boundaries of it throughout. So, you can be striving to grow your circle of competence. But if you haven't spent the time and really put in the energy and effort for it to have effectively grown, you need to be cognizant of that fact and not start reaching because you think you know everything that's outside of it.

It all circles back / seamlessly connects with the other mental model we've talked about above, having an edge. A good enough amalgamation of this union is - *its smart to use the limited extraordinary insights we have of the businesses we economically understand than to dabble in businesses we don't economically understand.* This is because what we know of businesses we don't economically understand is probably common knowledge, and is thus probably priced in.

The reason we've explained this in a segue between the two chapters is to make sure you're not falling into an information gathering hole. Researching a sector or a business is important, but really understanding the economics of it (in a way in which your insights are better than the market's) is something that can't be taught. Howard Marks' in the introductory chapter of his book 'The Most Important Thing' warns of this rather bluntly,

> In basketball, they say, "You can't coach height," meaning all the coaching in the world won't make a player taller. It's almost as hard to teach insight.

If Howard Marks' can't help you learn how to find an *edge*, we certainly can't. We can only guide you in the rudimentary processes involved in due-diligence.

Anyway, let's move on and see what due-diligence is required while researching a business.

A framework for Business Analysis

While studying a business, there are a few things you want to look at,

- Key events in the company's history
- Value proposition of the company's products
- Business model of the company
- Competition faced by the company
- Risks & Threats to the company's business

We're going to cover the questions under these broad themes that need to be covered while studying a business, with examples wherever we feel it is necessary to better illustrate our point. Like in the previous chapter, I implore you to choose a large-cap company of your preference (because it'd be easier for you to gather information on larger companies), and follow along.

Key Events in the Company's History

What are some key events that have had material impact on the core operations & financials of the company?

Just as a sector, any company with a few years of existing in the market will have some past/forthcoming events that have had, or will have a material impact on its financials and operations. Again, this can be a major disruption, a government policy, a new player in the market behaving irrationally, a black swan event, and so on.

Though a sector-wide event is bound to have an impact on all its participants *(after all, companies are constituents that form up a sector*), the impact would vary in both magnitude and sometimes even polarity (what is negative for some, can be positive for other players of an industry).

For example, consider the dramatic decrease in *average revenue per user (ARPU),* a benchmark for product pricing in some industries, in the Indian telecom sector - Reliance's Jio, a disruptor, entered the industry undercutting everyone's prices. While lower ARPU would intuitively mean lower profitability, Jio understood that it had to do this to gain customers. Net-net, it worked out as a good strategy for Jio, while many other players either shut shop, or took a serious financial hit.

Apart from such sector-wide events, there are other key-events that may relate to just one company, and not the whole sector. Consider changes in key management positions, for example.

What are some key events that have had material impact on the stock price?

Any occurrence with material impact on core operations or financials of a company will probably have an impact on its stock price. The inverse of this isn't always true - there can be circumstances which affect the stock price of a company even if

there's no effect on its core operations or financials.

Generally, this happens in instances where there can be supply overheads in the market for a company's share. An excess of supply of shares relative to demand can drive down a company's stock price.

For example, a pledge of shares held by promoters of the company for a loan would hurt the market sentiments towards the company. This is because it's an additional market risk - if the promoters are unable to service their debt obligations, the lender can sell the shares taken as collateral, resulting in supply overhead of the company's shares in the market.

Another example of this is when investors with high shareholding in a company decide to exit their investment. Again, this would possibly mean that there may be a supply overhead. Sometimes, even the market's perception that something like this may happen, results in a feedback loop - investors think a supply overhead may come from a large investor exiting a stock investment, and exit themselves, collectively creating a supply overhead.

Value proposition of the company's products

This refers to the value addition by a company in its products. As [Investopedia ↗](#) puts it,

> A value proposition refers to the value a company promises to deliver to customers should they choose to buy their product. [...] The proposition is an easy-to-understand reason why a customer should buy a product or service from that particular business. A value proposition should clearly explain how a product fills a need, communicate the specifics of its added benefit, and state the reason why it's better than similar products on the market. [...] A successful value proposition should be persuasive and help turn a prospect into a paying customer.

What is the company primarily selling?

As we noted in the last chapter, stating the obvious - what products are sold by a company - helps us answer some questions ahead.

What is the revenue/earnings mix?

Revenue mix refers to a break-up of the revenue generated, based on different business segments a company is engaged in. Similarly, earnings mix refers to the break-up of the Operating Profit, or Earnings before Interest and Tax (EBIT) earned by a company based on its business segments.

Similarly, geography mix connotes the break-up of revenues and operating profits based on different geographies a company operates in.

In compliance with Indian Accounting Standards (Ind AS) 108 ↗, companies are required to disclose these break-ups. They can generally be found in a company's annual report under the heading '*Segment Revenue'* and *'Segment Results'* respectively in Notes to the Financial Statements.

As an example, earning mix and revenue mix of Hindustan Unilever, can be computed from the following figures taken from the company's FY20 annual report ↗.

	Year ended 31st March, 2020			Year ended 31st March, 2019		
	External	Intersegment	Total	External	Intersegment	Total
Revenue						
Home care	13,640	-	13,640	12,874	-	12,874
Beauty & Personal care	17,488	-	17,488	17,800	-	17,800
Foods & Refreshment	7,450	-	7,450	7,131	-	7,131
Others	1,205	-	1,205	1,505	-	1,505
Total Revenue	**39,783**	**-**	**39,783**	**39,310**	**-**	**39,310**

Note 44 to Consolidated Financial Statements, Hindustan Unilever, FY20 AR

	Year ended 31st March, 2020			Year ended 31st March, 2019		
	External	Intersegment	Total	External	Intersegment	Total
Result						
Home care			2,559			2,156
Beauty & Personal care			4,896			4,751
Foods & Refreshment			1,232			1,230
Others			172			178
Total Segment			**8,859**			**8,315**

Note 44 to Consolidated Financial Statements, Hindustan Unilever, FY20 AR

Studying revenue and earning mix helps us gain a few important insights. One, by bifurcating the total revenue/operating profits into different businesses, we can analyze each business individually.

For example, if one of the segments is growing faster than the other segments, we can identify it as a potential growth avenue for the company in the future.

We can also find out the operating margins of each segment, and identify which business is more profitable in relative terms, and thus should be focused on (assuming scalability is not an issue). Or, we can pinpoint to the segments that have zero, or low profitability, and analyze what can turn these businesses around (or otherwise be divested).

After all, a segment that is growing in double digits, but has close to zero margins will only lift the company's bottom line so much, whereas a high-margins business growing in double digits will do wonders to the company's bottom-line.

On a product level, this referred to as *product mix*. When someone says the company had a *favorable product mix* this year, they're implying that the contribution of high-margin products to the revenues of the company were higher than expected.

What product segment is the company catering to?

As we noted in the previous chapter, most sectors can be divided into different segments, and different segments can have varied economic dynamics. So, identifying which product segments the company is operating is in helpful.

For example, while Maruti Suzuki India Ltd operates in the automobile sector, roughly 69% of its domestic volumes come from compact and mini four-wheelers, and the rest comes from mid-sized vehicles, utility vehicles, light commercial vehicles, and vans as per its Q3FY21 Investors Presentation ↗. The company, however, is not engaged in selling two-wheeler, or three-wheeler vehicles.

Segments	Q3 FY'21			9M FY'21		
	Number	Growth %	% to Domestic sales	Number	Growth %	% to Domestic sales
Mini	75,728	-3.8%	16.2%	152,394	-14.6%	16.8%
Compact	249,338	14.0%	53.3%	479,994	-19.0%	53.0%
Mini + Compact	325,066	9.3%	69.6%	632,388	-18.0%	69.9%
Mid Size	4,562	-18.6%	1.0%	9,367	-53.2%	1.0%
UVs	74,850	6.7%	16.0%	152,156	-17.5%	16.8%
Vans	35,707	28.4%	7.6%	69,963	-21.3%	7.7%
LCV	12,076	92.1%	2.6%	19,917	9.5%	2.2%
Sales to other OEM(Compact)	15,108	137.1%	3.2%	21,224	18.2%	2.3%
Domestic	**467,369**	**13.0%**	**100%**	**905,015**	**-17.8%**	**100%**

Maruti Suzuki's Investor Presentation, Q3FY21

Alternatively, Hero MotoCorp Ltd, also operates in the automobile sector, but only sells two-wheeler vehicles, and does not operate in three-wheeler, or four-wheeler vehicles, as per its FY20 annual report ↗.

13/04/2025, 11:10 r/IndiaInvestments

27. REVENUE FROM OPERATIONS

Particulars	For the year ended March 31, 2020	For the year ended March 31, 2019
(a) Sale of products		
Two-wheelers [includes excise duty of ₹ 1.35 crore (Previous year ₹ 1.41 crore)]	25,323.48	30,005.18
Components	4.83	3.12
Spare parts	2,909.77	2,844.59
	28,238.08	**32,852.89**

Note 27 to Consolidated Financial Statements, Hero MotoCorp's FY20 Annual Report

Both of the companies, however, are more focused on selling vehicles in the domestic market, instead of selling internationally.

Maruti Suzuki earns just ~7% ↗ of their revenues from exports, whereas Hero MotoCorp earns a similar ~4.3% ↗ of their revenues from their exports business.

31.1 Group wide disclosure

	Domestic	Overseas	Total
Revenue from operations			
2019-20	704,152	52,448	**756,600**
2018-19	803,379	57,306	**860,685**
Non current segment assets			
As at 31.03.2020	175,950	-	**175,950**
As at 31.03.2019	174,737	-	**174,737**

Note 31.1 to Consolidated Financial Statements, Maruti Suzuki's FY20 Annual Report

Entity wide disclosure details as per Ind AS 108 on Operating segments are given below:

Particulars	Domestic	Overseas	Total
Revenue from operations			
2019-20	27,976.30	1,279.02	29,255.32
2018-19	32,698.71	1,273.52	33,972.23

Note 37 to Consolidated Financial Statements, Hero MotoCorp's FY20 Annual Report

On the other hand, Tata Motors Ltd, another automobile manufacturer, relies on exports for ~82% ↗ of their revenues.

Revenue	FY 2019-20		FY 2018-19	
	(₹ in crores)	%	(₹ in crores)	%
India	47,094	18.0%	68,087	22.5%
China	29,820	11.4%	30,415	10.1%
UK	42,443	16.3%	49,114	16.3%
United States	52,030	19.9%	52,473	17.4%
Rest of Europe	43,227	16.6%	49,814	16.5%
Rest of World	46,454	17.8%	52,035	17.2%
Total	**2,61,068**		**3,01,938**	

MD&A, Tata Motors' FY20 Annual Report

Where does the product fit in the market? What are the target markets?

Two companies in the same sector, operating in the same segments, can still coexist and have distinct customer bases. This can be based on the price range of the products, the age group that the product is marketed towards, niche products, etc.

For example, let's extend the two-wheeler example we used above. Eicher Motors Ltd, the company behind the famous Royal Enfield brand, markets its motorcycles for higher paying customers, versus that of Hero MotoCorp Ltd, which targets the economical price range. Bajaj Auto, with a wider portfolio range, has a more blended approach.

Another example of this is with chocolates, with companies like Ferrero Rocher, and Lindt catering to premium, more expensive chocolates whereas Mondelez's Cadbury caters to more economical market.

In clothing, a company like Louis Vuitton targets luxury segment, whereas Levi's, targets premium, and a company like V-mart sells affordable apparel.

Based on targeted age groups, take Monster Energy's beverages as an example, which strictly markets for younger populations, against that of Red Bull, which appeals all age groups.

Similarly, Bira 91, a craft beer brand, considers millennials as their key consumers, whereas peer brands don't necessarily target a particular age group.

What is the *addressable* market size for the product?

In the previous chapter, we explained the generalized definition of market size as *the potential revenue / volume a company can attain if it had 100 percent of estimated market share in the sector.*

Similarly, *addressable* market size refers to the potential revenue / volume a company can attain if it had 100 percent of estimated market share of the market segment the products target.

Determining market size helps us perceive the growth potential of a company.

What is the product's market share, or position in the market?

While market size refers to the *potential* revenue / volume a company can attain if it had 100 percent of estimated market share, market share refers to the real, actual percentage of estimated sector-wide revenue / volume a company has captured.

You'll often find these figures reported in a company's annual report, investor presentations, credit reports, and conference calls.

For example, in CRISIL's credit report ↗ of Asian Paints Ltd dated June 30, 2020, the credit rating agency reported Asian Paints having *'a dominant share of over 50% in the organized domestic paints market'*.

> * **Market leadership in the domestic paints industry:** The group enjoys a dominant share of over 50% in the organised domestic paints market (the second-largest player has a market share of about 16%). In the decorative paints segment, which comprises about 70-75% of the Indian paints industry, the group has a share of about 60%. It also has a healthy position in the automotive industrial coatings segment with a market share of about 20%. Driven by its leadership position, the group's revenue registered a compound annual growth rate of 9% over the five fiscals through 2020. Strong brand equity, extensive distribution network, and wide product portfolio will help sustain strong market position over the medium term.

Key Rating Drivers & Detailed Description, CRISIL's credit report on Asian Paints Ltd, dated June 30, 2020

Note the words ***organised and domestic*** used in the report while describing the market they've used to benchmark the company's share. It is essential that attention is paid to the adverbs describing the market, to get a complete understanding of company's share in the market.

Efficiency

Efficiency Ratios, also known as Activity Ratios, help investors evaluate the efficiency with which a business is able to use its assets to generate revenue.

Asset Turnover Ratios

One of the most basic operational aspects of a business is generating sales using its assets. We can measure the efficiency of this operational aspect using the **asset turnover ratio** which can be defined as

```
Asset Turnover Ratio = Total Income / Average Assets
```

We'll consider the average of the total assets during a financial year to account for potentially abrupt changes in total assets due to unusual events like sales of fixed assets, increase in goodwill etc.

Asset Turnover Ratio is one of the components in the DuPont Identity we used to calculate the Return on Equity in the Profitability section ↗.

As we've mentioned before, it wouldn't make sense to compare ratios between companies in different sectors. FMCG companies usually enjoy high asset turnover while asset heavy companies and financial institutions don't.

Particulars	Note	Year ended 31st March, 2019	Year ended 31st March, 2018
INCOME			
Revenue from operations	26	39,310	36,238
Other income	27	550	384
TOTAL INCOME		**39,860**	**36,622**
EXPENSES			
Cost of materials consumed	28	13,707	12,927
Purchases of stock-in-trade	29	4,755	3,875
Changes in inventories of finished goods (including stock-in-trade) and work-in-progress	30	12	(72)
Excise duty	31	-	693
Employee benefits expenses	32	1,875	1,860
Finance costs	33	33	26
Depreciation and amortisation expense	34	565	520
Other expenses	35	10,081	9,456
TOTAL EXPENSES		**31,028**	**29,285**
Profit before exceptional items and tax		**8,832**	**7,337**
Exceptional items (net)	36	(228)	(33)
Profit before tax from Continuing Operations		**8,604**	**7,304**
Tax expenses			
Current tax	8A	(2,610)	(2,216)
Deferred tax credit/(charge)	8A	66	137
Profit after tax from Continuing Operations (A)		**6,060**	**5,225**
Profit/(Loss) from Discontinued Operations before tax	37A	0	2
Tax expenses of Discontinued Operations	37A	-	-
Profit/(loss) from Discontinued Operations after tax (B)		**0**	**2**
PROFIT FOR THE YEAR (A+B)		**6,060**	**5,227**

The Profit and Loss Statement of Hindustan Unilever for the financial year 2019

Particulars	Note	As at 31st March, 2019	As at 31st March, 2018
ASSETS			
Non-current assets			
Property, plant and equipment	3A	4,192	4,080
Capital work-in-progress	3B	406	461
Goodwill	4A	36	0
Other intangible assets	4A	406	367
Goodwill on consolidation	4B	81	81
Financial assets			
Investments	5	2	2
Loans	6	215	184
Other financial assets	7	11	6
Non-current tax assets (net)	8E	835	635
Deferred tax assets (net)	8C	373	302
Other non-current assets	9	158	84
Current assets			
Inventories	10	2,574	2,513
Financial assets			
Investments	5	2,714	2,871
Loans	6	4	4
Trade receivables	11	1,816	1,310
Cash and cash equivalents	12	621	649
Bank balances other than cash and cash equivalents mentioned above	13	3,136	2,836
Other financial assets	7	577	805
Other current assets	14	468	656
Assets held for sale	15	4	16
TOTAL ASSETS		**18,629**	**17,862**

Part 1 of the Balance Sheet of Hindustan Unilever for the financial year 2019

The total income of Hindustan Unilever Ltd for the year 2019 is `₹39,860 crores` and the average total assets are `(₹18,629 + ₹17,862)/2 = ₹18,245.5 crores`. The asset turnover ratio of Hindustan Unilever for the year 2019 is `₹39,860 / ₹18,245 = 2.18`. In contrast, the asset turnover ratio of Nestle India for the year 2019 is `1.66`. If we observe the past 5 year trend, Hindustan Unilever has had an asset turnover ratio of greater than 2 while Nestle India has had an asset turnover ratio of greater than 1 but less than 2. Using this information, we can infer that Hindustan Unilever is *possibly* more efficient at generating revenue from its assets than Nestle India.

The asset turnover ratio of a company can get skewed due to a number of unusual events such as asset sales, issue of additional shares, investment into assets for long term growth, deliberately increasing inventory to meet demand etc. It's best if we look at a trend of how asset turnover ratio has been in the past 5 years before jumping to conclusions. Let's consider the financial statements of Avenue Supermarts for the year 2020.

	Notes	As at 31st March, 2020	As at 31st March, 2019
Assets			
Non-current assets			
(a) Property, plant and equipment	2	5,107.36	4,274.03
(b) Capital work-in-progress	2	364.40	376.84
(c) Right to use assets	3	717.33	-
(d) Investment properties	4	16.53	18.10
(e) Goodwill		78.27	78.27
(f) Intangible assets	5	28.54	29.97
(g) Financial assets			
(i) Other non-current financial assets	6	3,122.67	31.74
(h) Income tax assets (net)		8.25	0.64
(i) Deferred tax assets (net)	7	0.29	0.22
(j) Other non-current assets	8	285.14	113.33
Total non-current assets		**9,728.78**	**4,923.14**
Current assets			
(a) Inventories	9	1,947.40	1,608.65
(b) Financial assets			
(i) Investments	10	14.68	16.53
(ii) Trade receivables	11	19.55	64.37
(iii) Cash and cash equivalents	12	105.87	124.98
(iv) Bank balances other than cash and cash equivalents	13	2.01	94.09
(v) Other current financial assets	14	109.06	59.10
(c) Other current assets	15	149.10	114.86
Total current assets		**2,347.67**	**2,082.58**
Total assets		**12,076.45**	**7,005.72**
Equity and liabilities			
Equity			
(a) Equity share capital	16	647.77	624.08
(b) Other equity	17	10,431.97	4,963.37
Equity attributable to equity holders of the parent		**11,079.74**	**5,587.45**
Non-controlling interest		0.46	0.56
Total equity		**11,080.20**	**5,588.01**

Part 1 of the Balance Sheet of Avenue Supermarts for the financial year 2020

The asset turnover ratio of Avenue Supermarts for the year 2019 is `3.16`. However, due to issue of additional shares and the investment of the capital gained into non-current financial assets, the asset turnover ratio drops to `2.61` in the financial year 2020.

Although we've seen what asset turnover ratio is, we can go ahead and refine it further to get a more useful metric. Instead of considering total assets, we'll now consider only the non-current, or fixed, assets of a company to calculate the **Fixed Asset Turnover Ratio**. Why not consider the current assets? Well, most companies and sectors where asset turnover ratios are relevant often invest in long term assets to generate sales. We'll focus on current assets in the working capital and cash conversion cycle.

We can define fixed asset turnover ratio as

```
Fixed Asset Turnover Ratio = Total Income / Average Non Current Assets
```

The fixed asset turnover ratio of Hindustan Unilever Ltd for the year 2019 is `₹39,860 / ((₹6,715 + ₹6,202) / 2) = 6.17` while that of Nestle India for the year 2019 is `3.82`.

Inventory Turnover and Days Sales of Inventory

The efficient management of inventory is one of the key operational aspects of a business, especially in cases where making forecasts about inventory is essential to prepare a business for seasonal effects. The sales projections of a business depend upon how efficiently inventory is managed.

One of the metrics that can help businesses make better decisions about pricing, manufacturing, and purchasing inventory is the **inventory turnover ratio**. This ratio tells us how quickly a business can replace its inventory by turning it into sales. It's a measure of how many times a business can sell its entire inventory in a specific time period.

We can define the inventory turnover ratio as

```
Inventory Turnover Ratio = Cost of Goods Sold / Average Inventory
```

We've already defined COGS ↗ when we discussed gross profit in profitability ratios. The average inventory is simply the average of the inventory at the start and at the end of a financial year.

Although we could've used `Net Sales` in the numerator instead of `COGS`, it would've ended up artificially inflating the inventory turnover ratio. After all, the costs associated with the inventory in the balance sheet does not include the potential markup in prices due to profits earned.

Generally, high inventory turnover ratios indicate that a company is able to sell its inventory quickly and generate sales, which is reflected due to changes the numerator, but it can also indicate that a company is running low on inventory which might be needed to fulfill obligations and generate sales. In any case, inventory turnover ratio is extremely useful in sectors like FMCG, supermarkets, automobile etc.

Let's compare the inventory turnover of two supermarket businesses — Avenue Supermarts and V-Mart Retail.

Current assets			
(a) Inventories	9	1,947.40	1,608.65
(b) Financial assets			
(i) Investments	10	14.68	16.53
(ii) Trade receivables	11	19.55	64.37
(iii) Cash and cash equivalents	12	105.87	124.98
(iv) Bank balances other than cash and cash equivalents	13	2.01	94.09
(v) Other current financial assets	14	109.06	59.10
(c) Other current assets	15	149.10	114.86
Total current assets		**2,347.67**	**2,082.58**

Current Assets of Avenue Supermarts for the financial year 2020

Expenses			
Purchase of stock-in-trade		21,441.68	17,445.49
Changes in inventories of stock-in-trade	29	(338.75)	(444.65)
Employee benefits expense	30	456.10	355.42
Finance costs	31	69.12	47.21
Depreciation and amortisation expense	32	374.41	212.49
Other expenses	33	1,182.86	1,014.97

Expenses of Avenue Supermarts for the financial year 2020

The COGS of Avenue Supermarts for the year 2020 is `₹21,441.68 - ₹338.75 = ₹21,102.93 crores` and its average inventory is `(₹1,947.40 + ₹1,608.65) / 2 = ₹1,778.02 crores`. This gives us an inventory turnover ratio of `₹21,102.93 / ₹1,778.02 = 11.8`.

Current assets			
Inventories	11	47,792.24	32,898.41
Financial assets			
Investments	6	457.47	5,085.29
Loans	7	3.44	5.61
Cash and cash equivalents	12	489.59	1,488.69
Other bank balances	13	9.26	426.88
Other current assets	10	3,006.90	2,253.22
		51,758.90	**42,158.10**

Current Assets of V-Mart Retail for the financial year 2020

EXPENSES			
Purchase of traded goods	25	127,520.03	99,216.07
(Increase) in inventories	26	(14,893.83)	(2,187.21)
Employee benefits expense	27	15,362.51	12,572.51
Finance costs	30	5,478.39	161.27
Depreciation and amortization expense	31	9,392.28	2,762.57
Other expenses	28	16,837.89	20,480.53

Expenses of V-Mart Retail for the financial year 2020

The COGS of V-Mart Retail for the year 2020 is `₹1,275.20 - ₹148.93 + ₹11.47 = ₹1,137.74 crores` and its average inventory is `(₹477.92 + ₹328.98) / 2 = ₹403.45 crores`. This gives us an inventory turnover ratio of `₹1,137.74 / ₹403.45 = 2.82`.

Although both Avenue Supermarts and V-Mart Retail are supermarket businesses, their revenue sources are different. V-Mart Retail derives about 80% of its revenue from apparels while Avenue Supermarts gets less than 27% from apparel. How about we compare Avenue Supermarts' inventory turnover ratio with Reliance Retail?

Current Assets					
Inventories	**5**	**9,583.11**		11,493.53	
Financial Assets					
Investments	**6**	**233.14**		3,218.28	
Trade Receivables	**7**	**2,759.23**		4,632.14	
Cash and Cash Equivalents	**8**	**348.69**		387.59	
Other Financial Assets	**9**	**1,507.03**		383.44	
Other Current Assets	**10**	**1,736.51**		1,832.98	
Total Current Assets			**16,167.71**		21,947.96

Current Assets of Reliance Retail for the financial year 2020

EXPENSES			
Cost of Materials Consumed		**2.99**	3.20
Purchases of Stock-in-Trade		**1,22,745.81**	1,00,084.49
Changes in Inventories of Finished Goods and Stock-in-Trade	**22**	**1,941.48**	(813.68)
Employee Benefits Expense	**23**	**975.28**	923.07
Finance Costs	**24**	**868.32**	611.70
Depreciation and Amortisation Expense	**1**	**1,122.42**	612.05
Other Expenses	**25**	**9,596.03**	8,974.28
Total Expenses		**1,37,252.33**	1,10,395.11

Expenses of Reliance Retail for the financial year 2020

The COGS of Reliance Retail for the year 2020 is `₹2.99 + ₹1,22,745.81 + ₹1,941.48 + ₹135.62 = ₹1,24,825.9 crores` and its average inventory is `(₹9,583.11 + ₹11,493.53) / 2 = ₹10,538.32 crores`. This gives us an inventory turnover ratio of `₹1,24,825.9 / ₹10,538.32 = 11.8`.

Now that we know how to calculate the inventory turnover ratio, we can calculate the average time in days that it takes to turn inventory into sales. This metric is known as **Days Sales of Inventory (DSI)**. It is also known as Days Inventory Outstanding (DIO). DSI can be calculated using the following formula

```
Days Sales of Inventory = 365 / Inventory Turnover Ratio
```

For Avenue Supermarts, the DSI turns out to be `365 / 11.8 = 30 days`. For V-Mart Retail, DSI is `365 / 2.8 = 129 days`.

Generally speaking, lower the DSI, the more efficient a company is in translating inventory to sales. However, this may not always be the case. Sometimes, companies need to pile up inventory due to seasonal effects or to take advantage of product shortage and sell the inventory at a higher price later.

Receivables Turnover and Days Sales Outstanding

Payables Turnover and Days Payable Outstanding

Cash Conversion Cycle

Working Capital

Liquidity and Solvency

Solvency Ratios help investors evaluate the competence of a company to meet its long term debt obligations. Liquidity Ratios are used to evaluate the ability to pay off short term debt obligations.

Debt to Equity Ratio

The Debt to Equity ratio tells us how much a company's debt weighs against its shareholders equity. It gives us an overview of a company's capital structure by measuring the amount of employed debt against equity.

The Debt to Equity ratio can be defined as

```
Debt to Equity Ratio = Total Debt / Shareholders Equity
```

We'll consider total debt as the sum of financial obligations which bear interest and lease liabilities. This includes current and non-current borrowings, lease liabilities, current maturities of long term debt and lease obligations, and any other liabilities that can bear interest. We will **NOT** consider trade payables, provisions, and deferred tax liabilities for calculating the total debt. Keeping this in mind, we can define total debt as,

```
Total Debt = Current Borrowings + Non-current Borrowings + Lease Liabilities + Current Maturities of Lon
```

We can also restrict total debt to non-current borrowings and other interest bearing non-current financial obligations only depending upon the company we're analyzing. In such cases, we're primarily concerned with the non-current financial obligations of the company in comparison to the shareholders equity.

We've already defined shareholders equity before as total assets minus total liabilities. It can also be found on the balance sheet in an annual report.

EQUITY AND LIABILITIES:					
Equity					
Equity share capital	**20**	280.78		*280.55*	
Other equity	**21**	66442.44		*62094.25*	
Equity attributable to owners of the Company			66723.22		*62374.80*
Non-controlling interests			9520.83		*6826.11*
Liabilities					
Non-current liabilities					
Financial liabilities					
Borrowings	**22**	82331.33		*74120.79*	
Lease liability		1741.60		–	
Other financial liabilities	**23**	901.14		*354.83*	
			84974.07		*74475.62*
Provisions	**24**		708.67		*556.84*
Deferred tax liabilities (net)	**51(d)**		1453.04		*311.13*
Other non-current liabilities	**25**		31.09		*0.55*
Current liabilities					
Financial liabilities					
Borrowings	**26**	35021.02		*29223.84*	
Current maturities of long term borrowings	**27**	23654.77		*22210.54*	
Lease liability		424.95		–	
Trade payables:					
Due to micro enterprises and small enterprises		479.51		*261.12*	
Due to others	**28**	43164.42		*42733.69*	
Other financial liabilities	**29**	4923.23		*4622.78*	
			107667.90		*99051.97*
Other current liabilities	**30**		30816.67		*31166.55*
Provisions	**31**		2750.85		*2443.43*
Current tax liabilities (net)			1509.62		*1137.16*
Liabilities associated with group(s) of assets classified as held for sale	**45(d)**		1984.17		*3.20*
TOTAL EQUITY AND LIABILITIES			308140.13		*278347.36*

Part 2 of the Balance Sheet of Larsen & Toubro Ltd for the financial year 2020

Let's consider the balance sheet of an infrastructure and construction company — Larsen & Toubro.

The total debt can be calculated as `₹35,021.02 + ₹23,654.77 + ₹82,331.33 + ₹1,741.6 + ₹424.95 = ₹1,43,173 crores`. The Shareholders Equity is `₹280.78 + ₹66,442.44 + ₹9,520.83 = ₹76,244.05 crores`. This gives us a debt to equity ratio of `₹1,43,173 / ₹76,244.05 = 1.87`.

> Although we've included lease liabilities in our calculation, not being able to pay lease obligations may not have the same impact as not paying loan obligations. We can exclude lease obligations from the numerator to get a debt to equity ratio of `1.84`.

A debt to equity ratio of `1.87` tells us that for every ₹1 in shareholders equity, Larsen & Toubro has `₹1.87` in debt.

Usually, a higher value of debt to equity ratio indicates higher insolvency risk compared to another company with a lower value. Although this may be correct but the assumption that comes attached — a company with a higher debt to equity ratio is unequivocally not going to stay solvent - isn't always true. This is because a company's financial ability to cater to its debt obligations needn't be stuck solely in shareholder's equity.

As we've said before, ratios are meaningless when looked at in isolation. Let's calculate the debt to equity ratio of another construction company, Reliance Infrastructure Ltd.

EQUITY AND LIABILITIES		
EQUITY		
Equity Share Capital	10(a)	263.03
Other Equity	10(b)	9,529.34
Equity attributable to owners		9,792.37
Non-controlling Interests		1,829.45
Total Equity		11,621.82
LIABILITIES		
Non-current Liabilities		
Financial Liabilities:		
Borrowings	11(a)	11,758.86
Trade Payables	11(c)	
Total outstanding dues of micro enterprises and small enterprises		-
Total outstanding dues of creditors other than micro enterprises and small enterprises		25.26
Other Financial Liabilities	11(d)	2,409.73
Provisions	12	540.83
Deferred Tax Liabilities (net)	13(f)	569.40
Other Non - current Liabilities	11(e)	3,162.70
Total Non-current Liabilities		18,466.78
Current Liabilities		
Financial Liabilities:		
Borrowings	11(b)	2,541.37
Trade Payables	11(c)	
Total outstanding dues of micro enterprises and small enterprises		56.83
Total outstanding dues of creditors other than micro enterprises and small enterprises		20,039.35
Other Financial Liabilities	11(d)	6,894.88
Other Current Liabilities	11(e)	3,136.91
Provisions	12	573.08
Current Tax Liabilities (net)		483.06
Total Current Liabilities		33,725.48
Liabilities relating to assets held for sale		1,288.72
Total Equity and Liabilities		65,102.80

Part 2 of the Balance Sheet of Reliance Infrastructure Ltd for the financial year 2020

11(d): Other Financial Liabilities

Particulars	As at March 31, 2020	
	Current	Non- Current
Security deposits		
- from consumers	1,400.60	9.47
- from others	229.01	0.06
Current maturities of long-term debt	2,765.28	-
NHAI premium payable	272.31	2,206.92
Financial guarantee obligation	-	123.86
Interest accrued	1,348.40	-
Unpaid dividends	14.18	-
MTM on Derivative Financial Instrument (including forward contract)	-	1.81
Creditors for capital expenditure	672.19	-
Employee benefits payable	8.21	-
Lease Liabilities	13.98	67.61
Other Payables	170.72	-
Total	**6,894.88**	**2,409.73**

Note 11(d) of the financial statements of Reliance Infrastructure for the financial year 2020

We've showcased Note 11(d) from Reliance Infra's financial statements because it contains figures for the premium payable to National Highways Authority of India (NHAI). According to this ↗ ET article, NHAI premiums are payments made by construction companies to NHAI in build, operate, and transfer (BOT) projects. We're considering NHAI premiums as a component of total debt.

The total debt can be calculated as

`₹11,758.86 + ₹2,541.37 + ₹2,765.28 + (₹272.31 + ₹2,206.92) + ₹13.98 + ₹67.61 = ₹19,626.33`

and the shareholders equity is `₹11,621.82 crores` which gives us a debt to equity ratio of `1.68`.

Note that comparing the debt to equity ratio of companies from different sectors or industries isn't helpful and often misleading. Simply put, different sectors, or industries, have different operational and financial aspects. IT companies are generally cash rich and don't require a lot of capital compared to construction companies so it makes sense that the debt to equity ratio of IT companies would be lower than that of banks & non-banking financial companies (NBFCs) whose business model depends entirely on borrowing money from one entity and loaning it to another.

Another thing to keep in mind is that companies at different stages of their business cycle may have varied debt to equity ratios, so comparing their values may not be perfectly intuitive. One company may be in its expansion stage while another may be focusing on winding down its debt. Companies of different scales may also yield varied debt to equity ratios. This is because cost of debt is often dependent on a company's size and can affect a company's decision to take on more or less debt.

- National National Highways Authority of India allows premium rejig for 9 highway developers ↗ | archive.org link ↗ | archive.is link ↗

EXCEL

Excel for Fun and Profit

Intro to excel calculators and spreadsheets, and how to use them for your finances

Prelude

What's the most popular programming / coding language in the world?

Hint: It's not Java or Python or JavaScript or C or C++ or whatever Tiobe index has it on top these days. Nor is it HTML, nor CSS, for that matter.

It's Excel *formula*! Or simply, just excel. Per estimate, 99% of automation out there, have been written in Excel's inbuilt programming paradigm.

Excel as a language gives you powerful primitives, that are easy to pick up, and one can start using on real world datasets, to address real needs every type of businesses face.

Most of you've guessed it already, but for the sake of clarity, we should explicitly mention it - Excel, the programming language; is **different from Microsoft's MS Excel application**. Excel, the programming toolkit, is the core engine of Microsoft Excel ↗.

But there happens to be other applications as well, which offer *Excel* functionalities - Google Sheets ↗, for instance.

In this series, we cover how you could harness this power for yourself.

Before you hope to be a DIY investor, you need to be comfortable as a DIY excel user.

No more asking others to share their pre-built excel calculator templates, to track your monthly budget or compute XIRR of your stock portfolio.

You'll feel empowered to build these on your own, from scratch; and maintain or update the same.

Prerequisites

- Familiarity with Basic Math

  You don't need to be a programmer or software developer in your day job.

  If you know some basic Math, like addition / subtraction / multiplication / division; it's good enough.
- Access to Google Sheets or MS Excel

  Excel as a language is fantastic, and if you can afford an Office 365 license, great for you.

  But most of us cannot or wouldn't want to. Google Sheet supports most Excel functionalities as is, that we'd cover here.

  If you've a Google account or G-Suite account; you can use Google Sheets for free ↗.

  LibreOffice ↗ has its own implementation, called Calc. It would most likely work as well but we cannot confirm this.

  On Mac OS X and iPhone / iPad, Apple Numbers app ↗ should be fine too.

  In this series on excel, we'll stick to using Google Sheets. There'll be some chapters where we'll explicitly call out how to do something specific, in MS Excel. But most of the series would focus on using one single tool - Google Sheets.
- Access to a desktop / laptop / workstation is preferable

  It's not a hard requirement; that without it, you won't be able to proceed at all.

  But given this is a bit programmable in nature, having access to more real-estate on your screen is desirable.

It isn't as if you cannot do without it, but you'd have a better time if you could get your hands on a laptop or desktop or even a workstation.

How to make the most of it

This corner of our wiki is bit different. It's much more hands-on, than other series and topics on our wiki.

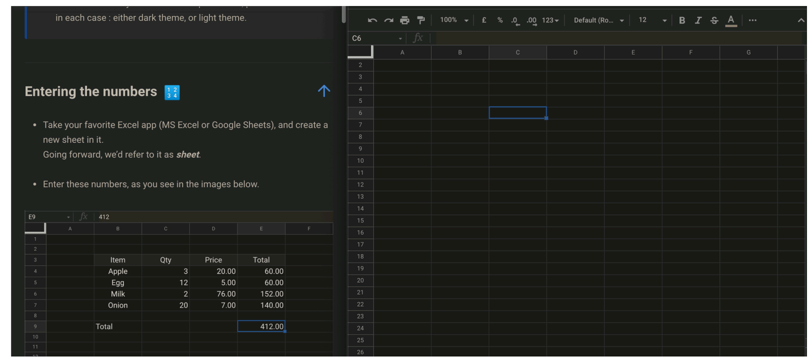
It requires your active involvement and practice. Just like you cannot learn swimming reading a book on swimming, if you don't pause and practice, this series would be of no use to you.

Reading passively is comfortable consumption. Practicing and exploring is active assimilation.

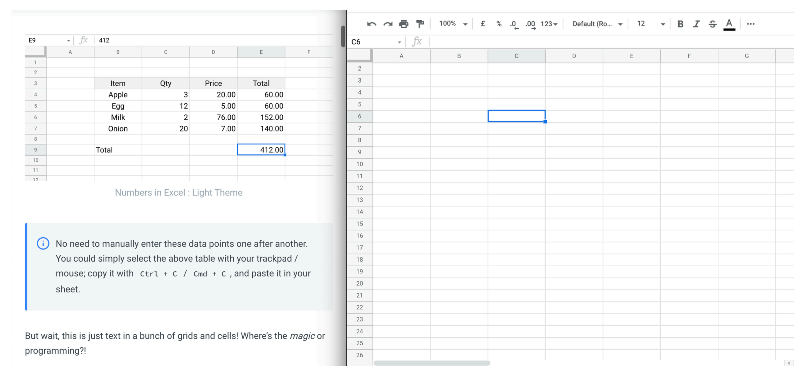
We expect you to read small bits of text, and try that out in the excel sheet or spreadsheet at the same time. In fact most of your time should be spent playing around with formula and functions, compared to reading content from this series.

However, we're also mindful of the fact that it'd involve context switch. It's no mean task having to read, then switch to a spreadsheet, then come back again to read next paragraph or section.

Hence we recommend this setup as shown below



Recommended Setup - Dark Mode



Recommended Setup - Light Mode

That is, split your screen in a way that the wiki is on your left, and your spreadsheet or excel window is on your right - both visible and accessible at the same time.

If you've a multi-monitor setup with external displays, even better.

You don't have to follow this exact setup. Maybe you've other preferences. But we do recommend giving it some thought, that you remove the constant frustration of switching between tabs.

Images and Videos

As you progress throughout the series, you'd notice we've images and videos, to explain and guide you through each step; in addition to textual steps.

For images, we provide both dark and light mode images, for same screenshots.

Most blog posts / articles you'd read, would have either dark mode, or light mode images. It's optimized for the author of the piece (i.e. if author is used to dark mode, you'd get dark mode; and vice versa).

We provide both, because we believe this should be optimized for consumption. That is, if you prefer reading a piece in light mode, you should be able to zoom in and view the light mode version of the image. And if dark mode is your thing, the dark mode image is the one you can zoom in, to check closely; by clicking on the respective image.

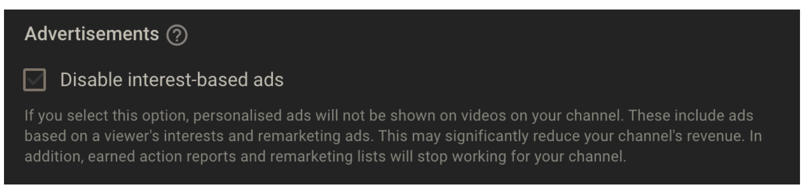
> ⓘ We'd ideally want to make only the right image visible, depending on your screen's theme (light or dark), and not both. But our present content hosting service doesn't support dynamically hiding specific set of images, so we'll explore this only in the future.

Regarding videos, we'll be using our own YouTube channel to host these videos.

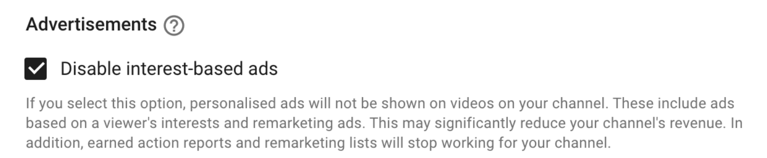
We've looked into various video hosting providers, and nothing comes close to YouTube in terms of richness of the offerings. YouTube is also optimized for low network consumption across the planet, and the de-facto video consumption platform that everyone is familiar with.

We've disabled interest-based ads, also known as targeted or personalized advertising, on our YouTube channel as we are a non-commercial project, and we've no plans of monetizing this content.

All of our videos on YouTube for this series are unlisted at the moment, and not easily discoverable through a public search on YouTube.



Ads Disabled on YouTube - Dark Mode



Ads Disabled on YouTube - Light Mode

> ⚠ Unfortunately, it looks like we cannot disable ads completely on our YouTube channel. This seems to be a limitation of YouTube. YouTube as a platform, reserves all the rights to display ads in our videos hosted on YouTube.

If you don't want to watch personalized ads on YouTube, we recommend changing your privacy settings on your Google Account. If you don't want to watch ads while browsing our videos, you may consider buying a YouTube Premium subscription.

Disclaimer

To be abundantly clear, this is **not a guided tutorial on MS Excel or Google Sheets**. There are plenty of those available, that have much more depth; if you just google or search in YouTube.

This series is all about *learning enough excel to be dangerous*, and applying it to your finances.

In addition to these, **we won't be providing ready-made excel sheets or spreadsheets**.

Why?!

To understand this, you must first understand how Egyptian pyramids look like to humans of this era.

We know when these were built, where these stand etc.

However, we don't know *how* these were built many thousand years ago (to put it in perspective, mammoths still roamed the earth when some of these were being built).

Not knowing how something was built, only makes the end product feel more magical and complex. It'd feel daunting if we had to build one like that. And our immediate knee-jerk reaction would be to accept it's beyond us to achieve the same feat.

Some might even skip the lesson and just reach for the ready-made ones.

To avoid this exact problem, we'd strive our best to not provide ready-made excel sheets or spreadsheets. We're more interested in demonstrating with step-by-step guide how to build a useful spreadsheet or excel sheet yourself.

Reactive UI & Updates

Reactive UI : Data Chaining and Updates in Excel with Formula and Functions

Intro

Consider a sample receipt from your local *kirana* store, that looks like this

Item	Qty	Price	Total
Apple	3	20.00	60.00
Egg	12	5.00	60.00
Milk	2	76.00	152.00
Onion	20	7.00	140.00
Total			**412.00**

In real stores, they won't issue receipts with four columns. But for the sake of this discussion; let's assume they do provide such detailed tabulation.

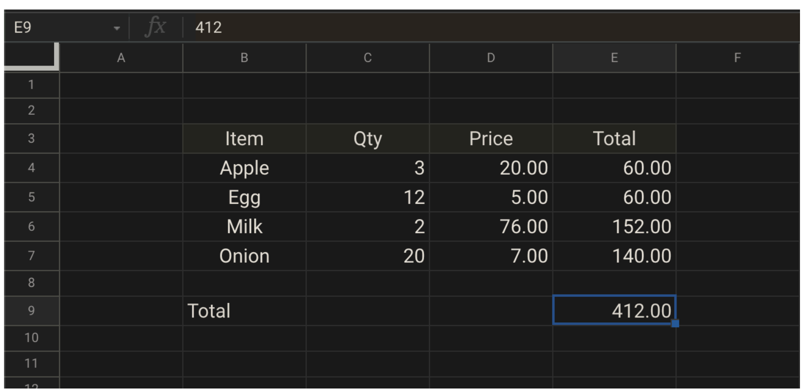
Your task is to find out if the tally is correct.

We can use Excel for this.

> ⓘ In this chapter, you'd see images / videos in both dark and light theme. Based on your comfort and preference, pick one of these in each case : either dark theme, or light theme.

Entering the numbers

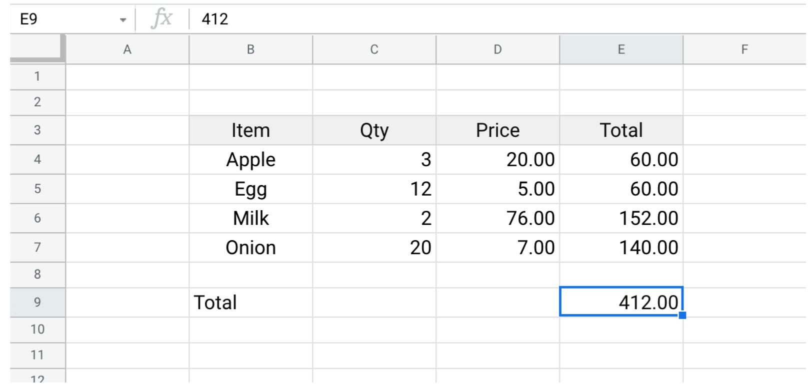
- Take your favorite Excel app (MS Excel or Google Sheets), and create a new sheet in it.
  Going forward, we'd refer to it as ***sheet***.
- Enter these numbers, as you see in the images below.



	A	B	C	D	E	F
1						
2						
3		Item	Qty	Price	Total	
4		Apple	3	20.00	60.00	
5		Egg	12	5.00	60.00	
6		Milk	2	76.00	152.00	
7		Onion	20	7.00	140.00	
8						
9		Total			412.00	
10						
11						

Numbers in Excel : Dark Theme

13/04/2025, 11:10 r/IndiaInvestments



	A	B	C	D	E	F
1						
2						
3		Item	Qty	Price	Total	
4		Apple	3	20.00	60.00	
5		Egg	12	5.00	60.00	
6		Milk	2	76.00	152.00	
7		Onion	20	7.00	140.00	
8						
9		Total			412.00	
10						
11						

Numbers in Excel : Light Theme

> ⓘ No need to manually enter these data points one after another. You could simply select the above table with your trackpad / mouse; copy it with `Ctrl + C` / `Cmd + C`, and paste it in your sheet.

But wait, this is just text in a bunch of grids and cells! Where's the *magic* or programming?!

Hold your horses, we're getting there.

Formula in Excel

Now comes the part, where we sit back and let Excel formulas operate on the numbers, then cross-check the results for us.

If you notice carefully, **some of the numbers in the above table could be derived from other numbers**.

This is the starting point of an excel tracker: using excel formulas to *derive values from other values.*

Notice the 4th column, price of all items for a given item. It's basically column 2, multiplied by column 3.

For example, in first row, for `Apple`, each apple costs 20, and there are 3 of these purchased - therefore, the 4th column has `20.00 x 3 = 60.00` as its value.

How to represent this relationship, `column 4 = column 3 x column 2` in Excel lingo?

In Excel, every cell can have either a static value, or a value derived from another relationship.

So far, we've used only the former, when we copy-pasted the table into our sheet. Now it's time to do the second one.

- Click on the cell in 4th column / 1st row, that has total price for all the apples.
  In the above image, that's cell E4 (column E, row 4); but can be a different cell in your sheet.
- Hit `delete` or double-click on the cell and use `backspace` to delete the number.
- Start by adding an equal-to symbol, or `=`. In Excel, an `=` starts a *formula* or relationship.
  You'd notice how the color changes as soon as you type in that `=`.
- Click on the third column value in the same first row, it should automatically populate the cell ID in the active cell which already had the `=`.
- Type `*` in your keyboard. In coding, `*` stands for multiplication, and not `x`.

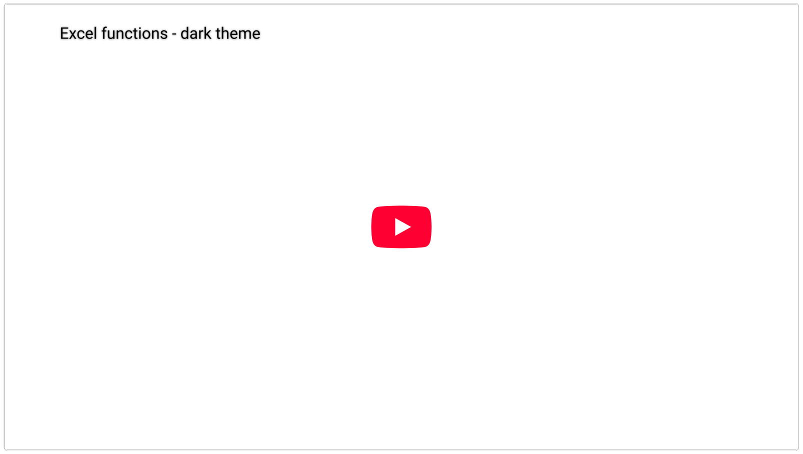
You should see `=` followed by cell ID of third column in first row (`D4` in our above image), and then `*`.

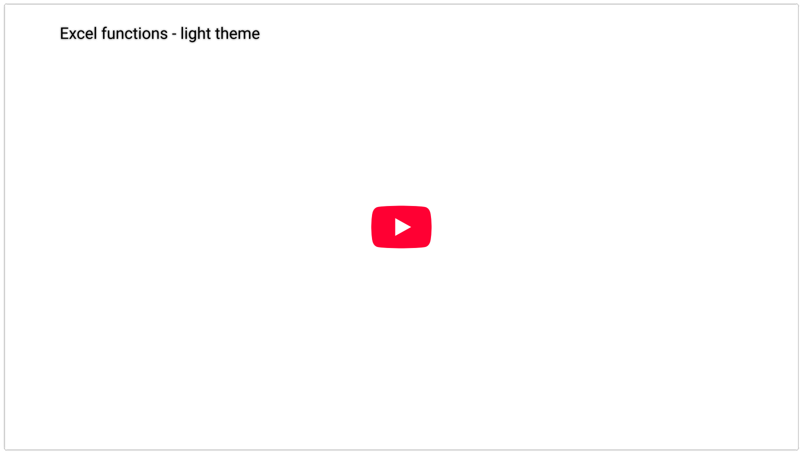
- Now click on the second column, first row.

  It'd also add cell ID of that cell after `*` in the active cell. Based on our above image, it would look like `=D4*C4`.

  Exact cell ID might be different for your sheet; but you should see these three things after `=`, in your cell.

Here's a video to guide you along (both in dark and light theme)





If you've done everything as demonstrated / instructed above, you should have same exact value of 60 in that cell, as you'd earlier.

This validates the number was correct, your local *kirana* store didn't have a broken calculator or tried to stiff you.

Collections and Lists

So far, you've validated that **only one number entry was correct**.

There are three more entries to validate for each item. And one final total, of amount 412.

But what if this list was bigger? A typical visit to the store, for weekly groceries, can bring home 20-30 items of various quantities.

It'd be quite tedious to validate each of those entries, and then validating the final tally.

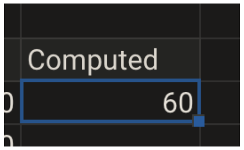
Well, fear not, this is where Excel's famous *drag operation* comes in

Idea is that if you know what happens to one entry, and you've a list, it's easy to convey to Excel *hey, do what you did for that one row, to all the rows.* Similarly, can be done for columns as well.

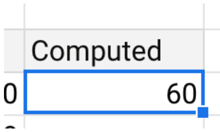
Follow these steps to validate each price computation row:

- Hit `Ctrl + Z` / `Cmd + Z` to undo your changes.
- Create a column next to the last column *Total*, and name it *Computed*.

  We'd leave the *Total* column untouched, and keep our computed results from Excel formula in this newly created column.
- In the first row of this new column, enter the same formula, as you'd done it earlier - start with `=` symbol, then select the two columns and separate the cell IDs with `*`.
- Go to the bottom right end of this newly created cell, there's a small square.



Notice the small blue square bottom-right of highlighted cell - Dark Mode



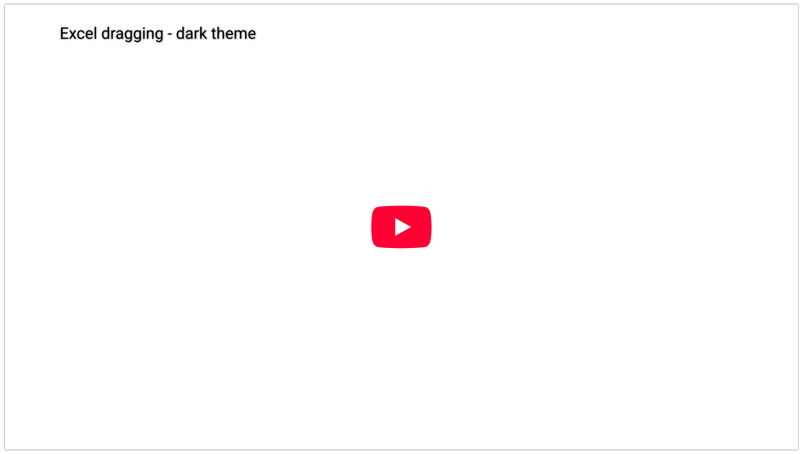
Notice the small blue square bottom-right of highlighted cell - Light Mode

Click on that, and while it remains clicked / pressed, drag it down to cover the other rows. You'd notice how the formula gets copied on the cells in other rows, but somehow magically Excel keeps selecting right cells from that row (and not from the first row).

For example, if your first row's relationship was `=D4*C4`, then second row would get `=D5*C5`, third row would get `=D6*C6`, and so on and so forth.

Excel would keep incrementing row numbers in cell ID as you drag vertically down.

Here's a video to help guide you alone with the above steps:



https://www.youtube.com/watch?v=oUmZ:Ir-QVc&feature=emb:logo
www.youtube.com

Assuming you've done everything right up to this point; the numbers in the newly created column, for a given row, should be exactly same as the penultimate (last but one) column.

In-built formulas

If you notice, we still haven't validated the final total - summing up all totals from each of the rows.

One way to go about it, would be to start adding up each number from the *Total* column, or *Computed* column.

Which would be feasible when there are only 4-5 rows. How would that work if there were 40-50 rows? Manually clicking on each of these cells, after typing `+` would be troublesome, and prone to human error. What if you miss one?

Enter *in-built formula.*

Excel has lot of in-built formulas, that operate on a range of data.

In this case, `sum` function comes in handy.

We just need to invoke `sum` function and provide it range, it'd process the numbers and return the value adding up these numbers.

Follow these steps:

- In the *Computed* column, select the cell next to the cell which has total value of 412.
- Enter `=`, then type `sum` and open `(`.

  It'd open up some tooltips that explains what `SUM` (yes, all capitalized, but when you type it in, you can use lower-case, Excel would pick it up) function does.
- Select the range (in this case, rows) from the computed column, dragging your mouse / trackpad over that range.

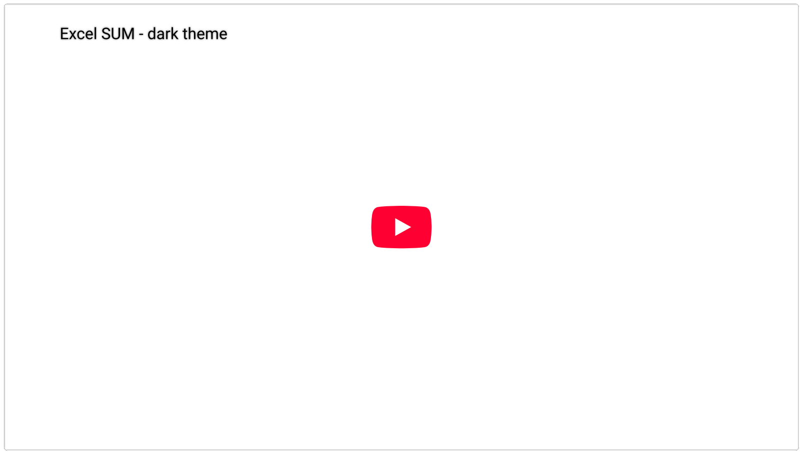
  In the above image / videos, that'd be `F4` to `F7`.

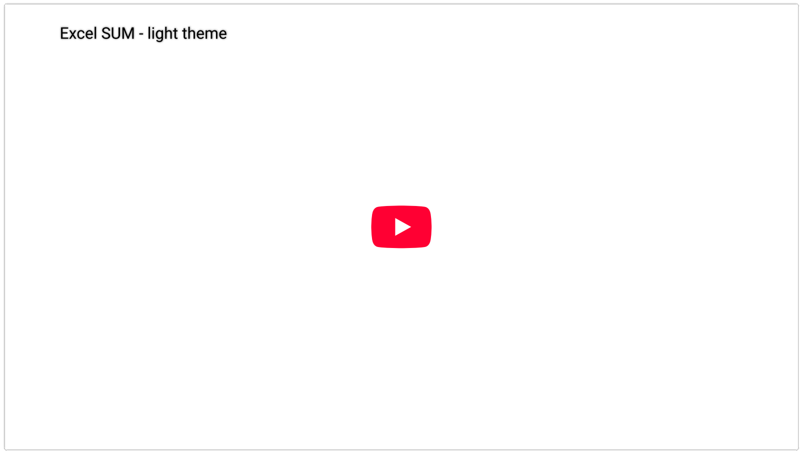
  You could alternatively, manually type these ranges in. It'd be in the format `StartID:EndID`. For example, `=sum(F4:F7)`.

  Since addition is order-independent (that's a fancy way of saying, 2 + 3 + 4 and 4 + 3 + 2 are same), you can also write it as `sum(F7:F4)`, the order doesn't matter.

  Hit `Enter` or `Return` on your keyboard after you've entered the formula.

Here's a video to help guide you along (available in both dark & light themes)





If you've done everything as instructed, up to this point, it should look as shown below

F9 =SUM(F4:F7)

	A	B	C	D	E	F	G
1							
2							
3		Item	Qty	Price	Total	Computed	
4		Apple	3	20.00	60.00	60	
5		Egg	12	5.00	60.00	60	
6		Milk	2	76.00	152.00	152	
7		Onion	20	7.00	140.00	140	
8							
9		Total			412.00	412	
10							

Excel SUM Function Result : Dark Theme

F9 =SUM(F4:F7)

	A	B	C	D	E	F	G
1							
2							
3		Item	Qty	Price	Total	Computed	
4		Apple	3	20.00	60.00	60	
5		Egg	12	5.00	60.00	60	
6		Milk	2	76.00	152.00	152	
7		Onion	20	7.00	140.00	140	
8							
9		Total			412.00	412	
10							

Excel SUM function result: Light theme

Reactive UI

We started this note with a fancy title, ***Reactive UI.***

Reactive UI means a user interface (UI) that *reacts* to "changes", and updates itself.

Idea of what Excel does at its core, has been around since Visicalc (the OG Excel app) came out in 1969. But in the history of computing, function-driven updates go back to the early days of functional programming / lambda calculus, 1930s.

If these terms scare you, then know that you have no reason to learn these to get efficient with Excel.

But it helps to put the history in context. That *reactivity* is important, and computer scientists have been after this for decades, and it keeps getting better and better.

Excel is as mainstream as esoteric mathy concepts of functional reactive programming has ever been.

Excel helps you build apps, with Reactive UI paradigm.

Yes, you just built a mini invoice application (AKA app), without writing any complex pieces of code. You didn't have to boot up your code editor or IDE, run debuggers, compile some pieces of it, fight with error messages - none of these were needed.

To see how it *reacts*, change any of the values in the column:

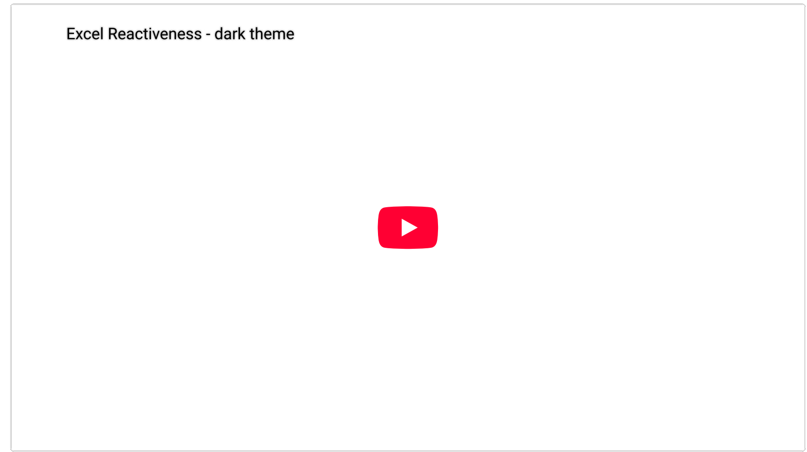
- Update quantity of Apple, to be `4`.

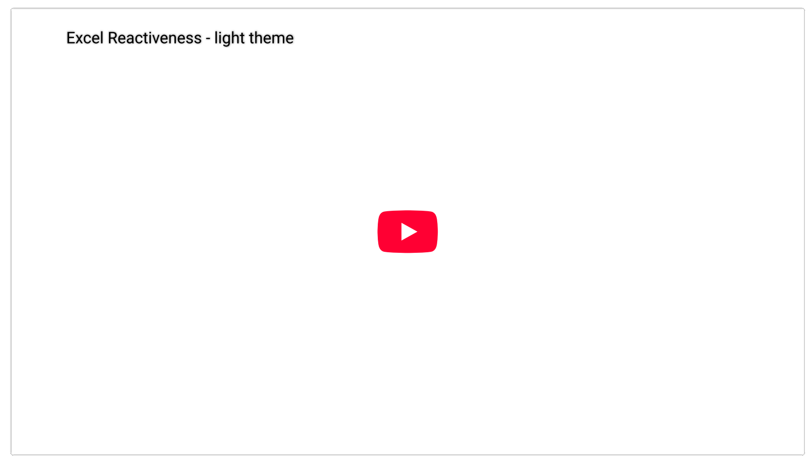
Notice that cells containing formula immediately propagates the update to other cells. Total price of all apples change to 80, and total price of all items go up from `412` to `432`.

The total sum does not directly depend on the quantity of apples, it was dependent on total price of apples, but Excel correctly inferred that needs to update as well because of *chaining dependency.*

Also note, other cells that are not affected by this update won't change their values.

Here's a video to help demonstrate this:





Recap

Let's reflect on what we've learned so far, and how to practice more!

- `=` starts a formula or function in Excel, where you can refer to other cells, and describe a relationship.

This lets Excel compute values based on other cells.

Due to in-built *reactivity*, when one value changes, all functions or formulas that use that value (or any value that's derived from that value), would update automatically.

- In Excel, `*` stands for multiplication. And not `x`.
- Dragging allows Excel to infer a pattern and create formulas on-the-fly, to apply on other rows / columns.

  Excel updates row IDs in cell IDs, if dragging is vertical. It updates column IDs in cell IDs, if dragging is horizontal.

  Since dragging in any direction can be some combination of horizontal and vertical moves, Excel can always deduce the patten and update row / column IDs accordingly in formulas.
- Excel has ton of in-built formulas / functions, and would automatically prompt what inputs these functions would accept.

  These can be used in a case-insensitive way.

  `SUM` is one such function, that sums up all values in range.

  List of functions in MS Excel ↗
  List of functions in Google Sheets ↗

Using External Data : Google Finance

Fetching data for ticker(s) using GOOGLEFINANCE() function in Google Spreadsheet

Intro

Almost all popular Excel-compatible applications, such as MS Excel or Google Sheets etc., allow *programmatically* fetching data from external sources.

What are external sources, in this context?

Anything external to your Excel sheet, is an external resource. It can be a database, another excel workbook, a file with data in it (CSV format), or an API endpoint out there on the internet.

MS Excel offers in-built *Get Data* tool ↗ to just copy-paste an endpoint URL, and fetch data from that.

With Google Sheets, one might need to write some Google Apps javascript ↗ to fetch and process data from a remote endpoint, before feeding that back to the sheet.

There are even dedicated tools and services, like IFTTT, RapiAPI, Mixpanel etc., which offer a way to integrate lot of service endpoints with your excel sheet.

In this section, we'd keep ourselves limited to `GOOGLEFINANCE` function, that fetches financial data from Google Finance ↗. And preferably, use Google Sheets ↗; because most likely, your MS Excel application doesn't come with this in-built function.

> ⚠ ©️ 🔒 Do go through usage restriction section in `GOOGLEFINANCE()` documentation by Google ↗, to make sure you using this in your spreadsheets, is compliant with Google's terms of usage.

Problem Statement

Plenty of economists point out how NASDAQ has stayed below its ATH (**A**ll **T**ime **H**igh, i.e. a price value in time-series chart that's higher than all past values) of 2000s, for the next ~15 years, before reaching the same high around 2015-16.

NASDAQ Chart - Dark Mode

NASDAQ Chart - Light Mode

In the above chart(s) / screenshot(s), if you check the horizontal line for 5000, it touches NASDAQ twice - once in 2000, again in 2015.

NASDAQ reached its peak value of approximately 5048.62 (closing price), on 10th March 2000; only to re-attain this same previous ATH again on 22nd May 2015.

13/04/2025, 11:10 r/IndiaInvestments

However, people don't invest once then wait 15 years for returns to materialize.

In this section, we'd look at how it'd have been like for the average retail investor, who had been investing with DCA (**D**ollar **C**ost **A**veraging, similar to SIP or **S**ystematic **I**nvesting **P**lan, in Indian context).

> ⓘ This is a reasonable assumption to make. It's common for people to get monthly paychecks, and invest their savings via some automated process through their banks or brokers.

For the purpose of this exercise, we'd assume the following:

- Purchase transactions for investments, are processed on 1st of month - from 1st April 2000, to 1st May 2015
- We check investment corpus valuation as on the date of next time NASDAQ crosses its previous peak, i.e., 22nd May, 2015
- Investor invests $1000 / month (exact amount would scale up or down, with this, so actual amount is not that important)

Our goal is to estimate if investor would've been in losses, or if they had made gains. And if so, how much in losses or gains.

Planning

It is instructive to plan a bit ahead, before we start modeling this problem with a spreadsheet. Whenever you find yourself in a position having to create an excel sheet, start with planning first.

In planning phase, we'd think of what we ideally need to model this problem.

Based on preliminary analysis, it's obvious we'd be getting NASDAQ data from Google Finance, using `GOOGLEFINANCE` function.

But how much data? If we are simulating the transactions over 15 years, do we need data for everyday markets were open, for 15 years!?

Turns out, an investor would invest (15 x 12 + 1) = 181 times, both start date of 1st April 2000 and end date of 1st April 2015 included. In this particular case, one extra transaction for month of May in 2015; therefore 182 total transactions.

On top of this, we'd need to know NASDAQ price of 22nd May 2015, adding one more data point / row in the sheet - total 183 rows.

Which price should we consider? Generally, a ticker like NASDAQ can have data every second, but since we're trying to simulate the situation for an average investor, let's consider closing price of NASDAQ on each day.

Now comes an interesting impediment we should consider - what if 1st of the month was a public holiday / non-business day / weekend? Markets weren't open, hence data won't be available for such a day.

In this case, the transaction would be processed on the next available business day. How do we find out if a given day, say 1st November 2004, was a business day or not? More importantly, if it wasn't a business day, what was the next business day? 2nd Nov, or 3rd Nov, or 4th Nov?

Fortunately, there's an in-built solution for this, which we'd discuss in some detail later.

Our approach:

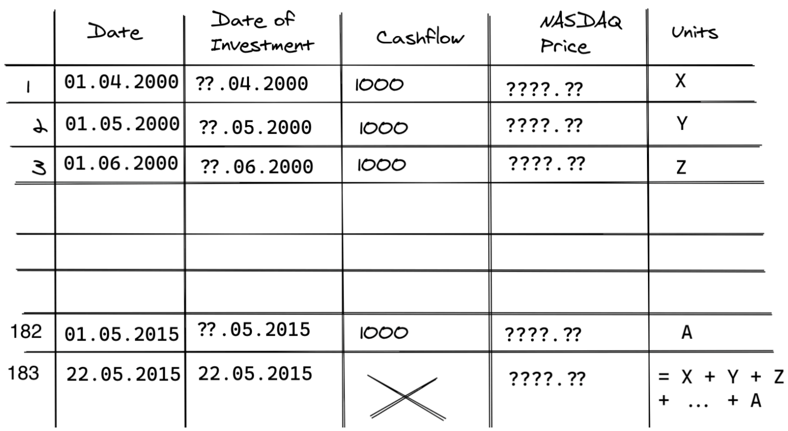
- Get data for NASDAQ ticker from Google Finance, starting from 1st April 2000, up to 22nd May 2015, 182 data points.

It'd create 182 rows.

- We would need 5 columns for the following purposes:
  - `date`
  - `actual date of investment`
  - `cashflow / amount` ($1000 every month)
  - `nasdaq closing price that day`
  - `units purchased`
- Finally, in one last row, we'd invoke the in-built `SUM` formula, to add up all units purchased over the years. Then multiply it by NASDAQ closing price, as on 22nd May 2015, to get corpus value as on that date.

	Date	Date of Investment	Cashflow	NASDAQ Price	Units
1	01.04.2000	??.04.2000	1000	????.??	X
2	01.05.2000	??.05.2000	1000	????.??	Y
3	01.06.2000	??.06.2000	1000	????.??	Z
182	01.05.2015	??.05.2015	1000	????.??	A
183	22.05.2015	22.05.2015		????.??	= X + Y + Z + ... + A

Planned Table (dark mode)



	Date	Date of Investment	Cashflow	NASDAQ Price	Units
1	01.04.2000	??.04.2000	1000	????.??	X
2	01.05.2000	??.05.2000	1000	????.??	Y
3	01.06.2000	??.06.2000	1000	????.??	Z
182	01.05.2015	??.05.2015	1000	????.??	A
183	22.05.2015	22.05.2015		????.??	= X + Y + Z + ... + A

Planned Table (light mode)

Implementation

Follow these steps, to execute the plan that we've just made above.

- Create a new sheet in Google Sheet. We'd refer to it as the ***sheet***, going forward.
- Start with creating five column headers:
  - Date
  - Actual Date
  - Cashflow
  - Price
  - Units

  Reason to create an extra date column as the second column, is to also list actual date of investment. It can be 1st of month, or first working day after 1st of month, if 1st of month is a holiday.

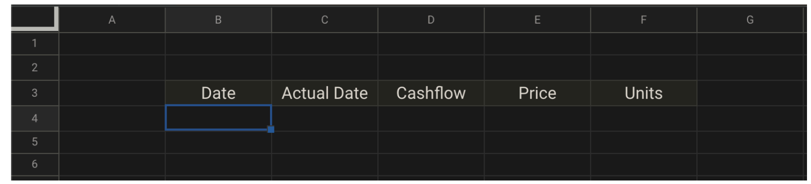


Table Columns (dark mode)

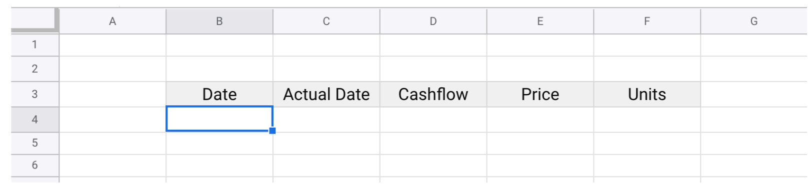


Table Columns (light mode)

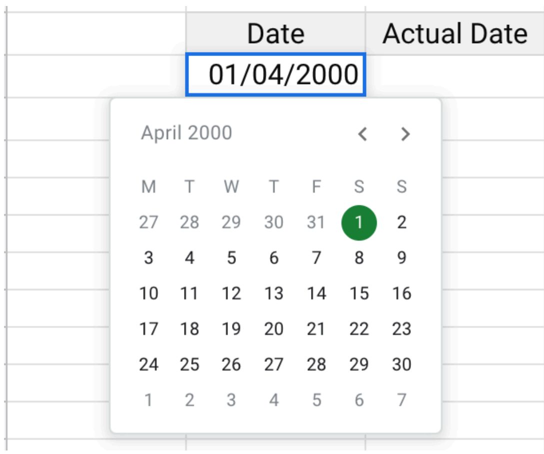
Date Formatting

Before we proceed any further, we'd like to figure out how date formatting works in Google Sheet, and get a taste of what fetched data from `GOOGLEFINANCE` looks like.

Follow these steps:

- Try adding a date in your sheet: 1st April, 2000. In this example, we're writing it as `01/04/2000` (in `DD/MM/YYYY` format). But you're free to use any format that's commonly used.
- Double tap or double-click on this. If the date entry is correct, Google Sheets should realize that it's pointing to April 1st, 2000.

Date Format in Spreadsheet (dark mode)



Date Format in Spreadsheet (light mode)

Chances are, it might detect it as 4th January, 2000. Or might not even detect it as a date at all!

A good way to inform your sheet that this entry be treated like a date, is to use formatting, and providing the date format.

Use `Format` -> `Number` -> `Date` for that. If `DD/MM/YYYY` is not listed as a format, you'd have to add it with custom format, under `Format` -> `Number` -> `More Formats` -> `More Date and Time Formats`.

Alternatively, you can use the calendar pop-up widget to select April 1st, 2000. It might not be in desired format, but we can easily work around that.

Using GOOGLEFINANCE()

Once we've entered a valid date and it's been recognized by Excel to be a valid calendar date, we can invoke in-built `GOOGLEFINANCE` function.

`=GOOGLEFINANCE(".IXIC", "close", <date>, 1)`

`".IXIC"` is the indicator / ticker for NASDAQ on Google Finance. You can replace this with other tickers, like `"GOOG"`, or `"MSFT"`, or `"TSLA"`; to fetch data for these tickers.

`"close"` means closing market price. Other values can be `"low"` (lowest price of that day), `"high"` (highest price of that day) etc.

Here, `<date>` means referring to the cell which has the date in. Since we've made sure it's by system as a valid date, the Google Finance API would be able to use it.

> ⓘ Notice the usage of `""` to wrap various texts inside the function. We could have also used single quotes (`''`) to wrap these texts.

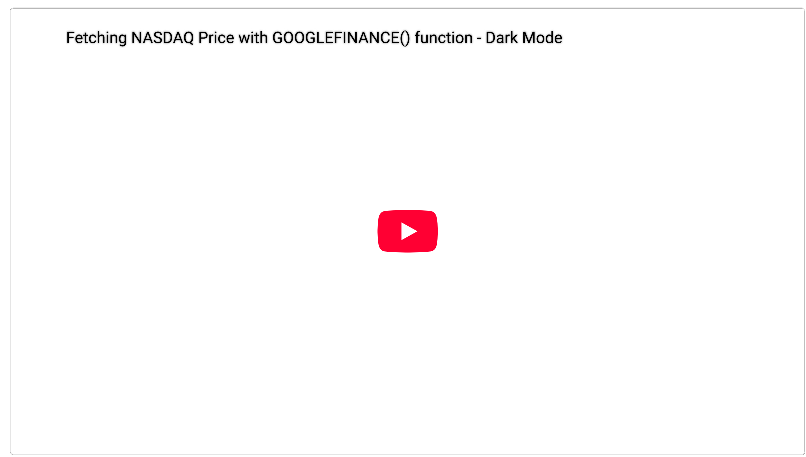
The last argument, `1`, is interesting, and takes care of our issue from earlier, about knowing working date on or after 1st of month.

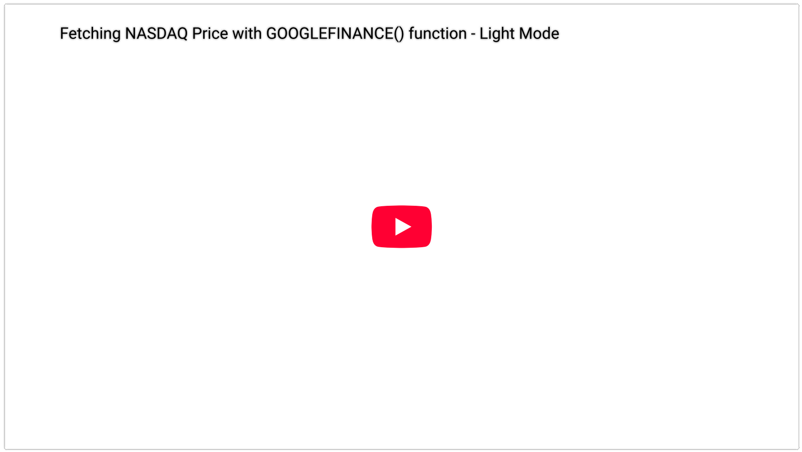
It basically tells Google Finance to return one single data entry. Check what happens if you switch this to `7` or any other higher number.

If a date is not a business day, Google Finance won't have data for NASDAQ closing price on that date. Instead, it'd look for 1 dataset for next available working day, which is exactly what we want!

Once you enter these in a cell, link to the date from the other cell; and hit `Enter` or `Return` on your keyboard; the cell would switch to display `Loading...`, then print a small sub-table that looks like this:

Date	Close
03/04/2000 16:00:00	4223.68





Using INDEX()

Since `GOOGLEFINANCE` returns a table, and not just a single data, we need to find a way to extract right data from these and put these in two cells.

In particular, we need two data points from this table:

- the actual date (in this example, 1st April 2000 was an off-day for the market, markets opened again on 3rd April 2000)
- price on that date

Enter another popular in-built formula, that extracts value from table & sub-tables - `INDEX`

We're receiving data for only a single trading day, as confirmed by 4th argument to the `GOOGLEFINANCE` function. This is how the sub-table returned by `GOOGLEFINANCE()` function would look like.

Date	Close
03/04/2000 16:00:00	4223.68

We're interested in the closing price, 4223.68 on 3rd April 2000.

Therefore, this table returned by Google Finance would always have closing price at (2,2) position.

> Here (2, 2) means 2nd row, 2nd column.

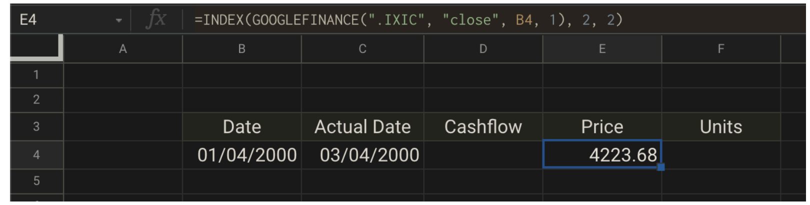
We can take the result of `GOOGLEFINANCE` call, and pass it into `INDEX` function, like this

```
result = GOOGLEFINANCE(".IXIC", "close", <date cell>, 1)
price = INDEX(result, 2, 2) # extract value in (2,2)
```

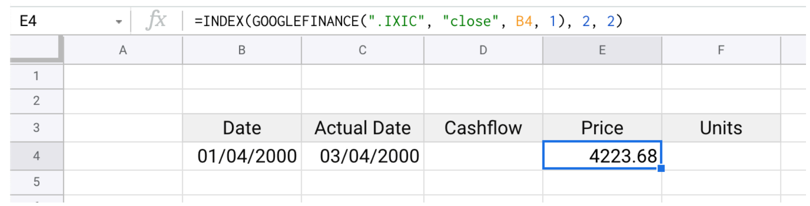
But instead of two calls, spread over two cells, we can also inline it


```
INDEX(GOOGLEFINANCE(".IXIC", "close", <date cell>, 1), 2, 2)
```

Similarly, for the `actual date` column, we use (2,1) with `INDEX`: `=INDEX(GOOGLEFINANCE(".IXIC", "close", <date cell>, 1), 2, 1)`

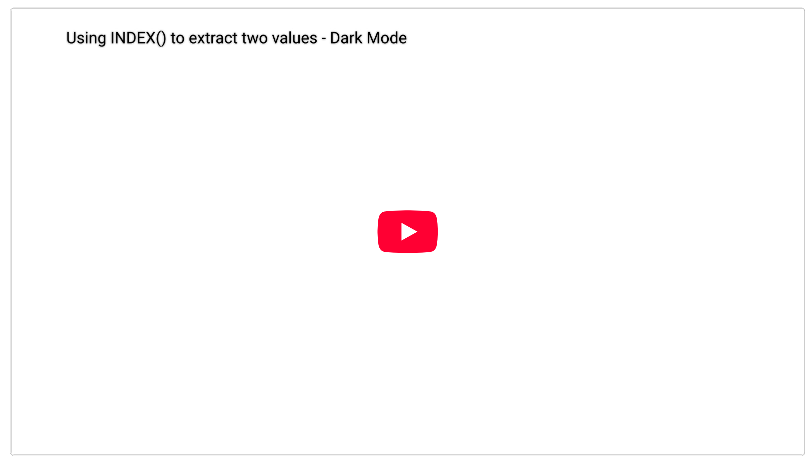


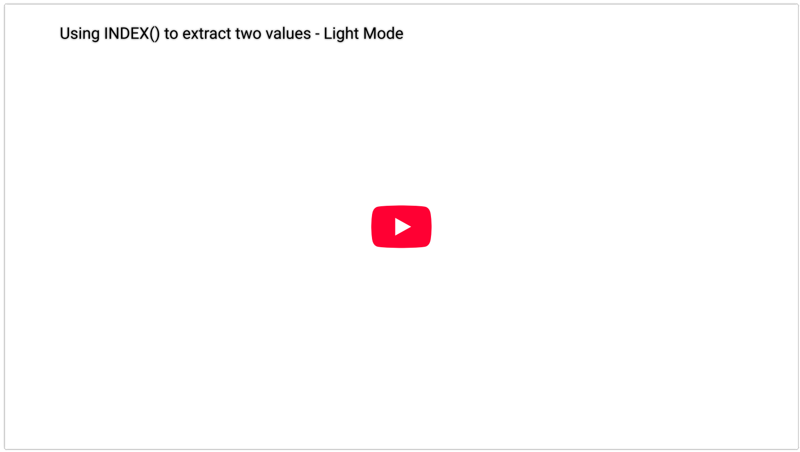
Using INDEX to Extract Value from a Position (Dark Mode)



Using INDEX to Extract Value from a Position (Light Mode)

Also refer to following video





Repeating Patterns

Now that we've figured out how to get the necessary data for one single row, we can get the same for all our other rows / dates.

Excel is good at detecting patterns and if you use the drag option, it fills the rows with closest value it can deduce.

Here, we want to create dates that are one month apart.

To help Excel understand this pattern, one needs to enter the date of next month; i.e., 1st May, 2000; and then let Excel drag do its thing.

Presently, this is how the table looks in Excel:

Date	Actual Date	Cashflow	Price	Units
01/04/2000	03/04/2000		4223.68	

We can add one more entry in the first column, below current row.

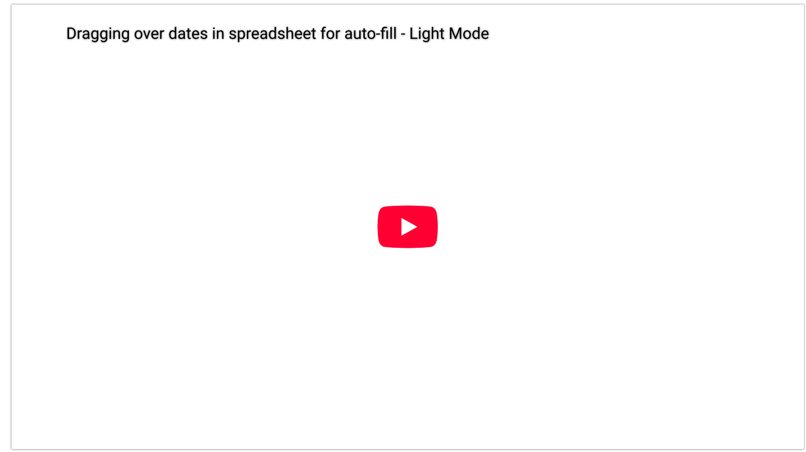
Date	Actual Date	Cashflow	Price	Units
01/04/2000	03/04/2000		4223.68	
01/05/2000				

- Now select these two dates, drag by the swollen rectangle at the bottom right border. Since we'd have 182 data points that follow the pattern of being one month apart; if the starting row is 4, where we have to stop dragging for auto-filling is (182 + 4 - 1) = 185. Basically, keep dragging and auto-filling until you reach 1st May 2015. If you exceed this exact date while dragging and auto-filling; after releasing the mouse / trackpad pointer, you can select the extra date entries, and delete those.
- Once this is done, we are about to make Google Finance fetch us all data of all these 182 days (or nearest trading days).

  Go to first entry in `Actual Date` column, drag the small square till you get to the end of it, so that there's a `Date` entry for each of the entry in `Actual Date`.

13/04/2025, 11:10 r/IndiaInvestments

https://youtu.be/0u:XQvMzfgQ
youtu.be



⚠️ 🚨 Some cells might have `#NA` and say that there's an error in getting data from Google Finance. This is a quirk of the `GOOGLEFINANCE()` query. This can be fixed easily, but would require some manual intervention.

Fixing Broken Cells ⛏️

Notice that we're wrapping the result of Google Finance query, in `INDEX`, and extracting the entry from cell (2,1) for actual date.

It actually doesn't matter how many rows of data we request from Google finance, we would still find closing price nearest trading day on or after the provided date.

Double-click on one such cell, change `1` to `2` in last argument in `GOOGLEFINANCE()`. In one case, we had to change that to `3`.

The formula would now read like:

```
=INDEX(GOOGLEFINANCE(".IXIC", "close", <date cell>, 2), 2, 1)
```

Similarly, drag and auto-fill the price column. Fix `#NA` cells by tweaking the `GOOGLEFINANCE()` query.

Here's how it could look like now (a section from the sheet)

Date	Actual Date	Cashflow	Price	Units
01/12/2004	01/12/2004		2138.23	
01/01/2005	03/01/2005		2152.15	
01/02/2005	01/02/2005		2068.7	
01/03/2005	01/03/2005		2071.25	

01/04/2005	01/04/2005		1984.81	
01/05/2005	02/05/2005		1928.65	
01/06/2005	01/06/2005		2087.86	
01/07/2005	01/07/2005		2057.37	

https://youtu.be/8:d1vY4dcjQ
youtu.be

Fixing Broken Cells in Spreadsheet - Light Mode

This is a common problem with this spreadsheet function, and others have solved it with different approaches.

For example, this following *stackoverflow* answer suggests using `IFERROR()` function to re-run same query multiple times, until the `#NA` is resolved.

Original StackOverflow discussion ↗| archive.org link ↗ | archive.is link ↗

Adding Cashflow Values

In the `Cashflow` column, enter `1000` in first row. Enter same `1000` again in second row.

Select both of these, so Excel can understand the pattern (in this case, the value of 1000), and drag the small square at the bottom right to fill all the cells.

This is how the table should look like now (a small section from the sheet)

Date	Actual Date	Cashflow	Price	Units
01/12/2004	01/12/2004	1000	2138.23	
01/01/2005	03/01/2005	1000	2152.15	
01/02/2005	01/02/2005	1000	2068.7	
01/03/2005	01/03/2005	1000	2071.25	

01/04/2005	01/04/2005	1000	1984.81	
01/05/2005	02/05/2005	1000	1928.65	
01/06/2005	01/06/2005	1000	2087.86	
01/07/2005	01/07/2005	1000	2057.37	

ⓘ We've avoided using any units for currency, such as `$`. Just plain 1000, with no units.

Units Column

Now we just need to fill out the last column

Number of units purchased would be same as cashflow divided by price.

Note that just like multiplication is not `x`, rather denoted by `*` (asterisk); division is denoted by `/` (front slash), and not any division symbol.

In the first row, add formula starting with `=`, then `D4 / E4` (E4 is the cell with price, D4 is the cell with cashflow).

After dragging and filling all cells against each date, this is how the table should look like (a section from the table)

Date	Actual Date	Cashflow	Price	Units
01/12/2004	01/12/2004	1000	2138.23	0.4676765362
01/01/2005	03/01/2005	1000	2152.15	0.4646516274
01/02/2005	01/02/2005	1000	2068.7	0.4833953691
01/03/2005	01/03/2005	1000	2071.25	0.4828002414
01/04/2005	01/04/2005	1000	1984.81	0.5038265627
01/05/2005	02/05/2005	1000	1928.65	0.5184973946
01/06/2005	01/06/2005	1000	2087.86	0.4789593172
01/07/2005	01/07/2005	1000	2057.37	0.4860574423
01/08/2005	01/08/2005	1000	2195.38	0.4555020088

At this point, all five columns should be filled, for all 182 rows

Final Tally

Finally, we need to tally the values as on 22nd May 2015

At the bottom of the sheet, where the last row has ended for date `01/05/2015` - below that, in a new row, add an entry for 22nd May 2015.

If you run into issues with date formatting, just copy a date, then use the calendar widget to navigate to 22nd May, 2015.

This value should be in the first column, `Date`.

In second column, we'd invoke the Google Finance formula as we did earlier. You could also just drag from the previous cell above it.

Similarly, drag the price column value to update the price value for 22nd May 2015.

Keep the cashflow column empty (no investment on that day).

In the units column, for this last row, invoke the `=SUM` function to add up all units, listed above that cell.

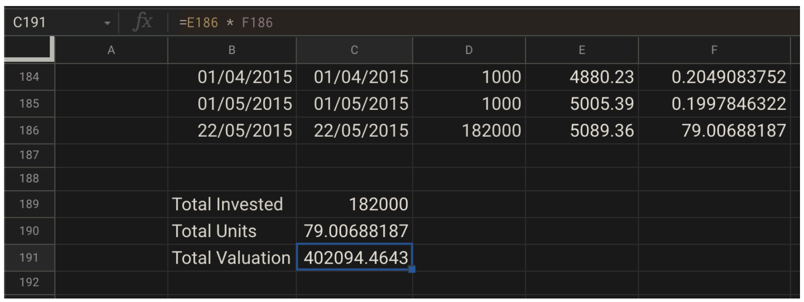
It should sum up as `79.00688187` units.

We are almost there.

Total valuation would be total number of units, multiplied by price as on 22nd May 2015.

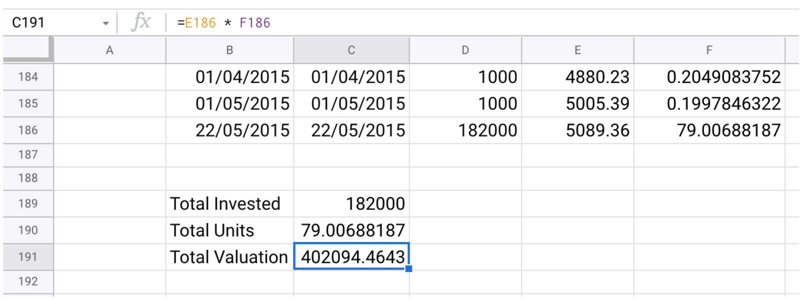
Total Invested	182000
Total Units	79.00688187
Total Valuation	402094.4643

Refer to below image(s)


C191 =E186 * F186

	A	B	C	D	E	F
184		01/04/2015	01/04/2015	1000	4880.23	0.2049083752
185		01/05/2015	01/05/2015	1000	5005.39	0.1997846322
186		22/05/2015	22/05/2015	182000	5089.36	79.00688187
187						
188						
189		Total Invested	182000			
190		Total Units	79.00688187			
191		Total Valuation	402094.4643			
192						

Final Tally - Dark Mode


C191 =E186 * F186

	A	B	C	D	E	F
184		01/04/2015	01/04/2015	1000	4880.23	0.2049083752
185		01/05/2015	01/05/2015	1000	5005.39	0.1997846322
186		22/05/2015	22/05/2015	182000	5089.36	79.00688187
187						
188						
189		Total Invested	182000			
190		Total Units	79.00688187			
191		Total Valuation	402094.4643			
192						

Final Tally - Light Mode

Overall, total invested amount would've been **182,000 USD**. And the valuation of corpus as on 22nd May 2015, would have been **402,095 USD**.

Investor would've made ~1.2x of original invested corpus in gain 😊 ↗

Wrapping Up

- We had *hardcoded* `".IXIC"` ticker everywhere in the `GOOGLEFINANCE` call.

  This would limit us from analyzing other similar scenarios.

  A good option would be to keep the ticker in a cell, then refer to it directly in the formula.

  We know Excel reacts to changes and updates the interface, hence we can also repeat the same with index funds (VTI, VOO etc.), or other tickers like `"NASDAQ:MSFT"` (Microsoft Corp.) or `"NASDAQ:GOOG"` (Google) etc. - just by updating the ticker.

  You might want to re-do the whole sheet with this change. With the power of drag and auto-fill, it shouldn't take you more than a few mins to tweak it this way!

- The goal of this exercise was to learn how to fetch data in Excel, and use that to evaluate statements such as *NASDAQ traded below its 2000 peak for 15 years.*

  Here's the **wrong** takeaway: *DCA / SIP is better than lumpsum investments, always.*

  Here's the **right** takeaway: *Returns in the investor's portfolio from same asset, over same time period, can be very different from point-to-point return of that asset.*

- We learned how to *compose* Excel functions, because we wrapped output of `GOOGLEFINANCE` in `INDEX`. This is effectively `f(g(x))`.

  It can help you build powerful primitives. Towards the end, getting an extra data point for NASDAQ on 22nd May 2015, was as simple as just dragging a cell - that's how powerful Excel can be!

  However, be cautious in using this pattern. If you're building excel trackers, such complex expressions can be hard to read and maintain.

  You yourself would be afraid of touching and changing the Excel file months down the road.

  There's no harm in breaking it into an intermediate expression. It might make it more easily readable.

Using External Data : Working with CSV Format

A close look at how to parse CSV data dumps and process the same in your excel sheet or spreadsheet

Prelude

In the previous chapter, we've seen how to get historical market data from Google Finance API.

We used `GOOGLEFINANCE()` function to get NASDAQ ticker data, over a given period of time.

However, you might have also noticed that this is not a *highly available* function. Often it can error out, and we might have to manually fix these `#NA` errors.

This is true for most publicly freely available APIs - it'd either be rate-limited, or not always be available.

In the real world, when we want to achieve something solving a common pain-point, external data might not be always available from a REST (or SOAP) API endpoint. It might not even be desirable to have it be available from a REST endpoint.

Imagine if the problem statement were to compare your portfolio performance against that of an index.

In that case, there would be two aspects to this exercise:

- importing your existing transaction history
- simulating purchase or sell transactions against an index

The first aspect - *importing your existing transactions* - might not be available from an API endpoint.

You might be using a broker or distributor or advisor, who provides you a transaction reports in a specific format, periodically.

Basically, you'd have a file which has your transactions in a specific format, and before you run any operations on that; you'd have to import that into your spreadsheet.

We could, for instance, just open the file and copy-paste data from there into our spreadsheet. But this can be error-prone, and might require more work.

Fortunately, most spreadsheet / excel applications have in-built functionalities to do a *best-effort* import for common data formats that your broker / distributor / advisor would typically use to send you these transaction histories.

We'd go over some interesting calculations that can be done upon your transaction history, that's available in CSV format, in these chapters:

CSV Format

Closer look at CSV format, and how to operate on these to display in a table format, using SPLIT() and TRANSPOSE() functions

Introduction to CSV format

CSV stands for **C**omma **S**eparated **V**alues. It's a text file, which has entries, separated by comma (`,`).

The following is an example of transaction histories in comma-separated values format:

```
Date, Folio Number, Name of the Fund, Order, Units, NAV, Current Nav, Amount (INR)
2020-08-20,123456789,ICICI Prudential Bluechip Growth Direct Plan,buy,55.432,45.10,58.7,2500.0
2019-08-26,123456789,ICICI Prudential Bluechip Growth Direct Plan,buy,58.343,42.85,58.7,2500.0
2018-08-24,123456789,ICICI Prudential Bluechip Growth Direct Plan,buy,55.853,44.76,58.7,2500.0
2018-08-17,123456788,Aditya Birla Sun Life Frontline Equity Growth Direct Plan,buy,10.41,240.15,307.63,2
2017-10-06,123456789,ICICI Prudential Bluechip Growth Direct Plan,buy,126.167,39.63,58.7,5000.0
2017-09-11,1234567891,SBI Blue Chip Growth Plan,buy,26.968,37.0803,53.0466,1000.0
2017-08-10,1234567891,SBI Blue Chip Growth Plan,buy,27.866,35.8865,53.0466,1000.0
2017-07-10,1234567891,SBI Blue Chip Growth Plan,buy,28.022,35.6867,53.0466,1000.0
2017-06-12,1234567891,SBI Blue Chip Growth Plan,buy,28.373,35.2445,53.0466,1000.0
2017-05-10,1234567891,SBI Blue Chip Growth Plan,buy,28.815,34.7041,53.0466,1000.0
2017-04-10,1234567891,SBI Blue Chip Growth Plan,buy,29.591,33.7945,53.0466,1000.0
2017-03-10,1234567891,SBI Blue Chip Growth Plan,buy,30.903,32.3593,53.0466,1000.0
2017-02-10,1234567891,SBI Blue Chip Growth Plan,buy,31.033,32.2233,53.0466,1000.0
2017-01-10,1234567891,SBI Blue Chip Growth Plan,buy,32.842,30.4492,53.0466,1000.0
```

Notice the first line of the entry:

```
Date, Folio Number, Name of the Fund, Order, Units, NAV, Current Nav, Amount (INR)
```

Think of these as the *column headers* in a table. If we use the comma as guiding split-points, then we can also write this as:

From second line onward, the values are entries in the table, below respective column headers.

Representing entires from the above CSV into a table, would look like this:

Date	Folio Number	Name of the Fund	Order	Units	NAV	Current Nav	Amount (INR)
2020-08-20	123456789	ICICI Prudential Bluechip Growth Direct Plan	buy	55.432	45.10	58.7	2500.0
2019-08-26	123456789	ICICI Prudential Bluechip Growth Direct Plan	buy	58.343	42.85	58.7	2500.0
2018-08-24	123456789	ICICI Prudential Bluechip Growth Direct Plan	buy	55.853	44.76	58.7	2500.0
2018-08-17	123456788	Aditya Birla Sun Life Frontline Equity Growth Direct Plan	buy	10.41	240.15	307.63	2500.0

2017-10-06	123456789	ICICI Prudential Bluechip Growth Direct Plan	buy	126.167	39.63	58.7	5000.0
2017-09-11	1234567891	SBI Blue Chip Growth Plan	buy	26.968	37.0803	53.0466	1000.0
2017-08-10	1234567891	SBI Blue Chip Growth Plan	buy	27.866	35.8865	53.0466	1000.0
2017-07-10	1234567891	SBI Blue Chip Growth Plan	buy	28.022	35.6867	53.0466	1000.0
2017-06-12	1234567891	SBI Blue Chip Growth Plan	buy	28.373	35.2445	53.0466	1000.0
2017-05-10	1234567891	SBI Blue Chip Growth Plan	buy	28.815	34.7041	53.0466	1000.0
2017-04-10	1234567891	SBI Blue Chip Growth Plan	buy	29.591	33.7945	53.0466	1000.0
2017-03-10	1234567891	SBI Blue Chip Growth Plan	buy	30.903	32.3593	53.0466	1000.0
2017-02-10	1234567891	SBI Blue Chip Growth Plan	buy	31.033	32.2233	53.0466	1000.0
2017-01-10	1234567891	SBI Blue Chip Growth Plan	buy	32.842	30.4492	53.0466	1000.0

Think of CSV format as an efficient way of representing table-compatible data, in raw text files where table UI is not present.

A CSV dataset can be parsed into a table; assuming it's having some uniformity of entries, and properly indicates where a new row starts.

Why only a comma?

In a CSV, the `,` (comma) acts as a *separator* or split point.

But it need not always be a comma. Some CSV files use other non-alphanumeric separators, such as semicolon (`;`), pipe (`|`), bang (`!`), period (`.`), space (``) etc.

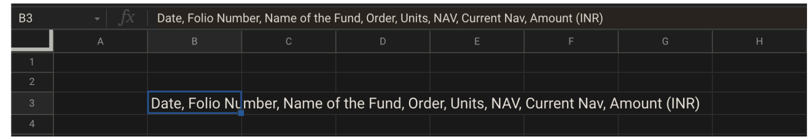
Using in Excel

Importing CSV into Excel or Spreadsheet is straightforward.

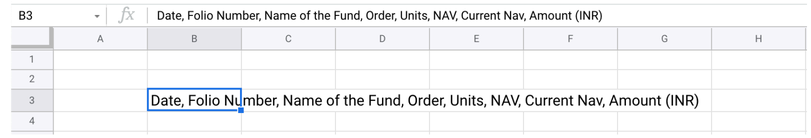
However, we'd try to manually do it first.

Follow these steps:

- Create a new sheet in Google Sheets
- Add the first line of the CSV in a cell
  `Date, Folio Number, Name of the Fund, Order, Units, NAV, Current Nav, Amount (INR)`



After pasting CSV file's first line - Dark Mode



After pasting CSV file's first line - Light Mode

Notice how the text has spilled over the cell, as expected.

But how to get column headers out of this? It's just text, all mashed into a single cell!

That's where the `SPLIT()` function comes in

A Perfect SPLIT

Spreadsheets provide an in-built function, `SPLIT()`, to split a text based on a separator or delimiter.

Here's link to detailed documentation of the function:

Docs Editor help ↗ | Internet archive link ↗ | archive.is link ↗

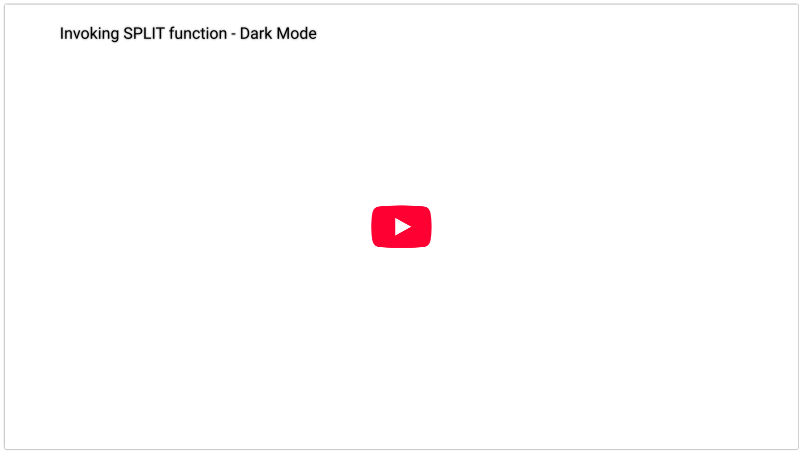
`SPLIT()` takes a text, and the separator (which in this case, is comma or `,`).

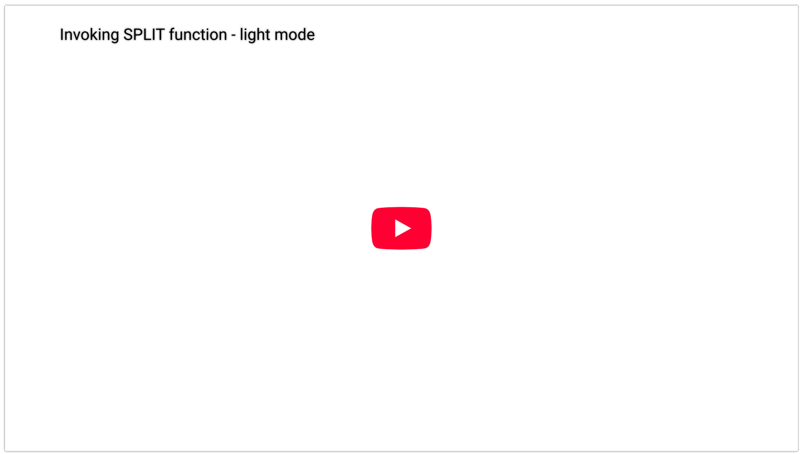
We can invoke it as follows:

```
SPLIT(cellID, ",")
```

Notice the `""` around comma. Second argument to the `SPLIT` function is a string. It needs to be wrapped in single-quote (`''`) or double-quote(`""`).

Use it as shown in the video (s) below.





Notice how the output of `SPLIT()` function spreads the result into multiple cells, in **same row**.

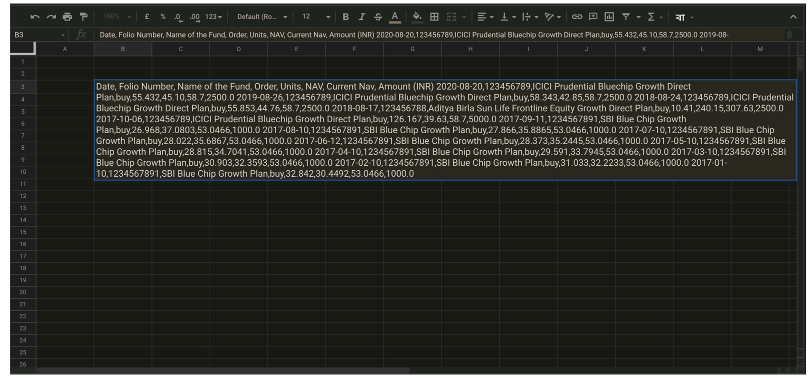
Splitting entire CSV dataset

Now that we know how to split a line into a row, we can combine with our knowledge of *autofill via drag*, and apply it on the entire dataset.

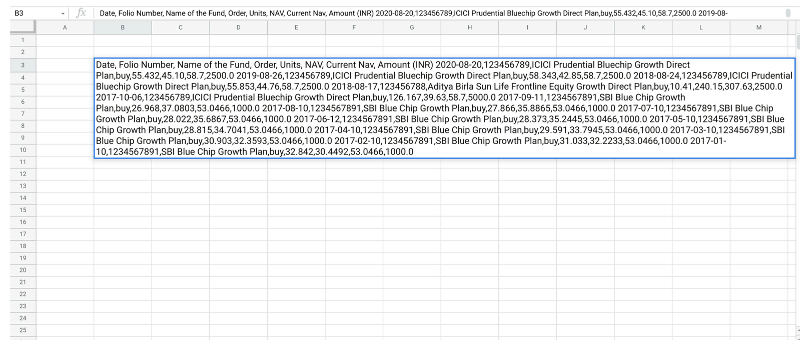
- Start by pasting the entire CSV from above into your spreadsheet.
- Use `SPLIT()` as shown earlier, to derive first line of the table from comma-separated values
- Drag the small square at the bottom of the first cell of this new line / row.

Refer to the video belo…**wait a second!**

This isn't going to work



Cell Overflow from Pasting all CSV Data - Dark Mode



Cell Overflow from Pasting all CSV Data - Light Mode

The entire data is pasted into a single cell. Splitting it would only paste data into a single row.

It won't be a table. It'd just be a row of data!

`SPLIT()` can only break text into cells in **same row**.

We want data split into multiple rows, as well as multiple columns.

Enter another in-built function `TRANSPOSE()`.

Transpose

This is the documentation provided by Google Sheets team on `TRANSPOSE()` function

[Docs Editor link ↗](#) | [Internet archive link ↗](#) | [archive.is link ↗](#)

It takes a row of data, and *rotates that* into a column of data

How does that help us?

While the single cell of data is just a long text, the *split points* are clear:

- if it's a `SPACE`, then it's a new line / row
- if it's a comma(`,`), then it's supposed to split into a new cell in same row

To break into multiple rows / lines, we've to split by SPACE, and transpose that.

```
=TRANSPOSE(SPLIT(cellId, " "))
```

However, it's not as simple.

There are lot of spaces in that text. If we apply this logic presented above, it'd spread those in multiple rows as well.

For example, there's `ICICI Prudential Bluechip Growth Direct Plan`.

It'd split as follows

ICICI
Prudential
Bluechip
Growth
Direct
Plan

Then what do we do?

Manual Option

It's easy to visualize where the split point should be, for a new row.

We know the `SPLIT()` function to be able to split by any delimiter / separator.

In this case, it's where the dates start (YYYY-MM-DD format) in that text / string.

We can manually add our own delimiter character, say, pipe (`|`).

Adding a pipe operator, in that CSV string would help. break this down into rows. And from there, we could go for using our trusty `TRANSPOSE()`, `SPLIT()` along with auto-fill drag.

Here's the CSV, but with `|` delimiter added for each line-split

```
Date, Folio Number, Name of the Fund, Order, Units, NAV, Current Nav, Amount (INR) | 2020-08-20,12345678
```

You might have to scroll horizontally, to view the full text.

Or use the code-copy button, to copy it in your clipboard, without having to scroll.

Then paste it in your spreadsheet, and do the following:

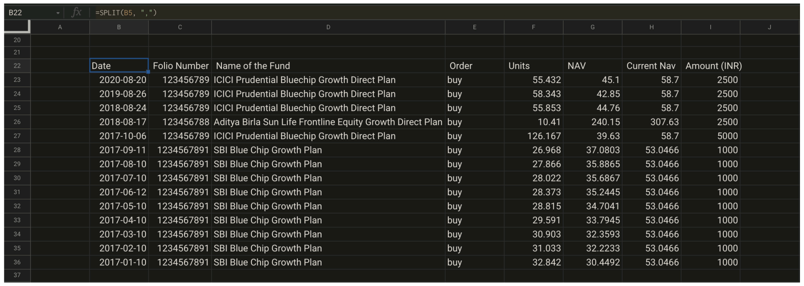
- Use `TRANSPOSE(SPLIT(cellId, "|"))` to split the text or string into a set of rows.
- Create a set of cells calling `SPLIT(cellId, ",")` on first row
- Drag and auto-fill for each row created earlier

Refer to the video(s) below

Breaking CSV into Rows and Columns - Dark Mode

Breaking into Rows and Columns - light mode

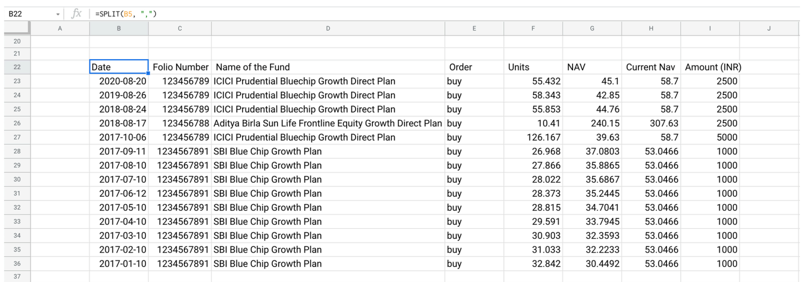
Final result should look like as follows:



B22 =SPLIT(B5, ",")

Date	Folio Number	Name of the Fund	Order	Units	NAV	Current Nav	Amount (INR)
2020-08-20	123456789	ICICI Prudential Bluechip Growth Direct Plan	buy	55.432	45.1	58.7	2500
2019-08-26	123456789	ICICI Prudential Bluechip Growth Direct Plan	buy	58.343	42.85	58.7	2500
2018-08-24	123456789	ICICI Prudential Bluechip Growth Direct Plan	buy	55.853	44.76	58.7	2500
2018-08-17	123456788	Aditya Birla Sun Life Frontline Equity Growth Direct Plan	buy	10.41	240.15	307.63	2500
2017-10-06	123456789	ICICI Prudential Bluechip Growth Direct Plan	buy	126.167	39.63	58.7	5000
2017-09-11	1234567891	SBI Blue Chip Growth Plan	buy	26.968	37.0803	53.0466	1000
2017-08-10	1234567891	SBI Blue Chip Growth Plan	buy	27.866	35.8865	53.0466	1000
2017-07-10	1234567891	SBI Blue Chip Growth Plan	buy	28.022	35.6867	53.0466	1000
2017-06-12	1234567891	SBI Blue Chip Growth Plan	buy	28.373	35.2445	53.0466	1000
2017-05-10	1234567891	SBI Blue Chip Growth Plan	buy	28.815	34.7041	53.0466	1000
2017-04-10	1234567891	SBI Blue Chip Growth Plan	buy	29.591	33.7945	53.0466	1000
2017-03-10	1234567891	SBI Blue Chip Growth Plan	buy	30.903	32.3593	53.0466	1000
2017-02-10	1234567891	SBI Blue Chip Growth Plan	buy	31.033	32.2233	53.0466	1000
2017-01-10	1234567891	SBI Blue Chip Growth Plan	buy	32.842	30.4492	53.0466	1000

CSV Imported and Processed into Rows and Columns - Dark Mode



B22 =SPLIT(B5, ",")

Date	Folio Number	Name of the Fund	Order	Units	NAV	Current Nav	Amount (INR)
2020-08-20	123456789	ICICI Prudential Bluechip Growth Direct Plan	buy	55.432	45.1	58.7	2500
2019-08-26	123456789	ICICI Prudential Bluechip Growth Direct Plan	buy	58.343	42.85	58.7	2500
2018-08-24	123456789	ICICI Prudential Bluechip Growth Direct Plan	buy	55.853	44.76	58.7	2500
2018-08-17	123456788	Aditya Birla Sun Life Frontline Equity Growth Direct Plan	buy	10.41	240.15	307.63	2500
2017-10-06	123456789	ICICI Prudential Bluechip Growth Direct Plan	buy	126.167	39.63	58.7	5000
2017-09-11	1234567891	SBI Blue Chip Growth Plan	buy	26.968	37.0803	53.0466	1000
2017-08-10	1234567891	SBI Blue Chip Growth Plan	buy	27.866	35.8865	53.0466	1000
2017-07-10	1234567891	SBI Blue Chip Growth Plan	buy	28.022	35.6867	53.0466	1000
2017-06-12	1234567891	SBI Blue Chip Growth Plan	buy	28.373	35.2445	53.0466	1000
2017-05-10	1234567891	SBI Blue Chip Growth Plan	buy	28.815	34.7041	53.0466	1000
2017-04-10	1234567891	SBI Blue Chip Growth Plan	buy	29.591	33.7945	53.0466	1000
2017-03-10	1234567891	SBI Blue Chip Growth Plan	buy	30.903	32.3593	53.0466	1000
2017-02-10	1234567891	SBI Blue Chip Growth Plan	buy	31.033	32.2233	53.0466	1000
2017-01-10	1234567891	SBI Blue Chip Growth Plan	buy	32.842	30.4492	53.0466	1000

CSV Imported and Processed into Rows and Columns - Light Mode

Alternate Option : Automated Processing

It might not always be feasible to do this manually.

In a real transaction history CSV export, there might be hundreds, if not thousands of transactions, over the years.

It's simply not humanly possible to expect that manually adding a pipe (`|`) delimiter is possible, and not error-prone (i.e., putting it out-of-place by mistake).

What if we could tell excel:

> hey, see those YYYY-MM-DD dates? add a pipe delimiter just before that

OR

> hey, see that word after every 7th comma? put a pipe delimiter just after that

We've to use **regular expressions** (aka RegEx) for these.

Discussing regular expressions are quite out of scope for this entire wiki, hence we won't dabble in that. However, we do want to provide a brief overview.

We'd highly recommend checking out regular expression operator functions in google sheets, namely:

- `REGEXMATCH()` ↗ | Internet archive link ↗ | archive.is link ↗
- `REGEXREPLACE()` ↗ | Internet archive link ↗ | archive.is link ↗

We won't be covering these in any detail here; because the next option is best. It's in-built, works for almost all CSV files, been around for years, if not decades.

Importing a CSV file : Common Option

Most commonly, you'd find yourself importing content of your CSV file directly into your spreadsheet, using import.

Here's a sample CSV file for you to download

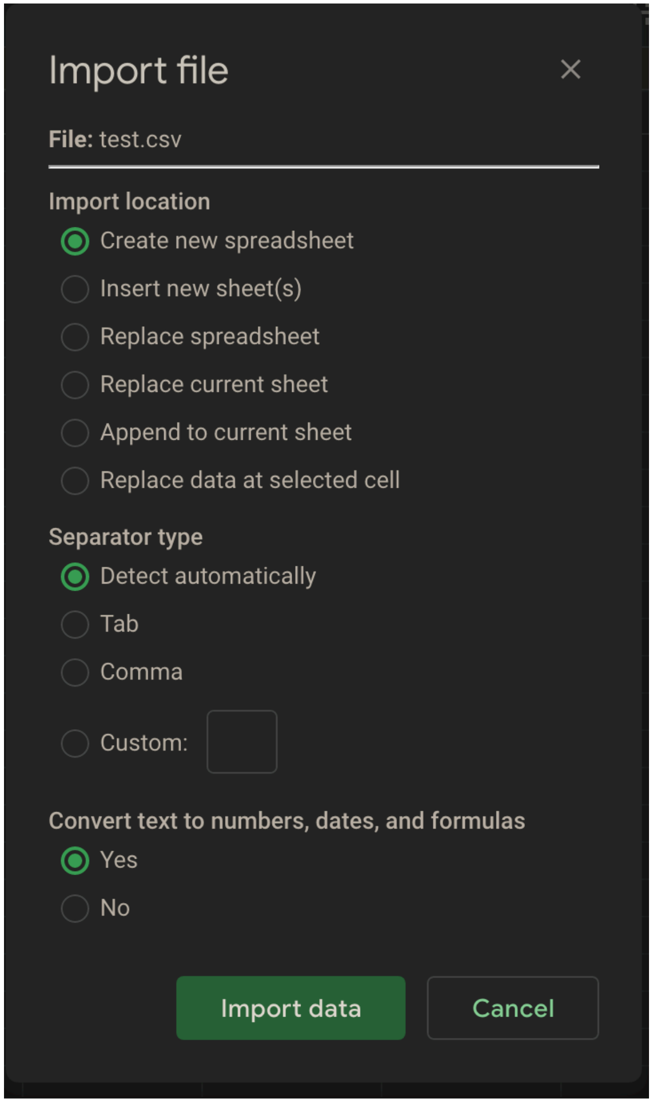
1KB test.csv

test.csv

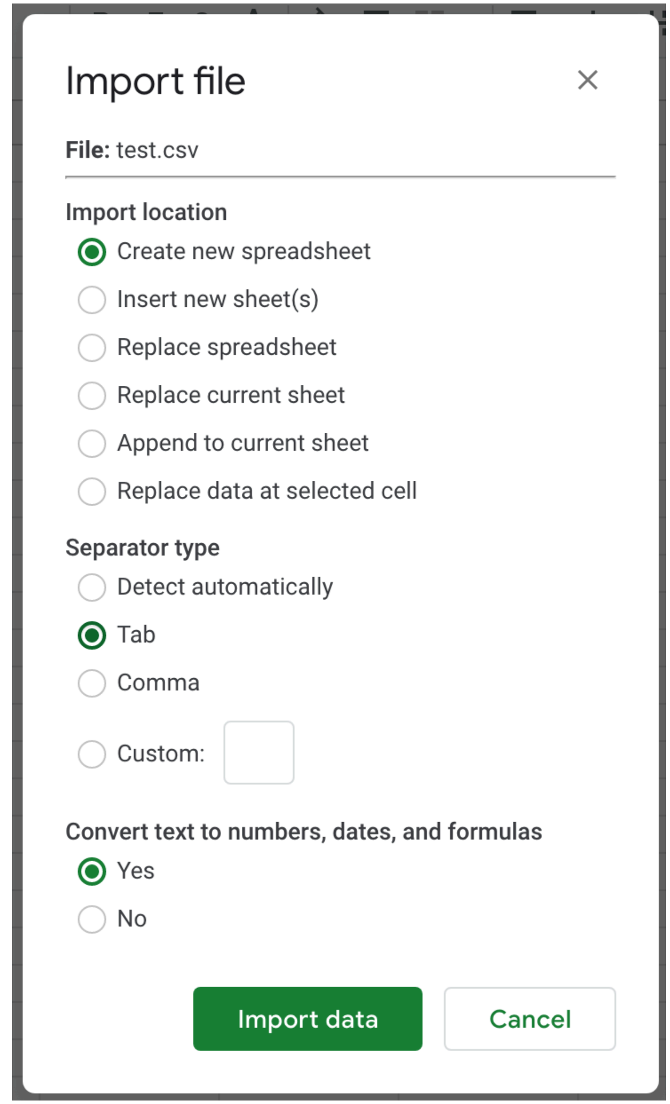
- Download `test.csv` into your system
- Go to `File` → `Import`
- It'd open up a dialog box, to import a file
- Select the last option, `Upload`
- Use your file browser program or just drag and drop the CSV file in that

Spreadsheet would ask you for inputs on how to parse the CSV data in the file.

In most common cases, it'd be able to parse that correctly into a table.

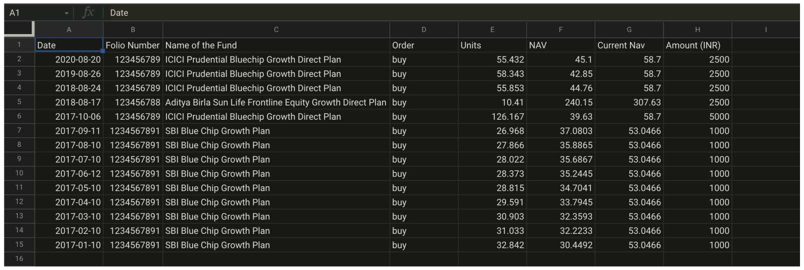


Importing CSV File into Spreadsheet - Dark Mode



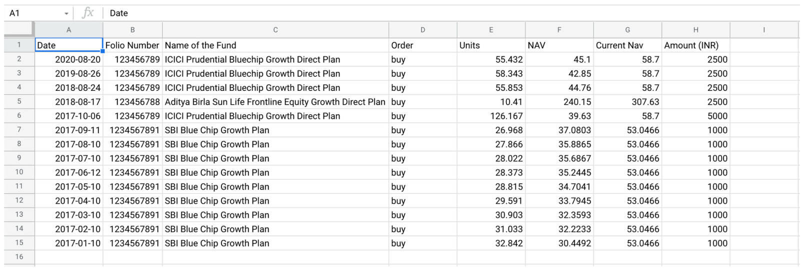
Importing CSV File into Spreadsheet - Light Mode

ⓘ In this case, we should provide separator type as comma



Date	Folio Number	Name of the Fund	Order	Units	NAV	Current Nav	Amount (INR)
2020-08-20	123456789	ICICI Prudential Bluechip Growth Direct Plan	buy	55.432	45.1	58.7	2500
2019-08-26	123456789	ICICI Prudential Bluechip Growth Direct Plan	buy	58.343	42.85	58.7	2500
2018-08-24	123456789	ICICI Prudential Bluechip Growth Direct Plan	buy	55.853	44.76	58.7	2500
2018-08-17	123456788	Aditya Birla Sun Life Frontline Equity Growth Direct Plan	buy	10.41	240.15	307.63	2500
2017-10-06	123456789	ICICI Prudential Bluechip Growth Direct Plan	buy	126.167	39.63	58.7	5000
2017-09-11	1234567891	SBI Blue Chip Growth Plan	buy	26.968	37.0803	53.0466	1000
2017-08-10	1234567891	SBI Blue Chip Growth Plan	buy	27.866	35.8865	53.0466	1000
2017-07-10	1234567891	SBI Blue Chip Growth Plan	buy	28.022	35.6867	53.0466	1000
2017-06-12	1234567891	SBI Blue Chip Growth Plan	buy	28.373	35.2445	53.0466	1000
2017-05-10	1234567891	SBI Blue Chip Growth Plan	buy	28.815	34.7041	53.0466	1000
2017-04-10	1234567891	SBI Blue Chip Growth Plan	buy	29.591	33.7945	53.0466	1000
2017-03-10	1234567891	SBI Blue Chip Growth Plan	buy	30.903	32.3593	53.0466	1000
2017-02-10	1234567891	SBI Blue Chip Growth Plan	buy	31.033	32.2233	53.0466	1000
2017-01-10	1234567891	SBI Blue Chip Growth Plan	buy	32.842	30.4492	53.0466	1000

After Successful Import - Dark Mode



Date	Folio Number	Name of the Fund	Order	Units	NAV	Current Nav	Amount (INR)
2020-08-20	123456789	ICICI Prudential Bluechip Growth Direct Plan	buy	55.432	45.1	58.7	2500
2019-08-26	123456789	ICICI Prudential Bluechip Growth Direct Plan	buy	58.343	42.85	58.7	2500
2018-08-24	123456789	ICICI Prudential Bluechip Growth Direct Plan	buy	55.853	44.76	58.7	2500
2018-08-17	123456788	Aditya Birla Sun Life Frontline Equity Growth Direct Plan	buy	10.41	240.15	307.63	2500
2017-10-06	123456789	ICICI Prudential Bluechip Growth Direct Plan	buy	126.167	39.63	58.7	5000
2017-09-11	1234567891	SBI Blue Chip Growth Plan	buy	26.968	37.0803	53.0466	1000
2017-08-10	1234567891	SBI Blue Chip Growth Plan	buy	27.866	35.8865	53.0466	1000
2017-07-10	1234567891	SBI Blue Chip Growth Plan	buy	28.022	35.6867	53.0466	1000
2017-06-12	1234567891	SBI Blue Chip Growth Plan	buy	28.373	35.2445	53.0466	1000
2017-05-10	1234567891	SBI Blue Chip Growth Plan	buy	28.815	34.7041	53.0466	1000
2017-04-10	1234567891	SBI Blue Chip Growth Plan	buy	29.591	33.7945	53.0466	1000
2017-03-10	1234567891	SBI Blue Chip Growth Plan	buy	30.903	32.3593	53.0466	1000
2017-02-10	1234567891	SBI Blue Chip Growth Plan	buy	31.033	32.2233	53.0466	1000
2017-01-10	1234567891	SBI Blue Chip Growth Plan	buy	32.842	30.4492	53.0466	1000

After Successful Import - Light Mode

How’s this even possible?!

We spent so much time struggling with `SPLIT()`, `TRANSPOSE()`; then alluded to some scary regular expression stuff.

And in-built spreadsheet import figured out how to create the table, how to split in rows and columns in matter of seconds!

What’s going on here? Why did we not just do this from the beginning?

Well, you see, when you copy-paste a piece of text in a single cell, it loses some information already present in it.

This information is line split / line break. This is invisible to human eye. But this character is a special type of delimiter, that’d be present if we save the CSV as a text file.

Most spreadsheet or excel import programs are watching out for this special character:

- if there’s a line-break character, put it in next row
- if there’s comma, it goes in a new cell in same row

We lose this line-break character if we copy-paste entire CSV into a single cell.

We didn’t do it from the beginning, because under the hood, excel / spreadsheet would be using something akin to the core functionalities of `SPLIT()`, `TRANSPOSE()` etc. to do the layout.

This *magic* needed some DIY (**D**o **I**t **Y**ourself) explanation.

Wrapping Up

In this chapter, we learned

- how to deal with CSV data
- various separators
- `SPLIT()`, `TRANSPOSE()` functions
- CSV importing into a sheet as a table of data

It might feel as if there was no point to using these functions, when all this time we could have just used in-built import functionality.

Note that a CSV format might not always be a file you import. In a later chapter, we'd have to import CSV data from the web, which cannot be in a file format. `SPLIT()` might come in handy in such situations.

In the next chapter, we'd pick up a real world problem, that's common for most mutual fund investors. CSV format would be at the heart of this problem statement.

Computing LTCG Eligible Equity Units

Step-by-step guide on how to compute equity units eligible for LTCG taxation, if redeemed, using Spreadsheet

Problem Statement

Now that we've seen how to import CSV data, and more importantly, how to *massage* that data for further use; we need to put this skill to use.

As an investor, you might have a portfolio of equity funds, and you'd want to know how many units you can sell without exceeding **L**ong **T**erm **C**apital **G**ain of ₹100,000 (1L INR, in colloquial terms).

Let's back up a bit.

When you redeem units in equity-linked assets, you've gains or losses, depending on price of purchase / acquisition; and your selling price on the day of selling.

Here, we're dealing with equity mutual funds, that invests in equity markets.

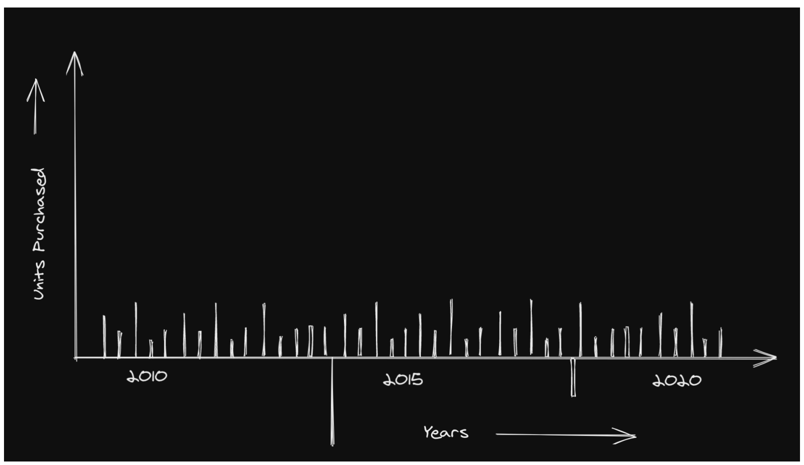
If holding period of your equity units exceed 1 year (365 days), then it is long term capital gain or loss.

In 2018 Union Budget, the taxation rules were changed in a way, that an investor doesn't have to pay tax on long term capital gains, up to ₹100,000 or ₹1L.

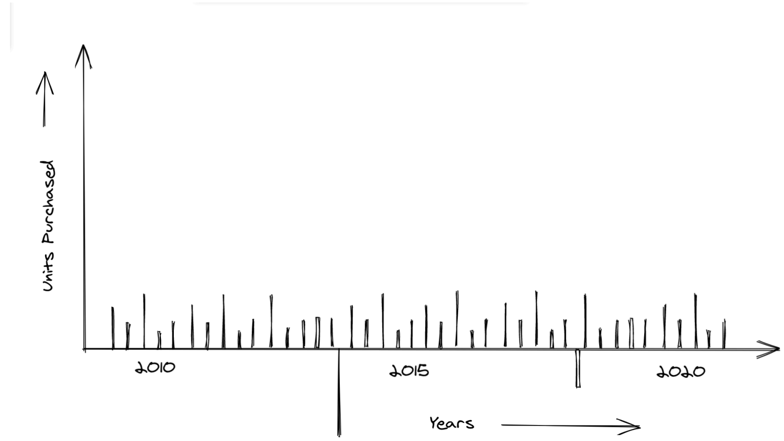
If an investor is looking to exit some positions by selling some of their holdings, it might be beneficial for them to know

- how many units are older than 1 year of holding period
- total number of units older than 1 year, that they can sell

Consider a sample transaction history, plotted against time, for an investor who's been investing for a few years (figures not to scale)



Transaction History Sample - Dark Mode



Transaction History Sample - Light Mode

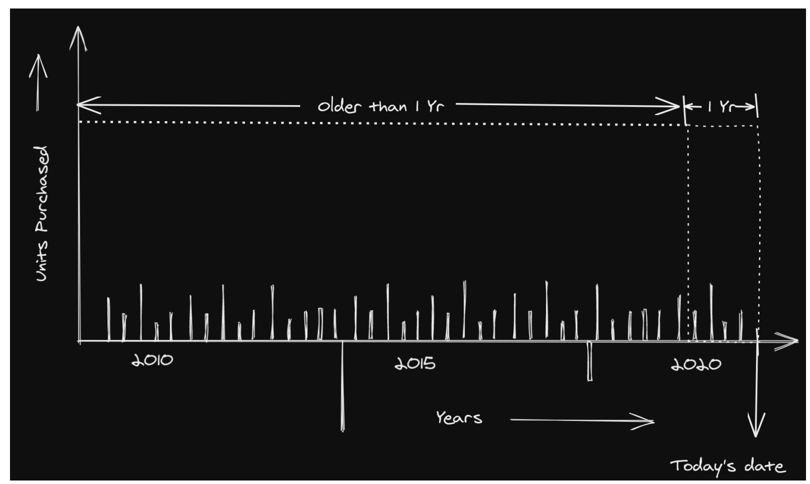
The Y-axis represents units purchased in every transaction. It's positive for purchase transactions, and negative offshoots are for sell / redemption transactions.

X-axis is for time, in years.

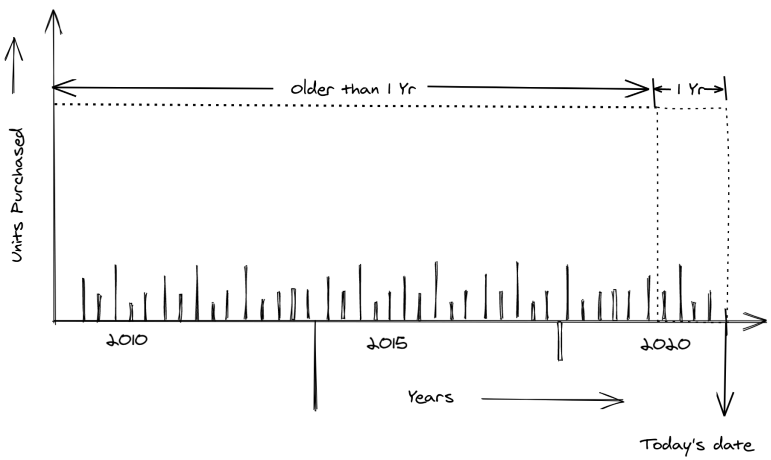
Now, let's assume today's date is somewhere in 2021-22. Say, it's 3rd July 2021.

Then any units purchased in last 1 year before that, from 4th July 2020 to 3rd July 2021; are less than 1 year old.

And all units purchased on or before 3rd July 2020, are older than 1 year.



Transaction History with Clear Segregation - Dark Mode



Transaction History with Clear Segregation - Light Mode

Our task is to use excel / spreadsheet find these two:

- number of units older than 1 year old (to avoid STCG tax or **S**hort **T**erm **C**apital **G**ain)
- number of units, that are older than 1 year old, which has net gain of 100,000 INR or less.

This is a CSV of transactions from one of our community members. We've changed around a few data points, and removed PII (**P**ersonally **I**dentifying **I**nformation).

32KB data.csv

Transaction History in CSV format


```
,Scheme Name ,Purchase Date,Transaction Type,Amount (Rs.),Price  (Rs.),Units
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,09/06/2017,New Investment ,5000,20.6793,241.788
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,11/07/2017,Additional Investment ,5000,20.843,239.8
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,09/08/2017,Additional Investment ,5000,21.0585,237.
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,11/09/2017,Additional Investment ,10000,21.801,458.
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,10/10/2017,Additional Investment ,10000,22.2062,450
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,09/11/2017,Additional Investment ,10000,22.6972,440
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,11/12/2017,Additional Investment ,10000,23.0909,433
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,09/01/2018,Additional Investment ,10000,23.8074,420
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,09/02/2018,Additional Investment ,10000,23.0323,434
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,09/03/2018,Additional Investment ,10000,23.2336,430
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,10/04/2018,Additional Investment ,10000,22.9069,436
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,09/05/2018,Additional Investment ,10000,23.4069,427
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,15/06/2018,Additional Investment ,10000,24.2186,412
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,10/07/2018,Additional Investment ,10000,24.6922,404
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,09/08/2018,Additional Investment ,10000,25.3014,395
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,11/09/2018,Additional Investment ,10000,25.178,397.
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,09/10/2018,Additional Investment ,10000,23.3565,428
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,09/11/2018,Additional Investment ,10000,23.0313,434
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,11/12/2018,Additional Investment ,10000,23.1282,432
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,09/01/2019,Additional Investment ,10000,23.451,426.
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,09/04/2019,Additional Investment ,10000,25.0255,399
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,09/05/2019,Additional Investment ,10000,24.6692,405
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,11/06/2019,Additional Investment ,10000,25.307,395.
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,09/07/2019,Additional Investment ,10000,25.0506,399
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,09/08/2019,Additional Investment ,10000,24.7311,404
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,11/09/2019,Additional Investment ,10000,25.0192,399
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,10/10/2019,Additional Investment ,10000,24.9239,401
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,11/11/2019,Additional Investment ,10000,26.4092,378
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,10/12/2019,Additional Investment ,10000,26.1356,382
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,09/01/2020,Additional Investment ,10000,26.9707,370
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,11/02/2020,Additional Investment ,10000,28.1105,355
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,11/03/2020,Additional Investment ,10000,24.9975,400
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,13/04/2020,Additional Investment ,10000,22.6226,442
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,11/05/2020,Additional Investment ,10000,23.6931,422
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,09/06/2020,Additional Investment ,10000,26.2705,380
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,09/07/2020,Additional Investment ,10000,28.3438,352
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,11/08/2020,Additional Investment ,10000,30.2264,330
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,09/09/2020,Additional Investment ,10000,30.0601,332
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,09/10/2020,Additional Investment ,10000,31.8137,314
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,10/11/2020,Additional Investment ,10000,32.4878,307
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,09/12/2020,Additional Investment ,10000,34.5138,289
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,11/01/2021,Additional Investment ,10000,35.9973,277
,Parag Parikh Flexi Cap Fund - Regular Plan - Growth,12/02/2021,Additional Investment ,10000,38.2601,261
,Invesco India Multicap Fund - Growth,11/03/2015,New Investment ,1000,36.2,27.624
,Invesco India Multicap Fund - Growth,13/04/2015,Additional Investment ,1000,37.12,26.94
,Invesco India Multicap Fund - Growth,12/05/2015,Additional Investment ,1000,33.7,29.674
,Invesco India Multicap Fund - Growth,11/06/2015,Additional Investment ,1000,34.1,29.326
,Invesco India Multicap Fund - Growth,13/07/2015,Additional Investment ,1000,36.13,27.678
,Invesco India Multicap Fund - Growth,11/08/2015,Additional Investment ,1000,37.28,26.824
,Invesco India Multicap Fund - Growth,11/09/2015,Additional Investment ,1000,34.1,29.326
,Invesco India Multicap Fund - Growth,13/10/2015,Additional Investment ,1000,35.32,28.313
,Invesco India Multicap Fund - Growth,13/11/2015,Additional Investment ,1000,34.46,29.019
,Invesco India Multicap Fund - Growth,11/12/2015,Additional Investment ,1000,34.1,29.326
,Invesco India Multicap Fund - Growth,12/01/2016,Additional Investment ,1000,34.98,28.588
,Invesco India Multicap Fund - Growth,11/02/2016,Additional Investment ,1000,30.97,32.289
,Invesco India Multicap Fund - Growth,02/03/2020,Redemption ,-16808.13,48.73,-344.927
,Axis Focused 25 Fund - Regular Plan - Growth,05/11/2018,New Investment ,10000,25.6,390.625
,Axis Focused 25 Fund - Regular Plan - Growth,04/12/2018,Additional Investment ,10000,26.45,378.072
,Axis Focused 25 Fund - Regular Plan - Growth,04/01/2019,Additional Investment ,10000,26.33,379.795
,Axis Focused 25 Fund - Regular Plan - Growth,05/03/2019,Additional Investment ,10000,25.98,384.911
,Axis Focused 25 Fund - Regular Plan - Growth,04/04/2019,Additional Investment ,10000,27.28,366.569
,Axis Focused 25 Fund - Regular Plan - Growth,06/05/2019,Additional Investment ,10000,27.32,366.032
,Axis Focused 25 Fund - Regular Plan - Growth,04/06/2019,Additional Investment ,10000,28.92,345.781
,Axis Focused 25 Fund - Regular Plan - Growth,04/07/2019,Additional Investment ,10000,28.91,345.901
,Axis Focused 25 Fund - Regular Plan - Growth,05/08/2019,Additional Investment ,10000,26.98,370.645
,Axis Focused 25 Fund - Regular Plan - Growth,04/09/2019,Additional Investment ,10000,27.05,369.686
,Axis Focused 25 Fund - Regular Plan - Growth,04/10/2019,Additional Investment ,10000,28.82,346.981
,Axis Focused 25 Fund - Regular Plan - Growth,04/12/2019,Additional Investment ,10000,30.33,329.707
,Axis Focused 25 Fund - Regular Plan - Growth,06/01/2020,Additional Investment ,10000,30.19,331.236
,Axis Focused 25 Fund - Regular Plan - Growth,04/02/2020,Additional Investment ,10000,31.73,315.159
,Axis Focused 25 Fund - Regular Plan - Growth,04/03/2020,Additional Investment ,10000,30.41,328.839
```

```
,Axis Focused 25 Fund - Regular Plan - Growth,07/04/2020,Additional Investment ,10000,23.36,428.082
,Axis Focused 25 Fund - Regular Plan - Growth,05/05/2020,Additional Investment ,5000,24.31,205.677
,Axis Focused 25 Fund - Regular Plan - Growth,04/06/2020,Additional Investment ,5000,26.14,191.278
,Axis Focused 25 Fund - Regular Plan - Growth,06/07/2020,Additional Investment ,5000,28.01,178.499
,Axis Focused 25 Fund - Regular Plan - Growth,04/08/2020,Additional Investment ,5000,28.44,175.8
,Axis Focused 25 Fund - Regular Plan - Growth,04/09/2020,Additional Investment ,5000,29.49,169.541
,Axis Focused 25 Fund - Regular Plan - Growth,05/10/2020,Additional Investment ,5000,29.66,168.569
,Axis Focused 25 Fund - Regular Plan - Growth,04/11/2020,Additional Investment ,5000,31.02,161.178
,Axis Focused 25 Fund - Regular Plan - Growth,04/12/2020,Additional Investment ,10000,35.11,284.805
,Axis Focused 25 Fund - Regular Plan - Growth,05/01/2021,Additional Investment ,10000,38.12,262.316
,Axis Focused 25 Fund - Regular Plan - Growth,05/02/2021,Additional Investment ,10000,38.47,259.93
,Mirae Asset Large Cap Fund - Regular Plan - Dividend,01/04/2019,Switch In  -  Mirae Asset Emerging Blue
,Mirae Asset Large Cap Fund - Regular Plan - Dividend,10/04/2019,New Investment ,10000,18.061,553.679
,Mirae Asset Large Cap Fund - Regular Plan - Dividend,10/05/2019,Additional Investment ,10000,17.602,568
,Mirae Asset Large Cap Fund - Regular Plan - Dividend,11/06/2019,Additional Investment ,10000,18.655,536
,Mirae Asset Large Cap Fund - Regular Plan - Dividend,10/07/2019,Additional Investment ,10000,18.049,554
,Mirae Asset Large Cap Fund - Regular Plan - Dividend,13/08/2019,Additional Investment ,10000,17.196,581
,Mirae Asset Large Cap Fund - Regular Plan - Dividend,11/09/2019,Additional Investment ,10000,17.516,570
,Mirae Asset Large Cap Fund - Regular Plan - Dividend,13/11/2019,Additional Investment ,10000,18.717,534
,Mirae Asset Large Cap Fund - Regular Plan - Dividend,10/12/2019,Additional Investment ,10000,18.761,533
,Mirae Asset Large Cap Fund - Regular Plan - Dividend,16/12/2019,Dividend Reinvestment  @ Rs. 1.3281 P/U
,Mirae Asset Large Cap Fund - Regular Plan - Dividend,10/01/2020,Additional Investment ,10000,17.876,559
,Mirae Asset Large Cap Fund - Regular Plan - Dividend,11/02/2020,Additional Investment ,10000,17.746,563
,Mirae Asset Large Cap Fund - Regular Plan - Dividend,11/03/2020,Additional Investment ,10000,15.535,643
,Mirae Asset Large Cap Fund - Regular Plan - Dividend,13/04/2020,Additional Investment ,5000,13.32,375.3
,Mirae Asset Large Cap Fund - Regular Plan - Dividend,12/05/2020,Additional Investment ,5000,13.496,370.
,Mirae Asset Large Cap Fund - Regular Plan - Dividend,10/06/2020,Additional Investment ,5000,14.8,337.83
,Mirae Asset Large Cap Fund - Regular Plan - Dividend,10/07/2020,Additional Investment ,5000,15.835,315.
,Mirae Asset Large Cap Fund - Regular Plan - Dividend,11/08/2020,Additional Investment ,5000,16.785,297.
,Mirae Asset Large Cap Fund - Regular Plan - Dividend,10/09/2020,Additional Investment ,5000,17.042,293.
,Mirae Asset Large Cap Fund - Regular Plan - Dividend,12/10/2020,Additional Investment ,5000,17.545,284.
,Mirae Asset Large Cap Fund - Regular Plan - Dividend,10/11/2020,Additional Investment ,5000,18.495,270.
,Mirae Asset Large Cap Fund - Regular Plan - Dividend,10/12/2020,Additional Investment ,10000,19.642,509
,Mirae Asset Large Cap Fund - Regular Plan - Dividend,12/01/2021,Additional Investment ,10000,21.186,471
,Mirae Asset Large Cap Fund - Regular Plan - Dividend,10/02/2021,Additional Investment ,10000,21.963,455
,Mirae Asset Emerging Bluechip Fund - Regular Growth,12/03/2018,New Investment ,10000,48.56,205.931
,Mirae Asset Emerging Bluechip Fund - Regular Growth,10/04/2018,Additional Investment ,10000,49.532,201.
,Mirae Asset Emerging Bluechip Fund - Regular Growth,10/05/2018,Additional Investment ,10000,49.978,200.
,Mirae Asset Emerging Bluechip Fund - Regular Growth,11/06/2018,Additional Investment ,10000,49.185,203.
,Mirae Asset Emerging Bluechip Fund - Regular Growth,10/07/2018,Additional Investment ,10000,48.706,205.
,Mirae Asset Emerging Bluechip Fund - Regular Growth,10/09/2018,Additional Investment ,10000,51.373,194.
,Mirae Asset Emerging Bluechip Fund - Regular Growth,10/10/2018,Additional Investment ,10000,46.757,213.
,Mirae Asset Emerging Bluechip Fund - Regular Growth,12/11/2018,Additional Investment ,10000,48.201,207.
,Mirae Asset Emerging Bluechip Fund - Regular Growth,10/12/2018,Additional Investment ,10000,47.717,209.
,Mirae Asset Emerging Bluechip Fund - Regular Growth,10/01/2019,Additional Investment ,10000,50.069,199.
,Mirae Asset Emerging Bluechip Fund - Regular Growth,11/03/2019,Additional Investment ,10000,51.563,193.
,Mirae Asset Emerging Bluechip Fund - Regular Growth,01/04/2019,Switch Out  -  Mirae Asset Large Cap Fun
,HDFC Mid-Cap Opportunities Fund - Growth,11/03/2015,New Investment ,1000,37.603,26.594
,HDFC Mid-Cap Opportunities Fund - Growth,13/04/2015,Additional Investment ,1000,38.728,25.821
,HDFC Mid-Cap Opportunities Fund - Growth,12/05/2015,Additional Investment ,1000,35.892,27.861
,HDFC Mid-Cap Opportunities Fund - Growth,11/06/2015,Additional Investment ,1000,36.095,27.705
,HDFC Mid-Cap Opportunities Fund - Growth,13/07/2015,Additional Investment ,1000,37.917,26.373
,HDFC Mid-Cap Opportunities Fund - Growth,11/08/2015,Additional Investment ,1000,39.696,25.191
,HDFC Mid-Cap Opportunities Fund - Growth,11/09/2015,Additional Investment ,1000,36.662,27.276
,HDFC Mid-Cap Opportunities Fund - Growth,13/10/2015,Additional Investment ,1000,37.649,26.561
,HDFC Mid-Cap Opportunities Fund - Growth,13/11/2015,Additional Investment ,1000,36.915,27.089
,HDFC Mid-Cap Opportunities Fund - Growth,11/12/2015,Additional Investment ,1000,36.611,27.314
,HDFC Mid-Cap Opportunities Fund - Growth,12/01/2016,Additional Investment ,1000,36.829,27.153
,HDFC Mid-Cap Opportunities Fund - Growth,11/02/2016,Additional Investment ,1000,33.233,30.091
,HDFC Mid-Cap Opportunities Fund - Growth,14/02/2017,New Investment ,10000,46.795,213.698
,HDFC Mid-Cap Opportunities Fund - Growth,14/03/2017,Additional Investment ,10000,47.445,210.77
,HDFC Mid-Cap Opportunities Fund - Growth,12/04/2017,Additional Investment ,10000,50.719,197.165
,HDFC Mid-Cap Opportunities Fund - Growth,12/05/2017,Additional Investment ,10000,52.274,191.3
,HDFC Mid-Cap Opportunities Fund - Growth,13/06/2017,Additional Investment ,10000,52.017,192.245
,HDFC Mid-Cap Opportunities Fund - Growth,12/07/2017,Additional Investment ,10000,53.096,188.338
,HDFC Mid-Cap Opportunities Fund - Growth,14/08/2017,Additional Investment ,10000,52.539,190.335
,HDFC Mid-Cap Opportunities Fund - Growth,12/09/2017,Additional Investment ,10000,54.472,183.581
,HDFC Mid-Cap Opportunities Fund - Growth,12/10/2017,Additional Investment ,10000,54.584,183.204
,HDFC Mid-Cap Opportunities Fund - Growth,14/11/2017,Additional Investment ,10000,56.603,176.669
,HDFC Mid-Cap Opportunities Fund - Growth,12/12/2017,Additional Investment ,10000,57.413,174.177
,HDFC Mid-Cap Opportunities Fund - Growth,12/01/2018,Additional Investment ,10000,61.258,163.244
,HDFC Mid-Cap Opportunities Fund - Growth,14/02/2018,Additional Investment ,10000,57.766,173.112
```



```
,HDFC Mid-Cap Opportunities Fund - Growth,13/03/2018,Additional Investment ,10000,56.725,176.289
,HDFC Mid-Cap Opportunities Fund - Growth,12/04/2018,Additional Investment ,10000,58.372,171.315
,HDFC Mid-Cap Opportunities Fund - Growth,14/05/2018,Additional Investment ,10000,58.219,171.765
,HDFC Mid-Cap Opportunities Fund - Growth,12/06/2018,Additional Investment ,10000,57.232,174.727
,HDFC Mid-Cap Opportunities Fund - Growth,12/07/2018,Additional Investment ,10000,56.713,176.326
,HDFC Mid-Cap Opportunities Fund - Growth,02/03/2020,Redemption ,-195192.83,53.724,-3633.289
,Franklin India Smaller Companies Fund - Growth,29/12/2014,New Investment ,5000,35.9135,139.223
,Franklin India Smaller Companies Fund - Growth,16/01/2015,Additional Investment ,5000,37.7375,132.494
,Franklin India Smaller Companies Fund - Growth,18/02/2015,Additional Investment ,5000,38.2927,130.573
,Franklin India Smaller Companies Fund - Growth,17/03/2015,Additional Investment ,5000,38.8945,128.553
,Franklin India Smaller Companies Fund - Growth,16/04/2015,Additional Investment ,5000,39.603,126.253
,Franklin India Smaller Companies Fund - Growth,18/05/2015,Additional Investment ,5000,38.4578,130.013
,Franklin India Smaller Companies Fund - Growth,16/06/2015,Additional Investment ,5000,36.5897,136.65
,Franklin India Smaller Companies Fund - Growth,16/07/2015,Additional Investment ,5000,39.2018,127.545
,Franklin India Smaller Companies Fund - Growth,18/08/2015,Additional Investment ,5000,40.1264,124.606
,Franklin India Smaller Companies Fund - Growth,16/09/2015,Additional Investment ,5000,37.6015,132.973
,Franklin India Smaller Companies Fund - Growth,16/10/2015,Additional Investment ,5000,39.5969,126.273
,Franklin India Smaller Companies Fund - Growth,17/11/2015,Additional Investment ,5000,38.8075,128.841
,Franklin India Smaller Companies Fund - Growth,16/12/2015,Additional Investment ,5000,38.8986,128.539
,Franklin India Smaller Companies Fund - Growth,18/01/2016,Additional Investment ,5000,36.1752,138.216
,Franklin India Smaller Companies Fund - Growth,16/02/2016,Additional Investment ,5000,35.2195,141.967
,Franklin India Smaller Companies Fund - Growth,16/03/2016,Additional Investment ,5000,36.5967,136.624
,Franklin India Smaller Companies Fund - Growth,18/04/2016,Additional Investment ,5000,40.238,124.261
,Franklin India Smaller Companies Fund - Growth,17/05/2016,Additional Investment ,5000,41.0136,121.911
,Franklin India Smaller Companies Fund - Growth,16/06/2016,Additional Investment ,5000,42.447,117.794
,Franklin India Smaller Companies Fund - Growth,18/07/2016,Additional Investment ,10000,44.4423,225.011
,Franklin India Smaller Companies Fund - Growth,16/09/2016,Additional Investment ,10000,47.3914,211.009
,Franklin India Smaller Companies Fund - Growth,17/10/2016,Additional Investment ,10000,48.4465,206.413
,Franklin India Smaller Companies Fund - Growth,16/11/2016,Additional Investment ,10000,44.2113,226.187
,Franklin India Smaller Companies Fund - Growth,16/12/2016,Additional Investment ,10000,44.4986,224.726
,Franklin India Smaller Companies Fund - Growth,02/03/2020,Redemption ,-171366.86,48.0475,-3566.655
,Mirae Asset Large Cap Fund - Regular Plan - Dividend,15/10/2018,Switch In  -  Mirae Asset Large Cap Fun
,Mirae Asset Large Cap Fund - Regular Plan - Dividend,06/12/2018,Dividend Reinvestment  @ Rs. 1.4167 P/U
,Mirae Asset Large Cap Fund - Regular Plan - Dividend,16/12/2019,Dividend Reinvestment  @ Rs. 1.3281 P/U
,Mirae Asset Large Cap Fund - Regular Plan - Growth,04/04/2018,New Investment ,10000,45.101,221.725
,Mirae Asset Large Cap Fund - Regular Plan - Growth,03/05/2018,Additional Investment ,10000,46.989,212.8
,Mirae Asset Large Cap Fund - Regular Plan - Growth,04/06/2018,Additional Investment ,10000,46.39,215.56
,Mirae Asset Large Cap Fund - Regular Plan - Growth,03/07/2018,Additional Investment ,10000,46.486,215.1
,Mirae Asset Large Cap Fund - Regular Plan - Growth,03/08/2018,Additional Investment ,10000,49.189,203.2
,Mirae Asset Large Cap Fund - Regular Plan - Growth,04/09/2018,Additional Investment ,10000,50.047,199.8
,Mirae Asset Large Cap Fund - Regular Plan - Growth,04/10/2018,Additional Investment ,10000,46.144,216.7
,Mirae Asset Large Cap Fund - Regular Plan - Growth,15/10/2018,Switch Out  -  Mirae Asset Large Cap Fund
,Franklin India Flexi Cap Fund - Growth,18/05/2017,New Investment ,10000,531.5921,18.811
,Franklin India Flexi Cap Fund - Growth,19/06/2017,Additional Investment ,10000,537.3628,18.609
,Franklin India Flexi Cap Fund - Growth,18/07/2017,Additional Investment ,10000,555.2843,18.009
,Franklin India Flexi Cap Fund - Growth,18/08/2017,Additional Investment ,10000,550.453,18.167
,Franklin India Flexi Cap Fund - Growth,19/09/2017,Additional Investment ,10000,568.3494,17.595
,Franklin India Flexi Cap Fund - Growth,18/10/2017,Additional Investment ,10000,564.1949,17.724
,Franklin India Flexi Cap Fund - Growth,20/11/2017,Additional Investment ,10000,578.9429,17.273
,Franklin India Flexi Cap Fund - Growth,19/12/2017,Additional Investment ,10000,590.9089,16.923
,Franklin India Flexi Cap Fund - Growth,18/01/2018,Additional Investment ,10000,608.2863,16.44
,Franklin India Flexi Cap Fund - Growth,19/02/2018,Additional Investment ,10000,574.911,17.394
,Franklin India Flexi Cap Fund - Growth,15/10/2018,Switch Out  -  Franklin India Smaller Companies Fund
,Franklin India Smaller Companies Fund - Growth,15/10/2018,Switch In  -  Franklin India Flexi Cap Fund -
,Franklin India Smaller Companies Fund - Growth,04/04/2019,Switch In  -  Franklin India Bluechip Fund -
,Franklin India Smaller Companies Fund - Growth,11/04/2019,New Investment ,10000,54.2866,184.208
,Franklin India Smaller Companies Fund - Growth,13/05/2019,Additional Investment ,10000,51.38,194.628
,Franklin India Smaller Companies Fund - Growth,11/06/2019,Additional Investment ,10000,54.4227,183.747
,Franklin India Smaller Companies Fund - Growth,11/07/2019,Additional Investment ,10000,51.5779,193.881
,Franklin India Smaller Companies Fund - Growth,14/08/2019,Additional Investment ,10000,46.9668,212.916
,Franklin India Smaller Companies Fund - Growth,11/09/2019,Additional Investment ,10000,47.8012,209.2
,Franklin India Smaller Companies Fund - Growth,02/03/2020,Redemption ,-411040.57,47.6721,-8622.327
,Franklin India Bluechip Fund - Growth,01/09/2016,New Investment ,10000,390.993,25.576
,Franklin India Bluechip Fund - Growth,14/10/2016,Additional Investment ,10000,385.7494,25.924
,Franklin India Bluechip Fund - Growth,15/11/2016,Additional Investment ,10000,368.2658,27.154
,Franklin India Bluechip Fund - Growth,14/12/2016,Additional Investment ,10000,368.8564,27.111
,Franklin India Bluechip Fund - Growth,16/01/2017,Additional Investment ,10000,378.5611,26.416
,Franklin India Bluechip Fund - Growth,14/02/2017,Additional Investment ,10000,395.3548,25.294
,Franklin India Bluechip Fund - Growth,14/03/2017,Additional Investment ,10000,406.0662,24.627
,Franklin India Bluechip Fund - Growth,17/04/2017,Additional Investment ,10000,409.7139,24.407
,Franklin India Bluechip Fund - Growth,16/05/2017,Additional Investment ,10000,426.1836,23.464
,Franklin India Bluechip Fund - Growth,12/06/2017,New Investment ,10000,426.2069,23.463
```

```
,Franklin India Bluechip Fund - Growth,14/06/2017,Additional Investment ,10000,425.8755,23.481
,Franklin India Bluechip Fund - Growth,11/07/2017,Additional Investment ,10000,430.7472,23.215
,Franklin India Bluechip Fund - Growth,14/07/2017,Additional Investment ,10000,435.6868,22.952
,Franklin India Bluechip Fund - Growth,10/08/2017,Additional Investment ,10000,432.034,23.146
,Franklin India Bluechip Fund - Growth,16/08/2017,Additional Investment ,10000,435.3714,22.969
,Franklin India Bluechip Fund - Growth,12/09/2017,Additional Investment ,10000,441.6172,22.644
,Franklin India Bluechip Fund - Growth,14/09/2017,Additional Investment ,10000,442.6595,22.591
,Franklin India Bluechip Fund - Growth,10/10/2017,Additional Investment ,10000,440.277,22.713
,Franklin India Bluechip Fund - Growth,16/10/2017,Additional Investment ,10000,448.5239,22.295
,Franklin India Bluechip Fund - Growth,10/11/2017,Additional Investment ,10000,455.7687,21.941
,Franklin India Bluechip Fund - Growth,14/11/2017,Additional Investment ,10000,450.7018,22.188
,Franklin India Bluechip Fund - Growth,12/12/2017,Additional Investment ,10000,450.429,22.201
,Franklin India Bluechip Fund - Growth,14/12/2017,Additional Investment ,10000,450.8708,22.179
,Franklin India Bluechip Fund - Growth,10/01/2018,Additional Investment ,10000,468.3489,21.352
,Franklin India Bluechip Fund - Growth,12/02/2018,Additional Investment ,10000,457.7254,21.847
,Franklin India Bluechip Fund - Growth,14/02/2018,Additional Investment ,10000,454.7569,21.99
,Franklin India Bluechip Fund - Growth,14/03/2018,Additional Investment ,10000,447.9042,22.326
,Franklin India Bluechip Fund - Growth,01/04/2019,Switch Out  -  Franklin India Smaller Companies Fund -
,Franklin India Prima Fund - Growth,29/12/2014,New Investment ,5000,620.3648,8.06
,Franklin India Prima Fund - Growth,16/01/2015,Additional Investment ,5000,655.0102,7.633
,Franklin India Prima Fund - Growth,18/02/2015,Additional Investment ,5000,672.8812,7.431
,Franklin India Prima Fund - Growth,17/03/2015,Additional Investment ,5000,674.2269,7.416
,Franklin India Prima Fund - Growth,16/04/2015,Additional Investment ,5000,679.9313,7.354
,Franklin India Prima Fund - Growth,18/05/2015,Additional Investment ,5000,656.7176,7.614
,Franklin India Prima Fund - Growth,16/06/2015,Additional Investment ,5000,638.7628,7.828
,Franklin India Prima Fund - Growth,16/07/2015,Additional Investment ,5000,685.4009,7.295
,Franklin India Prima Fund - Growth,18/08/2015,Additional Investment ,5000,688.7061,7.26
,Franklin India Prima Fund - Growth,16/09/2015,Additional Investment ,5000,645.2428,7.749
,Franklin India Prima Fund - Growth,16/10/2015,Additional Investment ,5000,672.374,7.436
,Franklin India Prima Fund - Growth,17/11/2015,Additional Investment ,5000,656.3437,7.618
,Franklin India Prima Fund - Growth,16/12/2015,Additional Investment ,5000,656.4382,7.617
,Franklin India Prima Fund - Growth,18/01/2016,Additional Investment ,5000,615.5887,8.122
,Franklin India Prima Fund - Growth,16/02/2016,Additional Investment ,5000,597.298,8.371
,Franklin India Prima Fund - Growth,16/03/2016,Additional Investment ,5000,618.4861,8.084
,Franklin India Prima Fund - Growth,18/04/2016,Additional Investment ,5000,676.6577,7.389
,Franklin India Prima Fund - Growth,17/05/2016,Additional Investment ,5000,686.2338,7.286
,Franklin India Prima Fund - Growth,16/06/2016,Additional Investment ,5000,708.6313,7.056
,Franklin India Prima Fund - Growth,15/07/2016,Additional Investment ,5000,744.8421,6.713
,Franklin India Prima Fund - Growth,17/08/2016,Additional Investment ,10000,773.2618,12.932
,Franklin India Prima Fund - Growth,15/09/2016,Additional Investment ,10000,782.6346,12.777
,Franklin India Prima Fund - Growth,17/10/2016,Additional Investment ,10000,797.1977,12.544
,Franklin India Prima Fund - Growth,15/11/2016,Additional Investment ,10000,729.1266,13.715
,Franklin India Prima Fund - Growth,15/12/2016,Additional Investment ,10000,736.9692,13.569
,Franklin India Prima Fund - Growth,15/02/2017,Additional Investment ,10000,798.5369,12.523
,Franklin India Prima Fund - Growth,15/03/2017,Additional Investment ,10000,828.7766,12.066
,Franklin India Prima Fund - Growth,17/04/2017,Additional Investment ,10000,877.2783,11.399
,Franklin India Prima Fund - Growth,16/05/2017,Additional Investment ,10000,907.096,11.024
,Franklin India Prima Fund - Growth,15/06/2017,Additional Investment ,10000,894.824,11.175
,Franklin India Prima Fund - Growth,17/07/2017,Additional Investment ,10000,902.7454,11.077
,Franklin India Prima Fund - Growth,16/08/2017,Additional Investment ,10000,906.4853,11.032
,Franklin India Prima Fund - Growth,15/09/2017,Additional Investment ,10000,932.6085,10.723
,Franklin India Prima Fund - Growth,17/10/2017,Additional Investment ,10000,943.9366,10.594
,Franklin India Prima Fund - Growth,15/11/2017,Additional Investment ,10000,945.6373,10.575
,Franklin India Prima Fund - Growth,15/12/2017,Additional Investment ,10000,980.6321,10.198
,Franklin India Prima Fund - Growth,11/01/2018,New Investment ,10000,1038.8211,9.626
,Franklin India Prima Fund - Growth,14/02/2018,Additional Investment ,10000,983.9771,10.163
,Franklin India Prima Fund - Growth,13/03/2018,Additional Investment ,10000,973.9265,10.268
,Franklin India Prima Fund - Growth,11/04/2018,Additional Investment ,10000,987.189,10.13
,Franklin India Prima Fund - Growth,11/05/2018,Additional Investment ,10000,992.1258,10.079
,Franklin India Prima Fund - Growth,12/06/2018,Additional Investment ,10000,974.8691,10.258
,Franklin India Prima Fund - Growth,11/07/2018,Additional Investment ,10000,953.3073,10.49
,Franklin India Prima Fund - Growth,13/08/2018,Additional Investment ,10000,972.6508,10.281
,Franklin India Prima Fund - Growth,11/09/2018,Additional Investment ,10000,956.1179,10.459
,Franklin India Prima Fund - Growth,11/10/2018,Additional Investment ,10000,859.6945,11.632
,Franklin India Prima Fund - Growth,13/11/2018,Additional Investment ,10000,893.875,11.187
,Franklin India Prima Fund - Growth,11/12/2018,Additional Investment ,10000,892.4636,11.205
,Franklin India Prima Fund - Growth,11/01/2019,Additional Investment ,10000,920.3008,10.866
,Franklin India Prima Fund - Growth,02/03/2020,Redemption ,-446485.92,938.2031,-475.899
,ICICI Prudential Bluechip Fund - Growth,11/03/2015,New Investment ,2000,30.23,66.159
,ICICI Prudential Bluechip Fund - Growth,13/04/2015,Additional Investment ,2000,30.51,65.552
,ICICI Prudential Bluechip Fund - Growth,12/05/2015,Additional Investment ,2000,28.22,70.872
,ICICI Prudential Bluechip Fund - Growth,11/06/2015,Additional Investment ,2000,27.99,71.454
```



```
,ICICI Prudential Bluechip Fund - Growth,13/07/2015,Additional Investment ,2000,29.62,67.522
,ICICI Prudential Bluechip Fund - Growth,11/08/2015,Additional Investment ,2000,30.19,66.247
,ICICI Prudential Bluechip Fund - Growth,11/09/2015,Additional Investment ,2000,27.75,72.072
,ICICI Prudential Bluechip Fund - Growth,13/10/2015,Additional Investment ,2000,28.69,69.711
,ICICI Prudential Bluechip Fund - Growth,13/11/2015,Additional Investment ,2000,28.12,71.124
,ICICI Prudential Bluechip Fund - Growth,11/12/2015,Additional Investment ,2000,27.59,72.49
,ICICI Prudential Bluechip Fund - Growth,12/01/2016,Additional Investment ,2000,27.13,73.719
,ICICI Prudential Bluechip Fund - Growth,11/02/2016,Additional Investment ,2000,25.03,79.904
,ICICI Prudential Bluechip Fund - Growth,29/01/2019,New Investment ,10000,39.06,256.016
,ICICI Prudential Bluechip Fund - Growth,28/02/2019,Additional Investment ,10000,39.72,251.762
,ICICI Prudential Bluechip Fund - Growth,28/03/2019,Additional Investment ,10000,42,238.095
,ICICI Prudential Bluechip Fund - Growth,30/04/2019,Additional Investment ,10000,42.6,234.742
,ICICI Prudential Bluechip Fund - Growth,28/05/2019,Additional Investment ,10000,43.46,230.097
,ICICI Prudential Bluechip Fund - Growth,28/06/2019,Additional Investment ,10000,43.2,231.481
,ICICI Prudential Bluechip Fund - Growth,30/07/2019,Additional Investment ,10000,40.73,245.519
,ICICI Prudential Bluechip Fund - Growth,28/08/2019,Additional Investment ,10000,40.32,248.016
,ICICI Prudential Bluechip Fund - Growth,30/09/2019,Additional Investment ,10000,42.31,236.351
,ICICI Prudential Bluechip Fund - Growth,28/11/2019,Additional Investment ,10000,44.29,225.785
,ICICI Prudential Bluechip Fund - Growth,30/12/2019,Additional Investment ,10000,44.78,223.314
,ICICI Prudential Bluechip Fund - Growth,28/01/2020,Additional Investment ,10000,44.32,225.632
,ICICI Prudential Bluechip Fund - Growth,28/02/2020,Additional Investment ,10000,41.13,243.132
,DSP Tax Saver Fund - Regular Plan - Growth,02/05/2018,New Investment ,10000,46.601,214.588
,DSP Tax Saver Fund - Regular Plan - Growth,29/05/2018,Additional Investment ,10000,45.755,218.555
,DSP Tax Saver Fund - Regular Plan - Growth,29/06/2018,Additional Investment ,10000,44.168,226.408
,DSP Tax Saver Fund - Regular Plan - Growth,31/07/2018,Additional Investment ,10000,47.182,211.945
,DSP Tax Saver Fund - Regular Plan - Growth,29/08/2018,Additional Investment ,10000,48.482,206.262
,DSP Tax Saver Fund - Regular Plan - Growth,01/10/2018,Additional Investment ,10000,44.173,226.383
,DSP Tax Saver Fund - Regular Plan - Growth,30/10/2018,Additional Investment ,5000,41.902,119.326
,DSP Tax Saver Fund - Regular Plan - Growth,29/11/2018,Additional Investment ,5000,44.535,112.271
,DSP Tax Saver Fund - Regular Plan - Growth,31/12/2018,Additional Investment ,5000,44.952,111.23
,DSP Tax Saver Fund - Regular Plan - Growth,01/03/2019,Additional Investment ,5000,44.684,111.897
,DSP Tax Saver Fund - Regular Plan - Growth,29/03/2019,Additional Investment ,5000,48.352,103.408
,DSP Tax Saver Fund - Regular Plan - Growth,30/04/2019,Additional Investment ,5000,48.445,103.21
,DSP Tax Saver Fund - Regular Plan - Growth,29/05/2019,Additional Investment ,5000,49.323,101.373
,DSP Tax Saver Fund - Regular Plan - Growth,01/07/2019,Additional Investment ,5000,49.191,101.645
,DSP Tax Saver Fund - Regular Plan - Growth,30/07/2019,Additional Investment ,5000,46.45,107.643
,DSP Tax Saver Fund - Regular Plan - Growth,29/08/2019,Additional Investment ,5000,46.387,107.789
,DSP Tax Saver Fund - Regular Plan - Growth,01/10/2019,Additional Investment ,5000,48.926,102.195
,DSP Tax Saver Fund - Regular Plan - Growth,29/11/2019,Additional Investment ,5000,51.499,97.089
,DSP Tax Saver Fund - Regular Plan - Growth,31/12/2019,Additional Investment ,5000,51.619,96.864
,DSP Tax Saver Fund - Regular Plan - Growth,29/01/2020,Additional Investment ,5000,52.606,95.046
,DSP Tax Saver Fund - Regular Plan - Growth,02/03/2020,Additional Investment ,5000,48.921,102.206
```

Take a look at the CSV above, or after downloading the file; we can then begin with planning phase.

Planning

Right off the bat, we notice that unlike our previous sample CSV, this starts each line with a comma.

We could easily import it into our spreadsheet using in-built import system in place.

First part of the problem, is to compute total number of units purchased more than a year ago.

Notice the term, *total number of units*.

This is different from number of units purchased, added up all together.

Why?

A sell transaction reduces number of units.

Total number of units outside of 1 year period, is

```
SUM(units purchased up to DATE(today - 1y)) - SUM(<units sold>)
```

Notice the difference. We're adding up units purchased only up to a year ago. But we're subtracting **all units** sold (and not just units sold up to a year ago).

What if this value is negative?

Then, there's no unit older than a year.

In this case, we might want to wrap the result to be zero.

We can use `MAX()` function for that

```
MAX(SUM(units purchased up to DATE(today - 1y)) - SUM(<units sold>), 0)
```

Link to documentation on MAX() ↗ | archive.org link ↗ | archive.is link ↗

However, there remains one more problem: there are more than one fund!

We cannot just add units of two different funds!

In other words, we need a way to present this result (total units older than 1 year), for **each** fund.

But how do we get excel / spreadsheet to extract this *unique* set of values, then add up values only against each of those?

One simple observation is because the fund names are grouped together, we can manually segregate these.

But in a different CSV file, the grouping might not be there at all. Different funds can be mixed with transactions appearing one after another, to give it a chronological order.

We can use `UNIQUE()` function from Google Sheets, to get a list of unique fund names, and this would work for the case even when the names are not grouped together.

Link to documentation of UNIQUE() ↗ | archive.org link ↗ | archive.is link ↗

Next task, is to add up transactions for each of the unique fund names that appear.

There are more than one ways to go about it. We could use `FILTER()` function, operate on a subset of the data. We could also use some combination of `LOOKUP()` with `SUM()` or `SUMIF()`.

We use `SUMIFS()` to add up all units from purchase transactions **up to a year ago**, and subtract the unit balance for redemption or switch-out transactions.

Link to documentation of SUMIFS() ↗ | archive.org link ↗ | archive.is link ↗

This function allows for more than one criteria to search, and sum up, within a range of data.

How do we find *up to a year ago*?


```
TODAY() - 1 * 365
```

Instead of putting a hardcoded value for date, we can use a dynamically-deduced value. Reason being, this output would depend on which date you're checking the spreadsheet.

`TODAY()` function gives us today's date. And subtracting 365, gives date going back a year.

Remaining Units Older than 1 Year

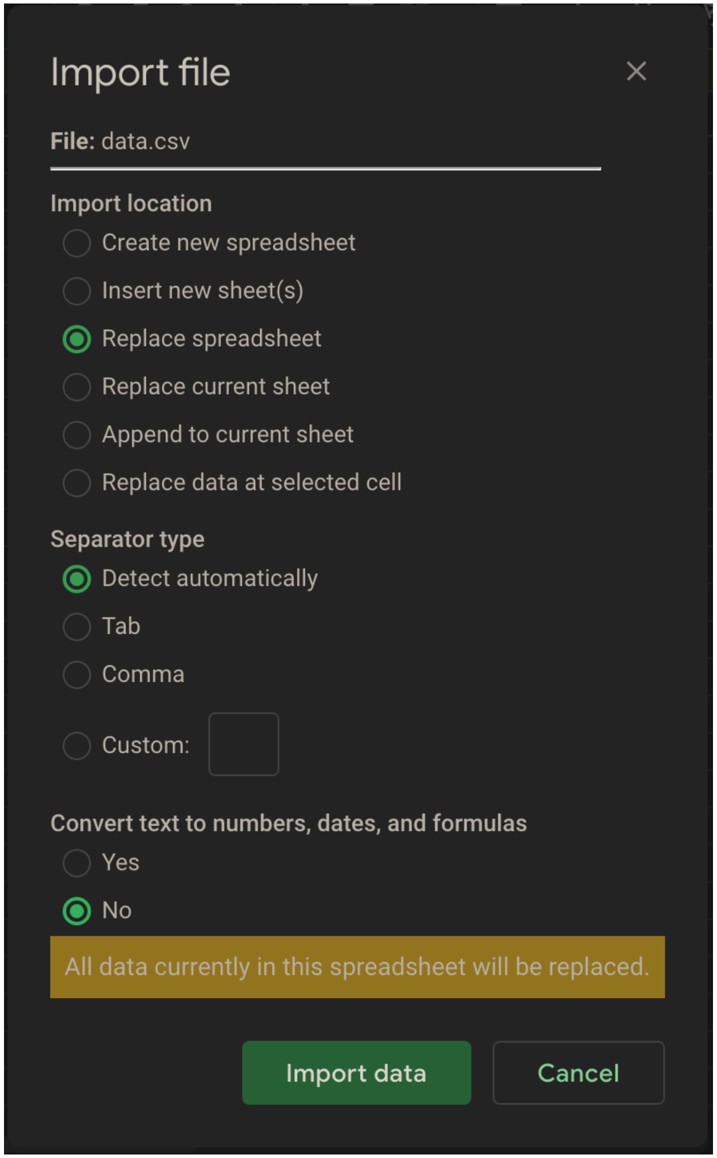
Now that we've chalked out a plan, it's time to execute this step by step.

Importing Transaction History

Follow these steps:

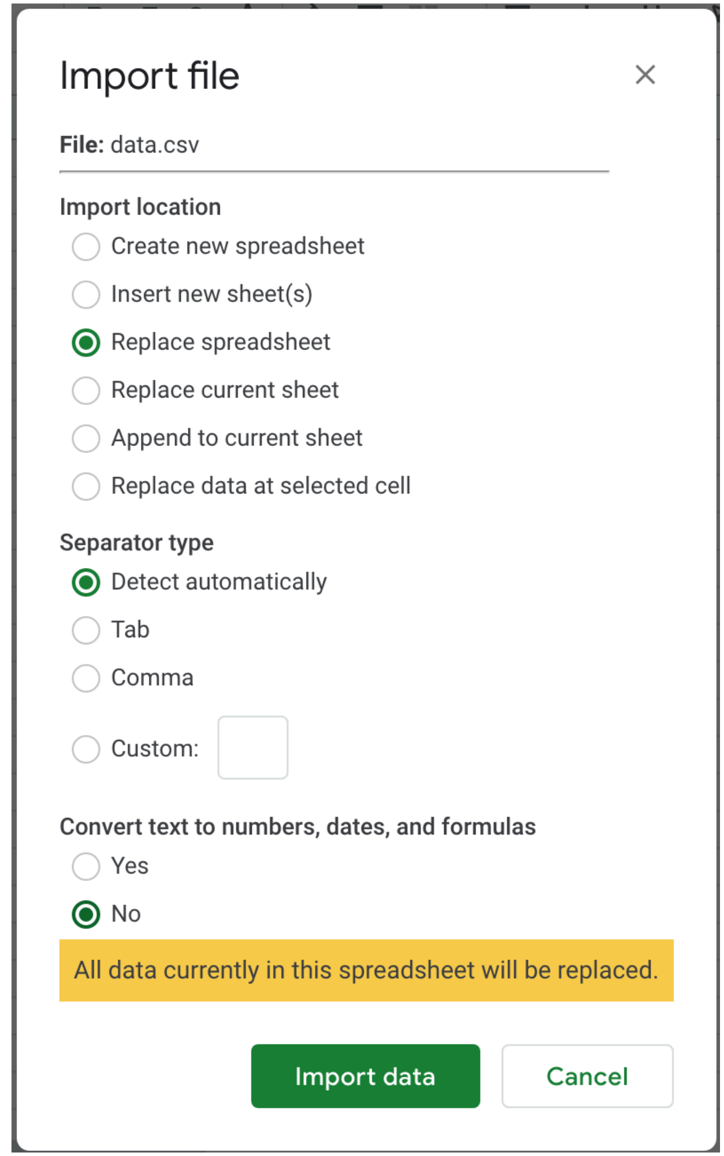
- Open a new empty spreadsheet
- Download the CSV file (or copy paste from above into a text file) in your machine.
- Go to your spreadsheet and import with these settings

  Select these options:
  - Replace current sheet
  - Detect Automatically
  - No



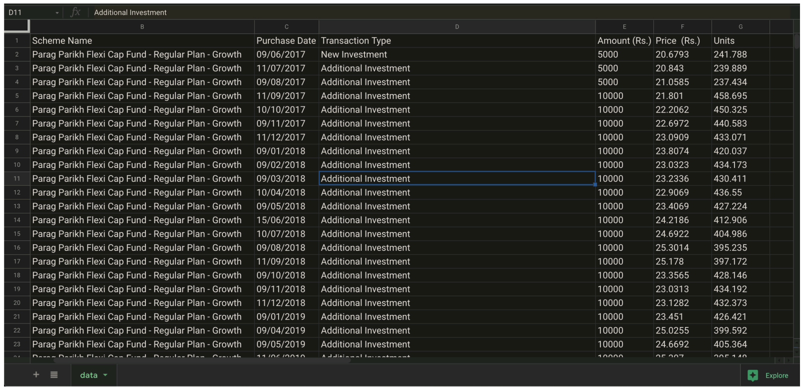
Import Data Settings - Dark Mode

13/04/2025, 11:10 r/IndiaInvestments



Import Data Settings - Light Mode

After importing this CSV file into your Spreadsheet, it should look like this

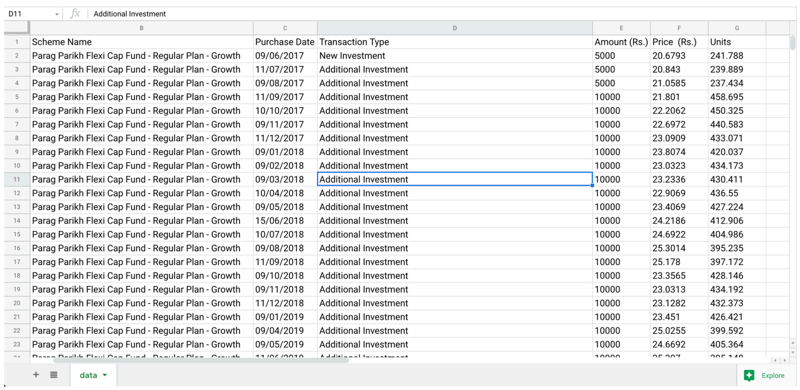


D11 | Additional Investment

	Scheme Name	Purchase Date	Transaction Type	Amount (Rs.)	Price (Rs.)	Units
2	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	09/06/2017	New Investment	5000	20.6793	241.788
3	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	11/07/2017	Additional Investment	5000	20.843	239.889
4	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	09/08/2017	Additional Investment	5000	21.0585	237.434
5	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	11/09/2017	Additional Investment	10000	21.801	458.695
6	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	10/10/2017	Additional Investment	10000	22.2062	450.325
7	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	09/11/2017	Additional Investment	10000	22.6972	440.583
8	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	11/12/2017	Additional Investment	10000	23.0909	433.071
9	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	09/01/2018	Additional Investment	10000	23.8074	420.037
10	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	09/02/2018	Additional Investment	10000	23.0323	434.173
11	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	09/03/2018	Additional Investment	10000	23.2336	430.411
12	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	10/04/2018	Additional Investment	10000	22.9069	436.55
13	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	09/05/2018	Additional Investment	10000	23.4069	427.224
14	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	15/06/2018	Additional Investment	10000	24.2186	412.906
15	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	10/07/2018	Additional Investment	10000	24.6922	404.986
16	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	09/08/2018	Additional Investment	10000	25.3014	395.235
17	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	11/09/2018	Additional Investment	10000	25.178	397.172
18	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	09/10/2018	Additional Investment	10000	23.3565	428.146
19	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	09/11/2018	Additional Investment	10000	23.0313	434.192
20	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	11/12/2018	Additional Investment	10000	23.1282	432.373
21	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	09/01/2019	Additional Investment	10000	23.451	426.421
22	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	09/04/2019	Additional Investment	10000	25.0255	399.592
23	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	09/05/2019	Additional Investment	10000	24.6692	405.364

data | Explore

After Importing Transaction History CSV - Dark Mode



D11 | Additional Investment

	Scheme Name	Purchase Date	Transaction Type	Amount (Rs.)	Price (Rs.)	Units
2	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	09/06/2017	New Investment	5000	20.6793	241.788
3	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	11/07/2017	Additional Investment	5000	20.843	239.889
4	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	09/08/2017	Additional Investment	5000	21.0585	237.434
5	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	11/09/2017	Additional Investment	10000	21.801	458.695
6	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	10/10/2017	Additional Investment	10000	22.2062	450.325
7	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	09/11/2017	Additional Investment	10000	22.6972	440.583
8	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	11/12/2017	Additional Investment	10000	23.0909	433.071
9	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	09/01/2018	Additional Investment	10000	23.8074	420.037
10	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	09/02/2018	Additional Investment	10000	23.0323	434.173
11	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	09/03/2018	Additional Investment	10000	23.2336	430.411
12	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	10/04/2018	Additional Investment	10000	22.9069	436.55
13	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	09/05/2018	Additional Investment	10000	23.4069	427.224
14	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	15/06/2018	Additional Investment	10000	24.2186	412.906
15	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	10/07/2018	Additional Investment	10000	24.6922	404.986
16	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	09/08/2018	Additional Investment	10000	25.3014	395.235
17	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	11/09/2018	Additional Investment	10000	25.178	397.172
18	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	09/10/2018	Additional Investment	10000	23.3565	428.146
19	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	09/11/2018	Additional Investment	10000	23.0313	434.192
20	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	11/12/2018	Additional Investment	10000	23.1282	432.373
21	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	09/01/2019	Additional Investment	10000	23.451	426.421
22	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	09/04/2019	Additional Investment	10000	25.0255	399.592
23	Parag Parikh Flexi Cap Fund - Regular Plan - Growth	09/05/2019	Additional Investment	10000	24.6692	405.364

data | Explore

After Importing Transaction History CSV - Light Mode

Extracting Unique Funds

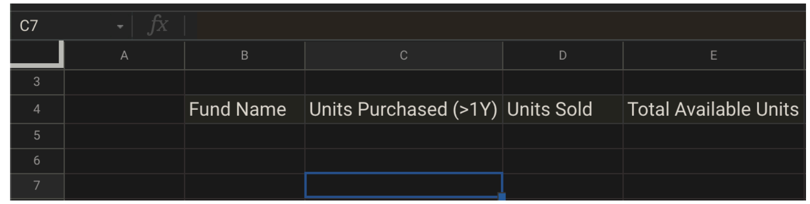
We'd use this sheet as our source of data.

And in case you're wondering, yes, excel / spreadsheet allows you to refer to data from a cell in **different sheet**.

Follow these steps to extract a list of unique funds

- Create a new sheet in your workbook, clicking on the plus sign (`+`) at the bottom left of your spreadsheet application.
- In this new sheet, add a table header

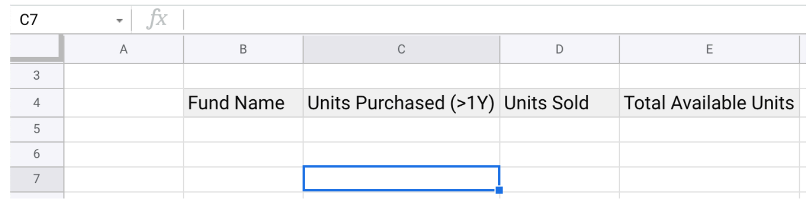
It should look like this



C7

	A	B	C	D	E
3					
4		Fund Name	Units Purchased (>1Y)	Units Sold	Total Available Units
5					
6					
7					

Table Headers - Dark Mode



C7

	A	B	C	D	E
3					
4		Fund Name	Units Purchased (>1Y)	Units Sold	Total Available Units
5					
6					
7					

Table Headers - Light Mode

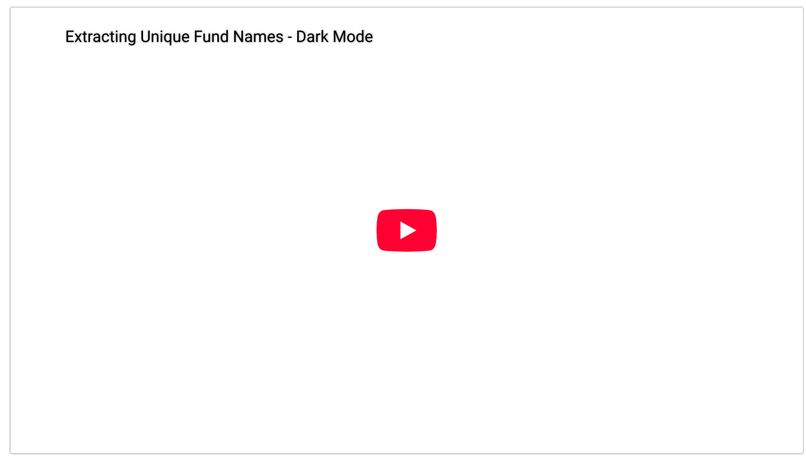
Next step is to use `UNIQUE()` function, with the range of all funds.

There are total 329 entries in the CSV imported transactions.

In the first sheet, if the first entry of fund name starts at `B2`, then the last entry would be at (329 - 2 + 1) = `B330`.

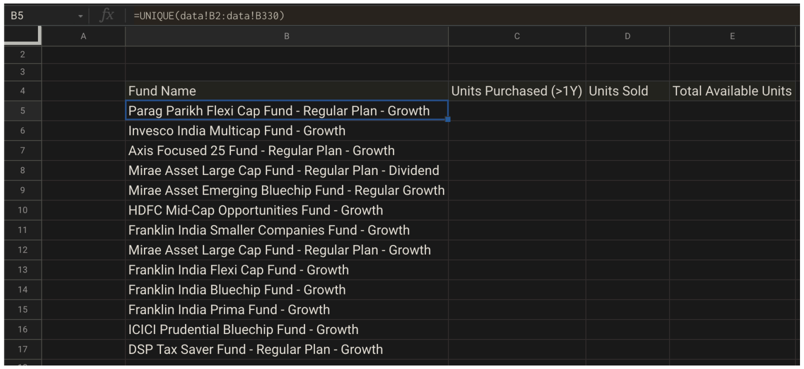
We are referring across sheet, the reference works out as `<name of the sheet>!<cellId>`.

Refer to this video for more guidance:



https://www.youtube.com/watch?v=Q8KinGUG:Ug
www.youtube.com

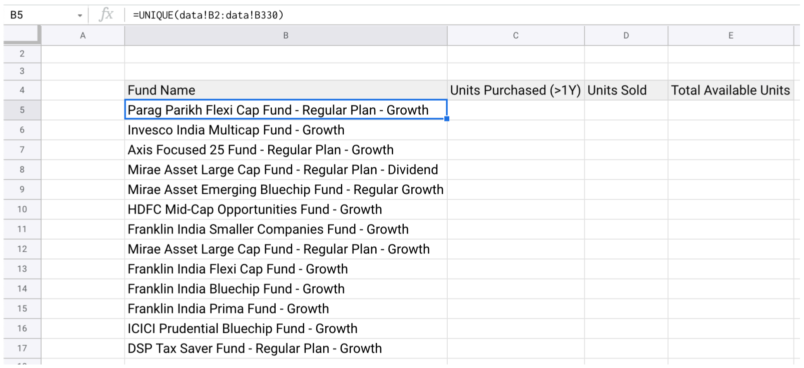
Final outcome of this process should look like as follows



B5 =UNIQUE(data!B2:data!B330)

	A	B	C	D	E
2					
3					
4		Fund Name	Units Purchased (>1Y)	Units Sold	Total Available Units
5		Parag Parikh Flexi Cap Fund - Regular Plan - Growth			
6		Invesco India Multicap Fund - Growth			
7		Axis Focused 25 Fund - Regular Plan - Growth			
8		Mirae Asset Large Cap Fund - Regular Plan - Dividend			
9		Mirae Asset Emerging Bluechip Fund - Regular Growth			
10		HDFC Mid-Cap Opportunities Fund - Growth			
11		Franklin India Smaller Companies Fund - Growth			
12		Mirae Asset Large Cap Fund - Regular Plan - Growth			
13		Franklin India Flexi Cap Fund - Growth			
14		Franklin India Bluechip Fund - Growth			
15		Franklin India Prima Fund - Growth			
16		ICICI Prudential Bluechip Fund - Growth			
17		DSP Tax Saver Fund - Regular Plan - Growth			

Unique Fund Names - Dark Mode



B5 =UNIQUE(data!B2:data!B330)

	A	B	C	D	E
2					
3					
4		Fund Name	Units Purchased (>1Y)	Units Sold	Total Available Units
5		Parag Parikh Flexi Cap Fund - Regular Plan - Growth			
6		Invesco India Multicap Fund - Growth			
7		Axis Focused 25 Fund - Regular Plan - Growth			
8		Mirae Asset Large Cap Fund - Regular Plan - Dividend			
9		Mirae Asset Emerging Bluechip Fund - Regular Growth			
10		HDFC Mid-Cap Opportunities Fund - Growth			
11		Franklin India Smaller Companies Fund - Growth			
12		Mirae Asset Large Cap Fund - Regular Plan - Growth			
13		Franklin India Flexi Cap Fund - Growth			
14		Franklin India Bluechip Fund - Growth			
15		Franklin India Prima Fund - Growth			
16		ICICI Prudential Bluechip Fund - Growth			
17		DSP Tax Saver Fund - Regular Plan - Growth			

Unique Fund Names - Light Mode

Locking Cell IDs for Dragging Autofills

Before we proceed to compute the total units sold or purchased, a look at autofill drag behavior is warranted.

Say, a formula is `FUNCTION(A2, sheet!C3:sheet!C300)`.

In this formula, if we drag it to next row, it'd change as follows: `FUNCTION(A3, sheet!C4:sheet!C301)`.

However, we might not want all referred fields to change.

`A2` → `A3` ✅
`sheet!C3:sheet!C300` → `sheet!C4:sheet!C301` ✕

The range of data remains same for both functions, and we'd only want a **part of formula to change, while other part of the formula remaining constant**.

This is referred to as *locking cells* in excel or spreadsheet formula.

`$` is used to lock a formula's elements.

A cell ID consists of Column ID, and a Row ID. Using `$` ahead of either of these, locks them or makes them immutable when an auto-fill dragging happens.

For instance, `$A2` means if horizontal dragging is done, it'd remain as `$A2`. And won't turn into `$B2`.

Similarly, `A$3` means if vertical dragging is done, it won't change to `A$4`. Rather it'd remain as `A$3`.

To *lock* or preserve the expression, both horizontally and vertically, we can use `$A$2`

In the above example, `FUNCTION(A3, sheet!$C$3:sheet!$C$300)` should do the trick.

We'd use this in the next step.

Total Number of Units Sold

Number of units sold in a fund, can be computed in the second sheet as sum of these cells:

- where name of the fund match the fund column in data sheet
- where unit column is negative

However, before we did that, we should update the data cells.

When importing, we imported everything as raw strings. And prevented spreadsheet application from formatting dates / numbers / strings as it saw fit.

This was to give us more control over how to format these strings.

Follow these steps:

- In the data sheet where all CSV entries were imported, add a new column next to last column
- Invoke `VALUE()` function for first entry against number of units.

  This function takes raw string values of units, and convert those to floating-point numbers. This would help us compare against 0 or other numbers, or add these up.
- Auto-fill all cells in that column, to have numeric values of each raw string of units.
- Go back to the second sheet, which has unique fund names
- In the third column, *Units sold*, add this formula:

  ```
  SUMIFS(
    <range of unit value column in data sheet>,
    <fund name column in data sheet>,
    name of fund in current row in second sheet,
    <unit value column in data sheet>,
    "<0"
  )
  ```

  First argument to `SUMIFS()` is the range on which it'd do the *summing* or addition.

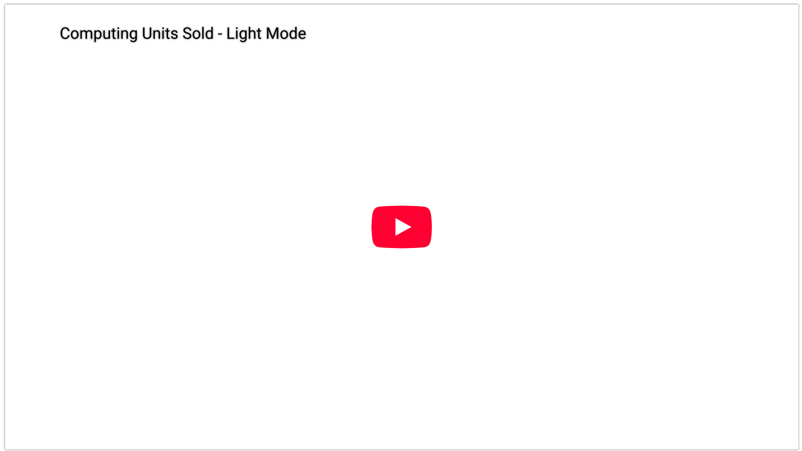
  Next 2 arguments are set of criteria. There are 4 arguments after the first one, in couplets they represent 2 conditions.

  2nd and 3rd argument means *find me the rows where the name of the fund is same as it is here*. This should **not** be locked cell.

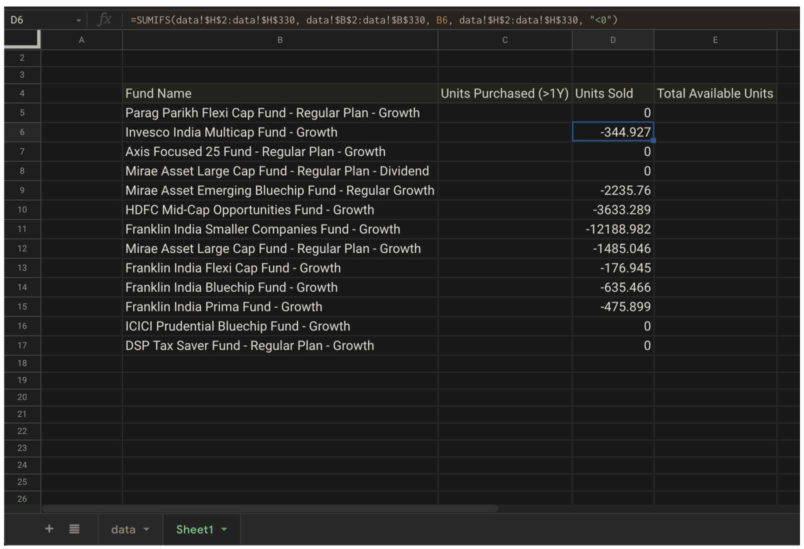
  4th and 5th argument means *now check the unit value column and pick the ones with value less than zero.*

Refer to the following video(s)

https://www.youtube.com/watch?v=Oson6YaYs:U
www.youtube.com



Final result should match this

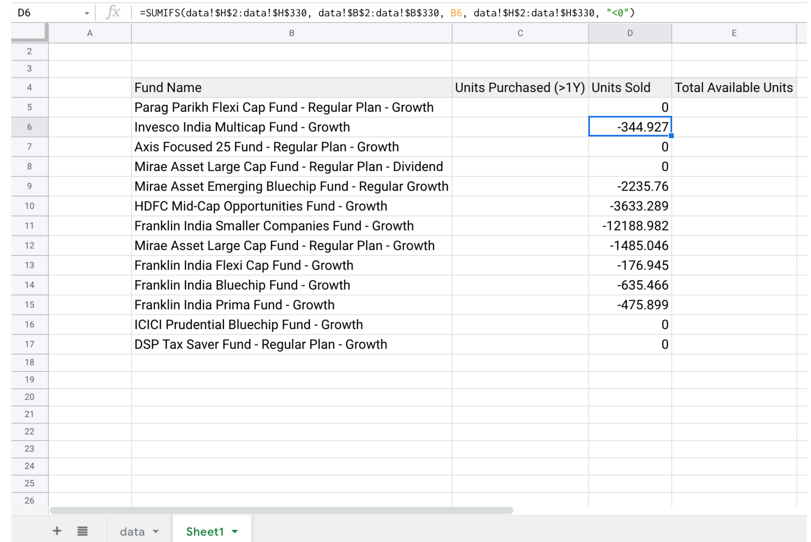


D6 =SUMIFS(data!$H$2:data!$H$330, data!$B$2:data!$B$330, B6, data!$H$2:data!$H$330, "<0")

Fund Name	Units Purchased (>1Y)	Units Sold	Total Available Units
Parag Parikh Flexi Cap Fund - Regular Plan - Growth		0	
Invesco India Multicap Fund - Growth		-344.927	
Axis Focused 25 Fund - Regular Plan - Growth		0	
Mirae Asset Large Cap Fund - Regular Plan - Dividend		0	
Mirae Asset Emerging Bluechip Fund - Regular Growth		-2235.76	
HDFC Mid-Cap Opportunities Fund - Growth		-3633.289	
Franklin India Smaller Companies Fund - Growth		-12188.982	
Mirae Asset Large Cap Fund - Regular Plan - Growth		-1485.046	
Franklin India Flexi Cap Fund - Growth		-176.945	
Franklin India Bluechip Fund - Growth		-635.466	
Franklin India Prima Fund - Growth		-475.899	
ICICI Prudential Bluechip Fund - Growth		0	
DSP Tax Saver Fund - Regular Plan - Growth		0	

data Sheet1

Total Units Sold - Dark Mode



D6 =SUMIFS(data!$H$2:data!$H$330, data!$B$2:data!$B$330, B6, data!$H$2:data!$H$330, "<0")

Fund Name	Units Purchased (>1Y)	Units Sold	Total Available Units
Parag Parikh Flexi Cap Fund - Regular Plan - Growth		0	
Invesco India Multicap Fund - Growth		-344.927	
Axis Focused 25 Fund - Regular Plan - Growth		0	
Mirae Asset Large Cap Fund - Regular Plan - Dividend		0	
Mirae Asset Emerging Bluechip Fund - Regular Growth		-2235.76	
HDFC Mid-Cap Opportunities Fund - Growth		-3633.289	
Franklin India Smaller Companies Fund - Growth		-12188.982	
Mirae Asset Large Cap Fund - Regular Plan - Growth		-1485.046	
Franklin India Flexi Cap Fund - Growth		-176.945	
Franklin India Bluechip Fund - Growth		-635.466	
Franklin India Prima Fund - Growth		-475.899	
ICICI Prudential Bluechip Fund - Growth		0	
DSP Tax Saver Fund - Regular Plan - Growth		0	

data Sheet1

Total Units Sold - Light Mode

Normalizing imported dates

To determine unit balance for only purchase transactions, about a year ago, we need to use `SUMIFS()` function again.

But this time, we've to add one more condition: **date of purchase**

Comparing dates adds some complexity.

As we had to convert raw strings to their numeric values earlier, we'd have to convert these raw string transaction dates to actual dates that would allow our spreadsheets to compare against other dates.

Follow these steps to achieve this:

- Add an extra column next to the units value column, in data sheet.
- Invoke `DATEVALUE()` function to compute date from raw strings in *Purchase Date* column.
  It'd most likely print a number.
- Go to `Format` → `Numbers` → `Date Format`.
  This would change it to a date format.
- Use drag and autofill, to get equivalent date values for each of the transaction dates

Documentation of DATEVALUE() ↗ | archive.org link ↗ | archive.is link ↗

The newly created column should contain similar-looking values, though under the hood, they've been converted to date objects.

Units purchased older than 1 year

It's time to put all these together.

The `SUMIFS()` would get one more condition with 2 more arguments - that purchase date / transaction date were before 1 year ago.

- In the second sheet (not the sheet named `data`), add a cell, to note down date exactly 1 year ago.

  It should be written as `TODAY() - 1 * 365`. `TODAY()` is an in-built function that returns today's date (we want to compute it, so no matter when someone checks the sheet, it gives correct value based on that date).

  By default, subtraction assumes unit as 1 day, therefore subtracting 365 is enough to get the date from exactly a year ago.

  Use date formatting if needed.

- In the second column, *Units Purchased (>1Y)*, add this formula:

```
SUMIFS(
  <range of unit value column in data sheet>,
  <fund name column in data sheet>,
  name of fund in current row in second sheet,
  <unit value column in data sheet>,
  ">0",
  <formatted date column>
  <less than date from a year ago>
)
```

  First argument to `SUMIFS()` is the range on which it'd do the *summing* or addition.

  Next 2 arguments are set of criteria. There are 4 arguments after the first one, in couplets they represent 2 conditions.

  2nd and 3rd argument means *find me the rows where the name of the fund is same as it is here*. This should **not** be locked cell.

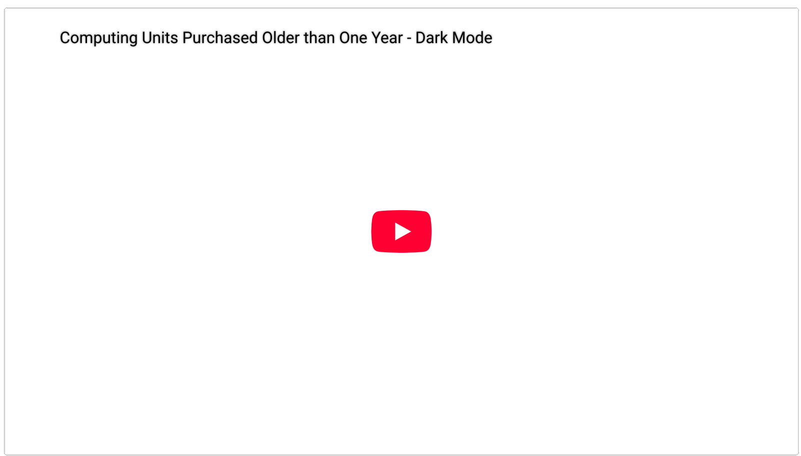
  4th and 5th argument means *now check the unit value column and pick the ones with value less than zero.*

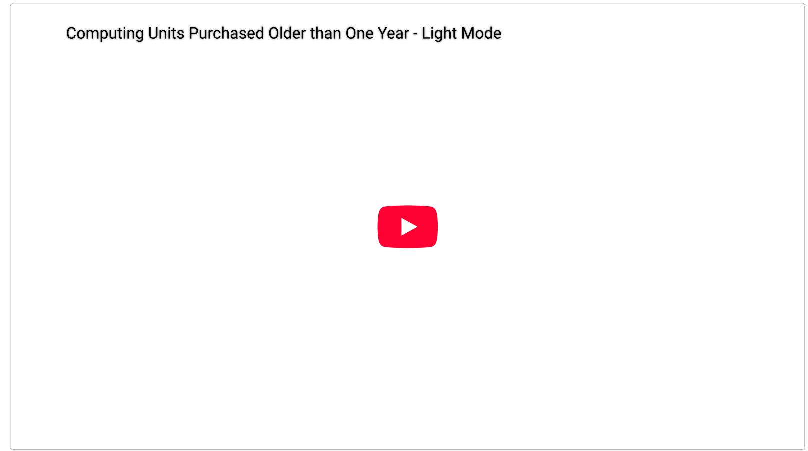
  6th argument is pointing to newly added formatted date column from above.

  7th argument is a bit interesting. Conditions are wrapped in quotes (`""` or `''`), but if we refer to a cell which has a fixed date in it, we cannot write it as `"<$B$6"`.

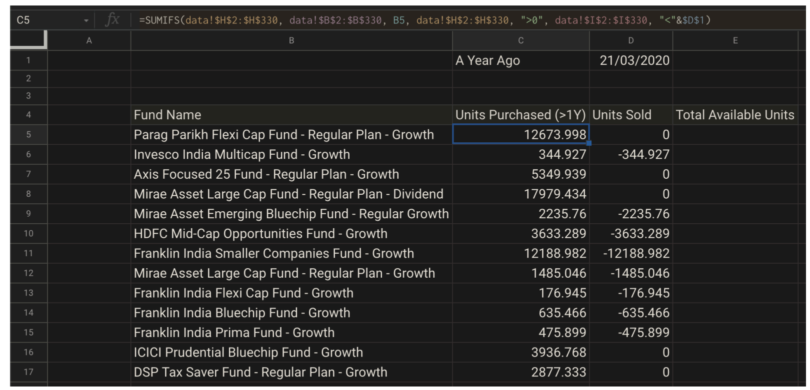
  We have to use `&` and write it as `"<"&$B$6`. This is a way to use the value in cell `B6` in a conditional.

Refer to the following video:





Final result should match these



C5 =SUMIFS(data!$H$2:$H$330, data!$B$2:$B$330, B5, data!$H$2:$H$330, ">0", data!$I$2:$I$330, "<"&$D$1)

	A	B	C	D	E
1			A Year Ago	21/03/2020	
2					
3					
4		Fund Name	Units Purchased (>1Y)	Units Sold	Total Available Units
5		Parag Parikh Flexi Cap Fund - Regular Plan - Growth	12673.998	0	
6		Invesco India Multicap Fund - Growth	344.927	-344.927	
7		Axis Focused 25 Fund - Regular Plan - Growth	5349.939	0	
8		Mirae Asset Large Cap Fund - Regular Plan - Dividend	17979.434	0	
9		Mirae Asset Emerging Bluechip Fund - Regular Growth	2235.76	-2235.76	
10		HDFC Mid-Cap Opportunities Fund - Growth	3633.289	-3633.289	
11		Franklin India Smaller Companies Fund - Growth	12188.982	-12188.982	
12		Mirae Asset Large Cap Fund - Regular Plan - Growth	1485.046	-1485.046	
13		Franklin India Flexi Cap Fund - Growth	176.945	-176.945	
14		Franklin India Bluechip Fund - Growth	635.466	-635.466	
15		Franklin India Prima Fund - Growth	475.899	-475.899	
16		ICICI Prudential Bluechip Fund - Growth	3936.768	0	
17		DSP Tax Saver Fund - Regular Plan - Growth	2877.333	0	

Units Purchased more than 1Y Ago - Dark Mode

C5 `=SUMIFS(data!$H$2:$H$330, data!$B$2:$B$330, B5, data!$H$2:$H$330, ">0", data!$I$2:$I$330, "<"&$D$1)`

	A	B	C	D	E
1			A Year Ago	21/03/2020	
2					
3					
4		Fund Name	Units Purchased (>1Y)	Units Sold	Total Available Units
5		Parag Parikh Flexi Cap Fund - Regular Plan - Growth	12673.998	0	
6		Invesco India Multicap Fund - Growth	344.927	-344.927	
7		Axis Focused 25 Fund - Regular Plan - Growth	5349.939	0	
8		Mirae Asset Large Cap Fund - Regular Plan - Dividend	17979.434	0	
9		Mirae Asset Emerging Bluechip Fund - Regular Growth	2235.76	-2235.76	
10		HDFC Mid-Cap Opportunities Fund - Growth	3633.289	-3633.289	
11		Franklin India Smaller Companies Fund - Growth	12188.982	-12188.982	
12		Mirae Asset Large Cap Fund - Regular Plan - Growth	1485.046	-1485.046	
13		Franklin India Flexi Cap Fund - Growth	176.945	-176.945	
14		Franklin India Bluechip Fund - Growth	635.466	-635.466	
15		Franklin India Prima Fund - Growth	475.899	-475.899	
16		ICICI Prudential Bluechip Fund - Growth	3936.768	0	
17		DSP Tax Saver Fund - Regular Plan - Growth	2877.333	0	

Units Purchased more than 1Y Ago - Light Mode

The numbers might not exactly match, because depending on today's date, you might have a higher value. Above computation is as on 21st March 2021.

When a cell range in a sheet is being referred, second reference to same sheet can be omitted. `data!B4:data!B50` can be written as `data!B4:B50`

LTCG-Eligible Units

This part is straight-forward

It's sum of total units purchased more than one year ago, and total units sold so far.

Effectively, we have to sum up the column entries. We can use auto-fill with drag. In fact, spreadsheet might actually prompt here, on how to autofill these cells, in last column of second sheet.

It also shows why keeping *units sold* in negative was a good idea.

A sample final result can look like this

E17 `=C17 + D17`

	A	B	C	D	E
1			A Year Ago	21/03/2020	
2					
3					
4		Fund Name	Units Purchased (>1Y)	Units Sold	Total Available Units
5		Parag Parikh Flexi Cap Fund - Regular Plan - Growth	12673.998	0	12673.998
6		Invesco India Multicap Fund - Growth	344.927	-344.927	0
7		Axis Focused 25 Fund - Regular Plan - Growth	5349.939	0	5349.939
8		Mirae Asset Large Cap Fund - Regular Plan - Dividend	17979.434	0	17979.434
9		Mirae Asset Emerging Bluechip Fund - Regular Growth	2235.76	-2235.76	0
10		HDFC Mid-Cap Opportunities Fund - Growth	3633.289	-3633.289	0
11		Franklin India Smaller Companies Fund - Growth	12188.982	-12188.982	0
12		Mirae Asset Large Cap Fund - Regular Plan - Growth	1485.046	-1485.046	0
13		Franklin India Flexi Cap Fund - Growth	176.945	-176.945	0
14		Franklin India Bluechip Fund - Growth	635.466	-635.466	0
15		Franklin India Prima Fund - Growth	475.899	-475.899	0
16		ICICI Prudential Bluechip Fund - Growth	3936.768	0	3936.768
17		DSP Tax Saver Fund - Regular Plan - Growth	2877.333	0	2877.333

Units outside of STCG Taxation - Dark Mode

C5 `=SUMIFS(data!$H$2:$H$330, data!$B$2:$B$330, B5, data!$H$2:$H$330, ">0", data!$I$2:$I$330, "<"&$D$1)`

	A	B	C	D	E
1			A Year Ago	21/03/2020	
2					
3					
4		Fund Name	Units Purchased (>1Y)	Units Sold	Total Available Units
5		Parag Parikh Flexi Cap Fund - Regular Plan - Growth	12673.998	0	
6		Invesco India Multicap Fund - Growth	344.927	-344.927	
7		Axis Focused 25 Fund - Regular Plan - Growth	5349.939	0	
8		Mirae Asset Large Cap Fund - Regular Plan - Dividend	17979.434	0	
9		Mirae Asset Emerging Bluechip Fund - Regular Growth	2235.76	-2235.76	
10		HDFC Mid-Cap Opportunities Fund - Growth	3633.289	-3633.289	
11		Franklin India Smaller Companies Fund - Growth	12188.982	-12188.982	
12		Mirae Asset Large Cap Fund - Regular Plan - Growth	1485.046	-1485.046	
13		Franklin India Flexi Cap Fund - Growth	176.945	-176.945	
14		Franklin India Bluechip Fund - Growth	635.466	-635.466	
15		Franklin India Prima Fund - Growth	475.899	-475.899	
16		ICICI Prudential Bluechip Fund - Growth	3936.768	0	
17		DSP Tax Saver Fund - Regular Plan - Growth	2877.333	0	

Units outside of STCG Taxation - Light Mode

Wrapping up

It's easy to cross-check and verify that these complex computations and instrumentations actually lead to sane results

Based on the above computations, we see that investor has entered and exited multiple funds over the years.

Out of these, this investor hasn't sold units in the following:

- Parag Parikh Flexi Cap Fund - Regular Plan - Growth
- Axis Focused 25 Fund - Regular Plan - Growth
- Mirae Asset Large Cap Fund - Regular Plan - Dividend
- ICICI Prudential Bluechip Fund - Growth
- DSP Tax Saver Fund - Regular Plan - Growth

This is evident from the `Units Sold` column - investor hasn't sold any units in these funds.

Over the years, investor has switched their corpus into these above funds.

For the other funds in their portfolio, they've completely sold these off, more than a year ago. We can easily verify this, going through the redemption transactions, and see that those were before 21/03/2020, i.e. more than one year ago.

Process for Estimating Tax

A peek into tax estimation process for redeeming units that are outside STCG zone

Intro

In the previous chapter, we've seen how to compute total number of LTCG taxation eligible units, if equity transaction history has been provided.

Picking up from where we'd left off in in part 1, we can start with planning for potential tax computations

Planning for Tax Computation

At this point, we've computed units outside of STCG zone (purchased more than a year ago, that's still in investor's portfolio, eligible for LTCG taxation if redeemed). STCG stands for **S**hort **T**erm **C**apital **G**ain.

We need to compute these:

- tax liability, if investor were to sell all these units.
- total number of units present, where net tax liability is equal to or below 1L, if investors were to sell those

How to compute Tax?

Tax is computed on *realized gain*, or booked profits. Realized gain, can be written as `SUM(selling price of units - purchase price of units)`.

Say, an investor purchased

- `U1` units, on date `t1`, at price `P1`.
- `U2` units, on date `t2`, at price `P2`.
- `U3` units, on date `t3`, at price `P3`.

Assume selling price (NAV on day of selling) is `P`.

This investor has `(U1 + U2 + U3)` available for selling. Realized gain is:

```
[(U1 * (P - P1) + U2 * (P - P2) + U3 * (P - P3)]
```

Which can be written as:

```
(U1 + U2 + U3) * P - (U1 * P1 + U2 * P2 + U3 * P3)
```

In previous section, we've computed effective value of `(U1 + U2 + U3)`, for any number of transactions.

We know `P1`, `P2`, `P3`; for all those transactions.

Only missing information is selling price, `P`.

What we need, is selling price as on today (the given day when investor is attempting the sell transaction).

In other words, we need a way to get access to latest NAV of these funds.

Because this NAV would change every day (equity mutual funds update NAVs at the end of the day, every business day); it'd be better to *programmatically* access it, like we used `GOOGLEFINANCE()` for historic data.

`GOOGLEFINANCE()` can be one option here. But as we've learned in the previous section, it has issues (remember seeing `#NA` all over the place?)

Instead, we'd go to the source!

Getting the latest NAV

Every AMC has a regulatory requirement to update their NAV daily with AMFI (**A**ssociation of **M**utual **F**unds in **I**ndia). And AMFI makes this data available for parsing, in a **CSV format**, on their website.

This is the link: https://www.amfiindia.com/spages/NAVAll.txt ↗

Remember when you were thinking learning `SPLIT()` `TRANSPOSE()` would've been of no use? Well, as you're about to see, not all CSV data come in text files.

Google Sheets has an `IMPORTDATA()` function, that'd do just fine. We provide it a URL for the AMFI NAV endpoint, and it'd fetch that latest raw NAV data.

Then we can *split* that raw NAV feed into cells, as we see fit.

Finding your fund

This AMFI URL has ~20k entries. To be able to find the funds as in the CSV transaction dump, our excel matchers would be fine.

But the problem is this: the name of fund can appear differently in that list, as opposed to how it appears in the CSV.

Finding fund by matching strings would lead to misses.

A better option would be to find fund the way it's usually done - by a unique identifier.

This unique identifier is already present in the AMFI NAV feed URL: **`ISIN`**

ISIN (**I**nternational **S**ecurities **I**dentification **N**umbers) is unique across global securities market. Not only can there be no two funds with same ISIN in India; there can be no two securities with duplicate ISINs in regulated markets, across the world!

We have to find ISIN for each of the funds in CSV transaction, manually, and add a column in the second sheet, next to each fund, to add its ISIN.

List of ISIN is also present in AMFI NAV feed.

This is actually a straight-forward, one-time exercise. It should also make it clear to the reader why having too many funds to portfolio can be cumbersome.

Execution

Adding ISIN column

Let's start by adding the ISIN column first

In the second sheet (not the one named `data`), add a column next to fund's name. You can use *Insert Column*.

Insert ISINs as follows (copy-paste from below):

```
ISIN
INF879O01019
INF205K01DN2
INF846K01CH7
INF769K01036
INF769K01101
INF179K01CR2
INF090I01569
INF769K01010
INF090I01239
INF090I01171
INF090I01809
INF109K01BL4
INF740K01185
```

Final results, should look like this

Fund Name	ISIN
Parag Parikh Flexi Cap Fund - Regular Plan - Growth	INF879O01019
Invesco India Multicap Fund - Growth	INF205K01DN2
Axis Focused 25 Fund - Regular Plan - Growth	INF846K01CH7
Mirae Asset Large Cap Fund - Regular Plan - Dividend	INF769K01036
Mirae Asset Emerging Bluechip Fund - Regular Growth	INF769K01101
HDFC Mid-Cap Opportunities Fund - Growth	INF179K01CR2
Franklin India Smaller Companies Fund - Growth	INF090I01569
Mirae Asset Large Cap Fund - Regular Plan - Growth	INF769K01010
Franklin India Flexi Cap Fund - Growth	INF090I01239
Franklin India Bluechip Fund - Growth	INF090I01171
Franklin India Prima Fund - Growth	INF090I01809
ICICI Prudential Bluechip Fund - Growth	INF109K01BL4
DSP Tax Saver Fund - Regular Plan - Growth	INF740K01185

Fund Name	ISIN	Units Purchased (>1Y)	Units Sold	Total Available Units
Parag Parikh Flexi Cap Fund - Regular Plan - Growth	INF879O01019	12673.998	0	12673.998
Invesco India Multicap Fund - Growth	INF205K01DN2	344.927	-344.927	0
Axis Focused 25 Fund - Regular Plan - Growth	INF846K01CH7	5349.939	0	5349.939
Mirae Asset Large Cap Fund - Regular Plan - Dividend	INF769K01036	17979.434	0	17979.434
Mirae Asset Emerging Bluechip Fund - Regular Growth	INF769K01101	2235.76	-2235.76	0
HDFC Mid-Cap Opportunities Fund - Growth	INF179K01CR2	3633.289	-3633.289	0
Franklin India Smaller Companies Fund - Growth	INF090I01569	12188.982	-12188.982	0
Mirae Asset Large Cap Fund - Regular Plan - Growth	INF769K01010	1485.046	-1485.046	0
Franklin India Flexi Cap Fund - Growth	INF090I01239	176.945	-176.945	0
Franklin India Bluechip Fund - Growth	INF090I01171	635.466	-635.466	0
Franklin India Prima Fund - Growth	INF090I01809	475.899	-475.899	0
ICICI Prudential Bluechip Fund - Growth	INF109K01BL4	3936.768	0	3936.768
DSP Tax Saver Fund - Regular Plan - Growth	INF740K01185	2877.333	0	2877.333

After ISIN has been added - Dark Mode

Fund Name	ISIN	Units Purchased (>1Y)	Units Sold	Total Available Units
Parag Parikh Flexi Cap Fund - Regular Plan - Growth	INF879O01019	12673.998	0	12673.998
Invesco India Multicap Fund - Growth	INF205K01DN2	344.927	-344.927	0
Axis Focused 25 Fund - Regular Plan - Growth	INF846K01CH7	5349.939	0	5349.939
Mirae Asset Large Cap Fund - Regular Plan - Dividend	INF769K01036	17979.434	0	17979.434
Mirae Asset Emerging Bluechip Fund - Regular Growth	INF769K01101	2235.76	-2235.76	0
HDFC Mid-Cap Opportunities Fund - Growth	INF179K01CR2	3633.289	-3633.289	0
Franklin India Smaller Companies Fund - Growth	INF090I01569	12188.982	-12188.982	0
Mirae Asset Large Cap Fund - Regular Plan - Growth	INF769K01010	1485.046	-1485.046	0
Franklin India Flexi Cap Fund - Growth	INF090I01239	176.945	-176.945	0
Franklin India Bluechip Fund - Growth	INF090I01171	635.466	-635.466	0
Franklin India Prima Fund - Growth	INF090I01809	475.899	-475.899	0
ICICI Prudential Bluechip Fund - Growth	INF109K01BL4	3936.768	0	3936.768
DSP Tax Saver Fund - Regular Plan - Growth	INF740K01185	2877.333	0	2877.333

After ISIN has been added - Light Mode

Fetch and Process Latest NAV from AMFI

Follow these steps

- Create a new sheet, name it *AMFI NAV (Raw)*
- In a cell, enter the AMFI URL: `https://www.amfiindia.com/spages/NAVAll.txt`
- Invoke `IMPORTDATA()` function, and pass the cell ID of the URL above, as argument
- Given it few seconds, it'd fetch latest NAV from AMFI for all mutual funds. It should add some 18k+ rows.

  This data is in CSV format, separated by semicolon, per line.
- Create another new sheet, name it *AMFI NAV (Processed)*
- In this sheet, add somewhere this formula

  `=IF(ISBLANK(<cell ID>), , SPLIT(<cell ID>, ";")`, where `<cell ID>` points to a row of semicolon-separated data, in the sheet *AMFI NAV (Raw)*.

  `ISBLANK(<cell ID>)` checks if the cell is empty. As you can see from the data, there can be plenty of empty cells. Invoking `SPLIT()` on these, would result in an error, it'd show up as a `#VALUE` error on spread sheet.

  `IF(condition, arg1, arg2)` checks if `condition` is true for a cell (in this case, if the cell is empty). If so, the first argument `arg1` in inserted in the result cell (not the cell on which condition is being evaluated). Otherwise, `arg2` is inserted.

  `=IF(ISBLANK(<cell ID>), , SPLIT(<cell ID>, ";")` basically means *if `<cell Id>` is empty, don't put anything, else split the content of the cell by semicolon, and put the results in cells.*
- Use autofill drag to fill out all 18k+ rows in new sheet.

Technically, you won't need to fill out all 18k+ rows. As long as you fill out enough number of rows, such that all funds in that other sheet appear in those rows, it's good enough.

Refer to the following video(s) for reference

https://www.youtube.com/watch?v=URcjv1P:dcA
www.youtube.com

https://www.youtube.com/watch?v=LGD:N6mBCXA
www.youtube.com

Your sheets would now have latest available NAV from all mutual funds, in a nice table format.

We've introduced a few new Google Sheets functions in this section:

- IF() documentation ↗ | archive.org link ↗ | archive.is link ↗
- ISBLANK() documentation ↗ | archive.org link ↗ | archive.is link ↗
- IMPORTDATA() documentation ↗ | archive.org link ↗ | archive.is link ↗

Computation of Value as on Today

In this section, we'd compute net redemption value of units older than 1 year.

This is total available units older than one year (already computed earlier), multiplied by latest NAV.

We can look up latest NAV using `VLOOKUP` with ISIN as search query.

`VLOOKUP()` stands for *vertical lookup* or row-wise lookup, across columns. It's a way of *searching* for matching data.

There's also `HLOOKUP()` and `LOOKUP()`; but for our use case, `VLOOKUP()` would work fine for now.

VLOOKUP() documentation ↗ | archive.org link ↗ | archive.is link ↗

Follow these steps:

- Come back to the main sheet, which has information on available units and sold units.
- Add a column at the end, titled *Latest Value*
- Invoke `VLOOKUP()` for the top-most row as follows:

```
VLOOKUP(
  <cell ID that has ISIN for the fund>,
  <range of data from processed NAV sheet>,
  <column index, that has NAV for the fund>
  false
)
```

  1st argument, `<cell ID that has ISIN for the fund>` is ISIN, but we're doing it this way, to be able to drag and auto-fill.

  2nd argument, `<range of data from processed NAV sheet>` is a bit interesting.

  `VLOOKUP()` does not work if the column we are searching for is not the first column of a range. In our processed NAV sheet, the ISIN is the second column.

  We have to pick a range, leaving out the first column.

  This range is a combination of rows and cells. For instance, if your processed NAV sheet starts at `B3` with `Scheme Code` text in it; then, our range would be something like `C9:F18123` (leaving out the last, date column).

  Since we'd be using drag & auto-fill, we can lock these cells: `$C$9:$F$18123`.

  3rd argument, `<column index, that has NAV for the fund>`, is column index of the column for the result.We're looking for NAV when ISIN matches, which is the 4th column in our range (ISIN is the first column in this range). Hence, we can put this value as 4.

  Final argument, is `false`. It tells `VLOOKUP()` that the dataset in the range is **not sorted**. Our data set is not sorted on the basis of ISIN (sorted alphabetically on AMC name, actually), hence `false` is the right value to pass here.

Refer to this video to follow along steps:

Using VLOOKUP to Compute Latest Value - Dark Mode

Using VLOOKUP to Compute Latest Value - Light Mode

Final outcome in the newly added column, should be similar to these screenshots:

G17 =F17 * VLOOKUP(C17, 'AMFI NAV (Processed)'!$C$9:$F$18123, 4, false)

Fund Name	ISIN	Units Purchased (>1Y)	Units Sold	Total Available Units	Latest Value
Parag Parikh Flexi Cap Fund - Regular Plan - Growth	INF879O01019	12673.998	0	12673.998	485317.801
Invesco India Multicap Fund - Growth	INF205K01DN2	344.927	-344.927	0	0
Axis Focused 25 Fund - Regular Plan - Growth	INF846K01CH7	5349.939	0	5349.939	202174.1948
Mirae Asset Large Cap Fund - Regular Plan - Dividend	INF769K01036	17979.434	0	17979.434	385568.9621
Mirae Asset Emerging Bluechip Fund - Regular Growth	INF769K01101	2235.76	-2235.76	0	0
HDFC Mid-Cap Opportunities Fund - Growth	INF179K01CR2	3633.289	-3633.289	0	0
Franklin India Smaller Companies Fund - Growth	INF090I01569	12188.982	-12188.982	0	-0.000000000
Mirae Asset Large Cap Fund - Regular Plan - Growth	INF769K01010	1485.046	-1485.046	0	0
Franklin India Flexi Cap Fund - Growth	INF090I01239	176.945	-176.945	0	0
Franklin India Bluechip Fund - Growth	INF090I01171	635.466	-635.466	0	0
Franklin India Prima Fund - Growth	INF090I01809	475.899	-475.899	0	-0.000000000
ICICI Prudential Bluechip Fund - Growth	INF109K01BL4	3936.768	0	3936.768	212664.2074
DSP Tax Saver Fund - Regular Plan - Growth	INF740K01185	2877.333	0	2877.333	185959.1545

Latest Valuation of Available Units - Dark Mode

G17 =F17 * VLOOKUP(C17, 'AMFI NAV (Processed)'!$C$9:$F$18123, 4, false)

Fund Name	ISIN	Units Purchased (>1Y)	Units Sold	Total Available Units	Latest Value
Parag Parikh Flexi Cap Fund - Regular Plan - Growth	INF879O01019	12673.998	0	12673.998	485317.801
Invesco India Multicap Fund - Growth	INF205K01DN2	344.927	-344.927	0	0
Axis Focused 25 Fund - Regular Plan - Growth	INF846K01CH7	5349.939	0	5349.939	202174.1948
Mirae Asset Large Cap Fund - Regular Plan - Dividend	INF769K01036	17979.434	0	17979.434	385568.9621
Mirae Asset Emerging Bluechip Fund - Regular Growth	INF769K01101	2235.76	-2235.76	0	0
HDFC Mid-Cap Opportunities Fund - Growth	INF179K01CR2	3633.289	-3633.289	0	0
Franklin India Smaller Companies Fund - Growth	INF090I01569	12188.982	-12188.982	0	-0.000000000
Mirae Asset Large Cap Fund - Regular Plan - Growth	INF769K01010	1485.046	-1485.046	0	0
Franklin India Flexi Cap Fund - Growth	INF090I01239	176.945	-176.945	0	0
Franklin India Bluechip Fund - Growth	INF090I01171	635.466	-635.466	0	0
Franklin India Prima Fund - Growth	INF090I01809	475.899	-475.899	0	-0.000000000
ICICI Prudential Bluechip Fund - Growth	INF109K01BL4	3936.768	0	3936.768	212664.2074
DSP Tax Saver Fund - Regular Plan - Growth	INF740K01185	2877.333	0	2877.333	185959.1545

Latest Valuation of Available Units - Light Mode

Depending on when you're looking at these, the exact value might differ. Because it depends on latest NAV as on that date. This computation was done with NAV of 22nd March, 2021

We did not explicitly set out to do this, but it's trivial to take a CSV and compute latest portfolio valuation! You already have total number of units investor has in portfolio for each fund, and latest NAV for each fund.

Adding up total cost of purchase

On the surface, this sounds easier than previous steps.

All one has to do, is go and *sum* on units and NAV column, where date is much before the date 1 year ago.

In fact, investment amount is provided in the CSV transaction dump, so multiplication isn't even needed (invested amount = unit x NAV on that date).

Except, it's not that simple.

We have realized that even if units were acquired more than one year ago, doesn't mean some of those weren't sold in last 1 year, or before.

Remember that available units is **NOT** sum of all units purchased more than a year ago. We had to subtract the sold units (sold at any point in time, not just more than a year ago) to arrive at LTCG-eligible units.

In other words, we need to find unit purchase price for only these units. Not that of all units.

Another way to look at it: *keep adding purchase price, until total number of units added is same as LTCG-eligible units.*

An Example

An example to illustrate this idea:

Say, an investor is buying 10 units every month, from 2018 January, to 2020 December. That's a total 36 month period.

At the end of December 2020, $24 \times 10 = 240$ units purchased between January 2018 and December 2019, are eligible for LTCG.

Now assume that in 2020, at some point, this investor has also sold 54 units.

Then, at that point, they've $240 - 54 = 186$ units available for LTCG-eligible redemption.

What were the purchase price(s) for these 186 units?

More importantly, when were *these* 186 units acquired?

We know that investor purchased 10 units every month, from Jan 2018 to Dec 2020. Investor has also sold 54 units some time in 2020.

Redemption works in a FIFO (**F**irst **I**n **F**irst **O**ut) manner in folio. Meaning, **earliest purchased units are to be redeemed first**.

We first need to account for 54 units that were sold. These units were acquired as follows -

Month of Purchase	Number of units
January 2018	10
February 2018	10
March 2018	10
April 2018	10
May 2018	10
June 2018	4

Once we've depleted the *earliest-purchased-earliest-sold* scheme for already redeemed units, we can start to account for remaining 186 units.

These 186 LTCG-eligible units were acquired as follows:

Month of Purchase	Number of units
June 2018	6
July 2018	10
August 2018	10
September 2018	10
October 2018	10
November 2018	10
December 2018	10
January 2019	10
February 2019	10
March 2019	10
April 2019	10
May 2019	10
June 2019	10
July 2019	10
August 2019	10
September 2019	10
October 2019	10
November 2019	10
December 2019	10
Total	$18 \times 10 + 6 = 186$

When computing purchase price for these 186 units, we need to use purchase price from these months in the table; and not purchase price from January 2018.

In other words, **this is going to be the most complex part of the computation**.

To recap, we compute purchase cost / acquisition cost as follows:

- Account for existing sell transactions, depleting units, starting from initial purchase transaction; until total units add up to all units sold so far.
- Start adding up units from this date, till it adds up to total available LTCG-eligible units.

A Special Case

Luckily, we have a special scenario on our hands.

In our case, if you notice the units sold and LTCG-eligible units in the column, investor has either never sold any units from their current holdings in a specific fund; or they've completely sold off all their units in that specific fund.

Which means, for funds where there are LTCG eligible units; we **do NOT need to account for previous sell transactions**.

In other words, one can start adding up the purchase transaction costs from the very first purchase.

This won't be the case for a typical CSV transaction dumps for most investors.

Grandfathering LTCG Computations

We've so far carefully avoided discussing the *grandfathering* clause in equity LTCG computation.

Union budget 2018, defined purchase price of equity, for LTCG computation as higher of price *as on* 31st January 2018, or actual purchase price - if units were bought before this date.

To factor this in, we'd need information on NAV price as on 31st January, for each of the funds present in the CSV transaction dump, which has LTCG-eligible units.

The AMFI URL for latest NAV won't do.

Instead, we can use this URL for fetching historic data: `http://portal.amfiindia.com/DownloadNAVHistoryReport_Po.aspx?mf=<AMC Code>&tp=1&frmdt=31-Jan-2018&todt=31-Jan-2018`

This URL returns data in CSV format as before. However, it's specific to each AMC, identified by an AMC code.

An AMC code is a number, between 1 and 100. However, not all numbers between 1 and 100 correspond to a valid AMC code. You'd have to try out each number, and see which ones result in valid URLs that return data.

For example, Nippon AMC is identified by AMC code 21. This URL would return NAV history of all Nippon AMC funds, as on 31st January 2018: `http://portal.amfiindia.com/DownloadNAVHistoryReport_Po.aspx?mf=21&tp=1&frmdt=31-Jan-2018&todt=31-Jan-2018`

You can follow similar steps as earlier to incorporate data from this URL into your calculations.

An Exercise for You

We won't be covering the last bit of calculation here, as it'd be quite complex.

It's left as an exercise to the reader; as it won't be of much value to do these with Excel / Spreadsheet, for most investors.

To achieve such conditional summing-up, one would most likely need to use `QUERY()` function, writing something akin to SQL queries.

QUERY() documentation ↗ | archive.org link ↗ | archive.is link ↗

It'd also be much harder to update or understand. for another person going through same excel sheet or spreadsheet; which would have such esoteric constructs.

At that point, using a for-loop equivalent in commonly used programming languages (Python / Node / Java / Ruby / Go etc.) would be much easier to reason about.

Another option would be to use GApps Script ↗ (archive.org link ↗ | archive.is link ↗), in Google Sheets; which is basically JavaScript to program your sheets. However, we won't be covering that here.

Wrapping Up

Phew! We covered a lot of ground in these three chapters.

We can only hope power of spreadsheets are becoming more and more apparent to you. Simultaneously, you've also started seeing the rough edges.

Excel / spreadsheets with complex formulas can be hard to maintain - it's tough to understand and update if needed.

We'd gradually address these in upcoming chapters and series.

Quantifying Returns: CAGR and XIRR

How to do returns in excel or spreadsheet? Read along to find out

In investment parlance, *returns* is a big deal. It probably gets more attention than almost any other metric or ratio out there, and occupies the largest mindshare among most investors.

So far, we've carefully avoided this topic to do it justice because *returns* also happen to be commonly misunderstood and are often erroneously focused upon.

To begin with, returns are not just some numbers on a screen and the goal is **not** to have as high returns as possible. It's instructive that as investors, we develop a good visual and mental model of what these numbers / metrics mean and interpret it in the right context.

This chapter's child pages are meant to enhance our knowledge, so we can have higher-level discussions about returns. At the same time, we aim to empower ourselves so we can compute these values independently on our own using spreadsheets rather than relying on external online tools. This would help us make better financial decisions.

CAGR: Point-to-Point Annualized Returns

We'll take a look at what CAGR is, how it works, and how we can compute CAGR of various listed assets.

Intro

So far, we've covered various computations, which mostly involved algebraic sum / multiplication / subtraction.

Except, these aren't enough.

We need to add new tools in our arsenal to fully unlock the powers of excel, to aid with our day-to-day financial decision-making process.

Learning about CAGR is only the first step towards that.

CAGR

CAGR (**C**ompound **A**nnual **G**rowth **R**ate) is a measure of how *fast* a value has been growing, assuming this value is probably a result of a compounding process.

Let's assume value at the beginning of a time period was $V_{initial}$, and if it changed to V_{final} over a period of time t, then CAGR or the rate of this growth, can be formulated as:

$$V_{final} = V_{initial}(1 + r/100)^t$$

Where, r is the **annualized rate of growth** or CAGR.

This is a well known formula for calculating compound interest and we've been taught this back in school.

Rearranging this equation for r, we get

$$r = 100((\frac{V_{final}}{V_{initial}})^{1/t} - 1)$$

ⓘ In the above formula, r is greater than 1. If we want the value of r to be between 0 and 1 (and not 0 and 100 as is usually expressed in percentage notation), we can remove multiplication by 100 from the formula. Either choice is fine.

Let's see how we can use this in the real world of investments.

3Y Return CAGR

A common use of CAGR is to compute returns of a mutual fund or a stock portfolio watchlist (e.g. Smallcase).

Let's begin with a common one: 3 year (often written as **3Y**, for short) return of a mutual fund.

Most mutual fund platforms report annualized returns for time periods greater than 1 year, while absolute percentage growth for time periods smaller than 1 year.

It's an accepted norm.

At exact 1 year mark, either can be reported, since both would be same (annualized and absolute *return*).

Returns above 1 year, are reported as *annualized rate of growth*, often appended with *per annum* (**p.a.**, for short).

We know that index funds track the index. In rest of this chapter, we'd compute and compare CAGR of Nifty, and that of a Nifty index fund over an arbitrary period of time.

From ValueResearch Online, UTI Nifty Index Fund Direct Growth ↗ (archive.org link ↗ | archive.is link ↗) has 3Y return of **13.72% p.a.**, as on **26th Mar 2021**. Exact date is important, since this 3Y return value would change with date.

Trailing Returns (%)

	YTD	1-Day	1-W	1-M	3-M	6-M	1-Y	3-Y	5-Y	7-Y	10-Y
Fund	3.96	1.27	-1.58	-0.11	5.72	31.79	69.17	13.72	14.51	12.94	--
S&P BSE 100 TRI	4.43	1.26	-1.48	-0.17	6.16	32.01	70.21	13.25	14.93	13.69	--
Equity: Large Cap	4.30	1.23	-1.27	-0.47	5.98	31.14	64.76	12.29	14.11	13.86	--
Rank within category	33	22	54	15	32	18	11	16	16	31	--
Number of funds in category	71	74	74	72	70	68	65	55	49	49	0

As on 26-Mar-2021

VRO UTI Nifty Index Direct Growth Returns Table - Dark Mode

Trailing Returns (%)

	YTD	1-Day	1-W	1-M	3-M	6-M	1-Y	3-Y	5-Y	7-Y	10-Y
Fund	3.96	1.27	-1.58	-0.11	5.72	31.79	69.17	13.72	14.51	12.94	--
S&P BSE 100 TRI	4.43	1.26	-1.48	-0.17	6.16	32.01	70.21	13.25	14.93	13.69	--
Equity: Large Cap	4.30	1.23	-1.27	-0.47	5.98	31.14	64.76	12.29	14.11	13.86	--
Rank within category	33	22	54	15	32	18	11	16	16	31	--
Number of funds in category	71	74	74	72	70	68	65	55	49	49	0

As on 26-Mar-2021

VRO UTI Nifty Index Direct Growth Returns Table - Light Mode

Notice the value under **3-Y** column, noted as **13.72**.

This is effectively 3Y CAGR of the fund. It means, as on 26th March, 2021; 3 year CAGR of this fund was 13.72% p.a.

Our task would be to do these:

- validate this number, computing it ourselves
- compare against CAGR of Nifty over same time period

Validating Fund 3Y CAGR

We need historical NAV data for this.

One way we can obtain it via Google Finance. Ticker symbol for UTI Nifty Index Direct Growth is `"MUTF_IN:UTI_NIFT_INDE_1HPGBNK"`.

Another option would be to use the AMFI endpoint for latest NAV, and ISIN of this fund to lookup the latest NAV, as we've discussed in a previous chapter.

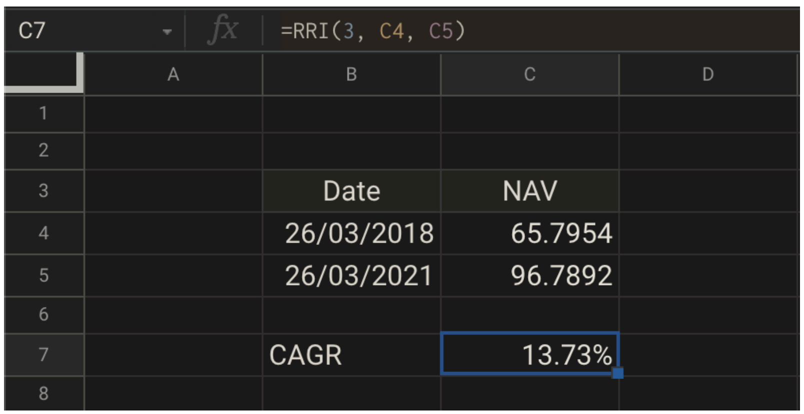
But remember that CAGR needs only two data points. In this case, since we only need two data points, we can just manually look it up. And enter these two data point values into our excel sheet or spreadsheet manually.

Steps to follow:

- Head over to AMFI historic NAV page URL: https://www.amfiindia.com/net-asset-value/nav-history ↗ This is different from other AMFI links / URLs we've seen in the past. It's a dedicated URL, where AMFI offers the user an option to select date range, fund name etc.; and receive NAV of a given fund between those two dates, both inclusive.
- Search for dates around 26th March, 2021 (select two dates, that are less than 90 days apart, and covers the given date); we find the latest NAV as **96.7892** for UTI Nifty Index Direct Growth. You could, for instance, select 1st March 2021 as one date, and 31st March 2021 as second date. These two dates are less than 90 days apart, and has the given date in its range.
- Enter these info in a freshly created spreadsheet as follows:

Date	NAV
26/03/2018	65.7954
26/03/2021	96.7892

- Spreadsheet doesn't have an in-built `CAGR()` function, but we can make do with `RRI()` function for now (we'd see better options in a later chapter). Documentation for RRI function ↗ | archive.org link ↗ | archive.is link ↗ Invoke it as `RRI( 3, <cellID for value from 3 years ago>, <cellID for value as on today> )`

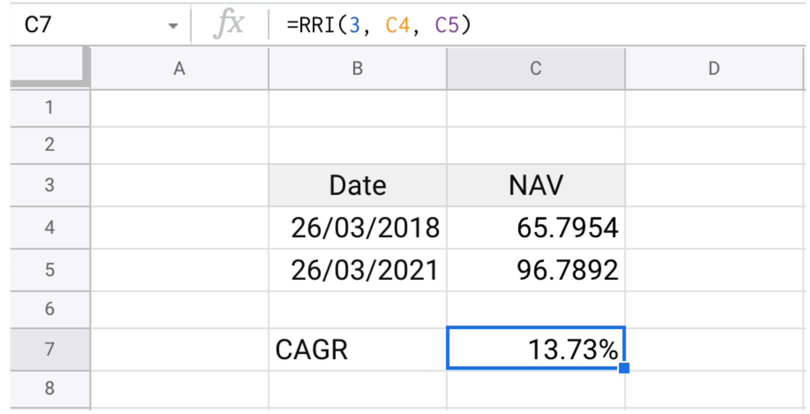


C7 =RRI(3, C4, C5)

	A	B	C	D
1				
2				
3		Date	NAV	
4		26/03/2018	65.7954	
5		26/03/2021	96.7892	
6				
7		CAGR	13.73%	
8				

CAGR 3Y Computed with RRI() - Dark Mode

13/04/2025, 11:10 r/IndiaInvestments



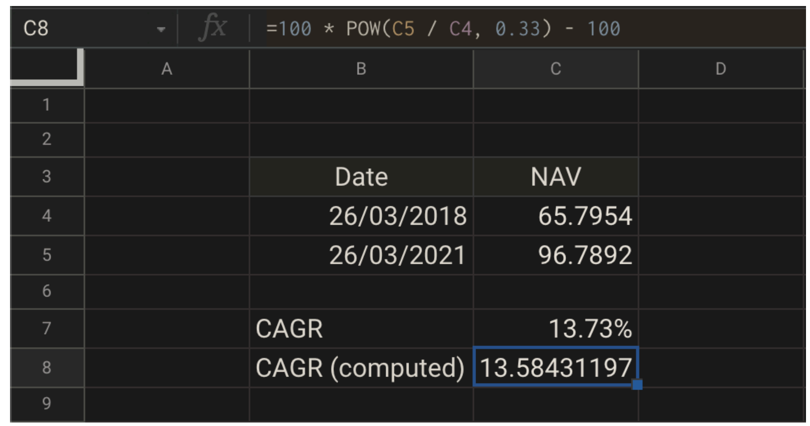
C7 =RRI(3, C4, C5)

	A	B	C	D
1				
2				
3		Date	NAV	
4		26/03/2018	65.7954	
5		26/03/2021	96.7892	
6				
7		CAGR	13.73%	
8				

CAGR 3Y Computed with RRI() - Light Mode

But instead of using the `RRI()` function, we could directly use the mathematical formula as we'd discussed above: V_{final} being the value on given date, $V_{initial}$ is the value on given date 3 years ago; and t is 3, for 3 years.

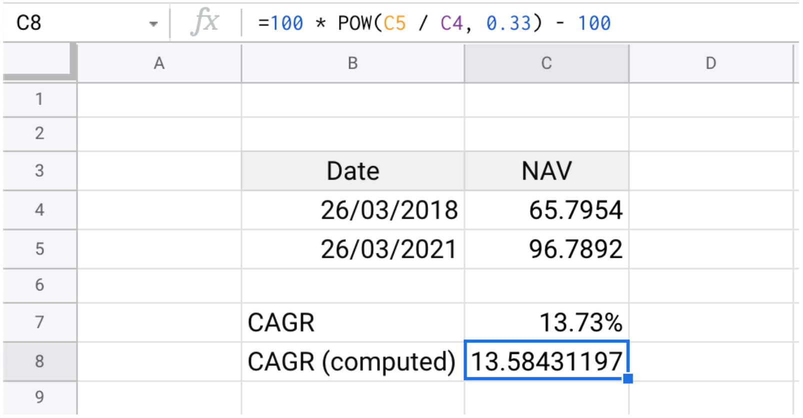
We'd get this



C8 =100 * POW(C5 / C4, 0.33) - 100

	A	B	C	D
1				
2				
3		Date	NAV	
4		26/03/2018	65.7954	
5		26/03/2021	96.7892	
6				
7		CAGR	13.73%	
8		CAGR (computed)	13.58431197	
9				

CAGR of 3 Years Computed - Dark Mode



C8 | f_x | `=100 * POW(C5 / C4, 0.33) - 100`

	A	B	C	D
1				
2				
3		Date	NAV	
4		26/03/2018	65.7954	
5		26/03/2021	96.7892	
6				
7		CAGR	13.73%	
8		CAGR (computed)	13.58431197	
9				

CAGR of 3 Years Computed - Light Mode

Notice that we've used 0.33 for $1/t$, to denote $t = 3$. This is **not** correct. We could get more accurate estimation, directly using $1/3$ instead of using 0.33.

However, the number of days between any two arbitrary dates cannot always be expressed as whole number of years. It might have leap-years, for example.

We see that computed value of **13.58%** is quite close to **13.72%** as reported, but we are not quite there yet.

On the other hand, growth rate computed using in-built formula is close to the reported value of 3Y return on ValueResearch Online portal.

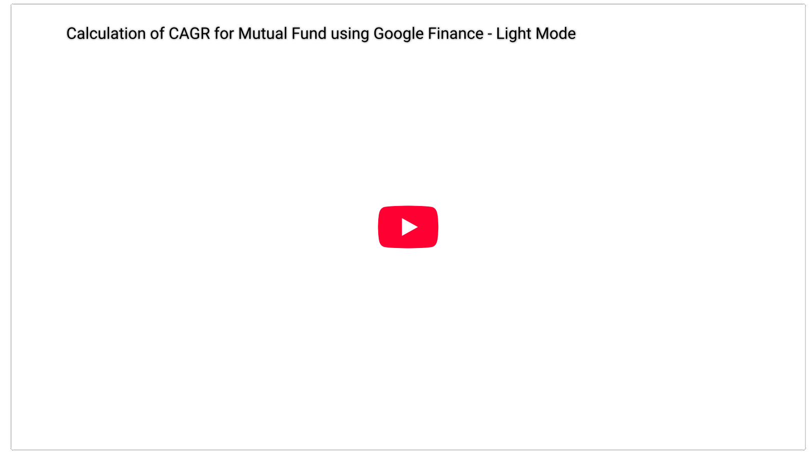
Based on today's date, you might get a different value of latest NAV. You should use 3Y return as on today, and search for NAV as on dates near today's date, or dates from 3 years ago.

At the time of writing this, AMFI historic NAV provides NAV data on a maximum of 90 day period, at once. If you're searching for NAV for a particular date, adjust the start date and end date in a way, that would select any 90 day or smaller duration window, which covers that particular date.

We've used `GOOGLEFINANCE()` to prepare this video for guidance

https://www.youtube.com/watch?v=F2cLCI:Nwn0
www.youtube.com

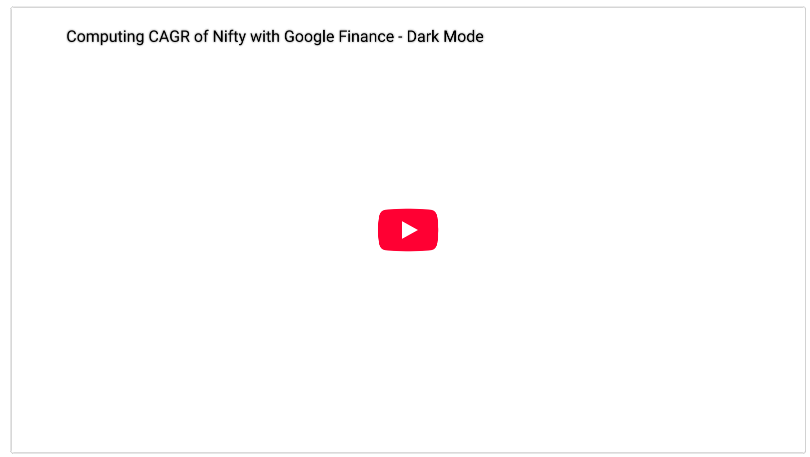
13/04/2025, 11:10 r/IndiaInvestments



Cross-checking Nifty 3Y CAGR

Now that we've verified CAGR of the index fund over 3 years, independently, and matched with reported CAGR on an aggregator portal, it's time to compare with Nifty CAGR over same period.

Once again, we can use `GOOGLEFINANCE()` for getting historic Nifty price data. The ticker for Nifty can be `"NIFTY_50"` or `"INDEXNSE:NIFTY_50"`.



Computing CAGR of Nifty with Google Finance - Light Mode

Final results as it can be

J9 =RRI(3, J7, J6)

	E	F	G	H	I	J	K
1							
2		UTI Nifty Index Fund - Direct Growth		MUTF_IN:UTI_NIFT_INDE_1HPGBNK			
3		Nifty 50 Index		NIFTY_50			
4							
5		Date	NAV		Date	Nifty Price	
6		26/03/2021	96.7892		26/03/2021	14507.3	
7		26/03/2018	65.7954		26/03/2018	10184.15	
8							
9		CAGR	13.73%		CAGR	12.52%	
10		CAGR computed	13.73054568		CAGR computed	12.51763665	
11							

Nifty 3Y CAGR vs UTI Nifty Index Direct Growth 3Y CAGR - Dark Mode

J9 =RRI(3, J7, J6)

	E	F	G	H	I	J	K
1							
2		UTI Nifty Index Fund - Direct Growth		MUTF_IN:UTI_NIFT_INDE_1HPGBNK			
3		Nifty 50 Index		NIFTY_50			
4							
5		Date	NAV		Date	Nifty Price	
6		26/03/2021	96.7892		26/03/2021	14507.3	
7		26/03/2018	65.7954		26/03/2018	10184.15	
8							
9		CAGR	13.73%		CAGR	12.52%	
10		CAGR computed	13.73054568		CAGR computed	12.51763665	
11							

Nifty 3Y CAGR vs UTI Nifty Index Direct Growth 3Y CAGR - Light Mode

As you can see from this computation, the CAGR numbers of UTI Nifty Index Fund Direct Growth and the CAGR numbers for Nifty itself **do not match**.

In fact, this has nothing to do with the dates. You could select a different set of dates, 3 year apart and the return from Nifty Index fund would be slightly higher than Nifty 3Y CAGR.

In this case, 3Y CAGR as on 26th March 2021 is 13.73% p.a. for UTI Nifty Index Direct Growth. However, for Nifty itself, it's slightly lower — 12.52% p.a.

This is expected!

An index fund tracks the TRI (**T**otal **R**eturn **I**ndex), and not the vanilla price index, which is Nifty 50 in this case.

TRI is price index + dividends reinvested back to buy the index stocks.

Nifty TRI can be thought of as an answer to this query: *what if we added a normalized version of dividend-per-share values back to the share prices of respective Nifty companies, and recomputed Nifty?*

For more information on exactly how Nifty TRI is computed, you can refer to details on NSE India official website: [Official link ↗] | [archive.org link ↗] | [archive.is link ↗]

A Nifty index fund achieves this by reinvesting the dividends received from corporate actions, into buying more of Nifty stocks, in same proportion as these are in Nifty.

Therefore, over any given period of time

- Nifty index funds can have slightly higher CAGR than Nifty itself.
- If no dividends were announced by any of the companies in Nifty index, in that time period, it can be expected that Nifty index fund CAGR would be close to that of Nifty CAGR itself.
- As time periods get longer (10Y / 15Y / 20Y), this difference becomes more and more stark between CAGR of Nifty and a Nifty index fund.

These have nothing special to do with Nifty itself. If you'd instead picked an S&P500 index fund, or a NASDAQ index fund - similar observations would've held true.

We can satisfy our curiosity, by comparing against Nifty TRI CAGR.

Nifty TRI 3Y CAGR

Similar to last two computations, we just have to switch the ticker.

Except, to the best of our knowledge, Google Finance has **no ticker for Nifty TRI**.

In other words, we've to manually find and enter these values in our sheet, to compute CAGR.

We can obtain these from official NSE India website for historic data on TRI:
https://www1.nseindia.com/products/content/equities/indices/historical_total_return.htm ↗

Plugging in values for the two dates manually, and computing as earlier, we get this

G17 =100 * pow(G13 / G14, 1/3) - 100

	E	F	G	H	I	J	K
1							
2		UTI Nifty Index Fund - Direct Growth		MUTF_IN:UTI_NIFT_INDE_1HPGBNK			
3		Nifty 50 Index		NIFTY_50			
4							
5		Date	NAV		Date	Nifty Price	
6		26/03/2021	96.7892		26/03/2021	14507.3	
7		26/03/2018	65.7954		26/03/2018	10184.15	
8							
9		CAGR	13.73%		CAGR	12.52%	
10		CAGR computed	13.73054568		CAGR computed	12.51763665	
11							
12		Date	Nifty TRI				
13		26/03/2021	20625.79				
14		26/03/2018	13888.82				
15							
16		CAGR	14.09%				
17		CAGR Computed	14.09021908				
18							

Nifty TRI 3Y CAGR - Dark Mode

G17 =100 * pow(G13 / G14, 1/3) - 100

	E	F	G	H	I	J	K
1							
2		UTI Nifty Index Fund - Direct Growth		MUTF_IN:UTI_NIFT_INDE_1HPGBNK			
3		Nifty 50 Index		NIFTY_50			
4							
5		Date	NAV		Date	Nifty Price	
6		26/03/2021	96.7892		26/03/2021	14507.3	
7		26/03/2018	65.7954		26/03/2018	10184.15	
8							
9		CAGR	13.73%		CAGR	12.52%	
10		CAGR computed	13.73054568		CAGR computed	12.51763665	
11							
12		Date	Nifty TRI				
13		26/03/2021	20625.79				
14		26/03/2018	13888.82				
15							
16		CAGR	14.09%				
17		CAGR Computed	14.09021908				
18							

Nifty TRI 3Y CAGR - Light Mode

3Y CAGR of Nifty TRI, as on 26th March 2021, stands at **14.09% p.a.**

This is much closer to the CAGR of UTI Nifty Index - Direct Growth.

However, the CAGR is slightly higher.

An index fund is supposed to mimic and replicate the TRI, but there are fees associated with managing an index fund, fees associated with purchasing and selling equities, and various logistical inefficiencies trying to replicate the index in real time during market hours.

Hence, CAGR over a given period for an index can be somewhat different in practice, there will be some ***tracking error*** with respect to the TRI.

We won't discuss tracking error in detail here. But we'd emphasize tracking error can be both positive and negative in value.

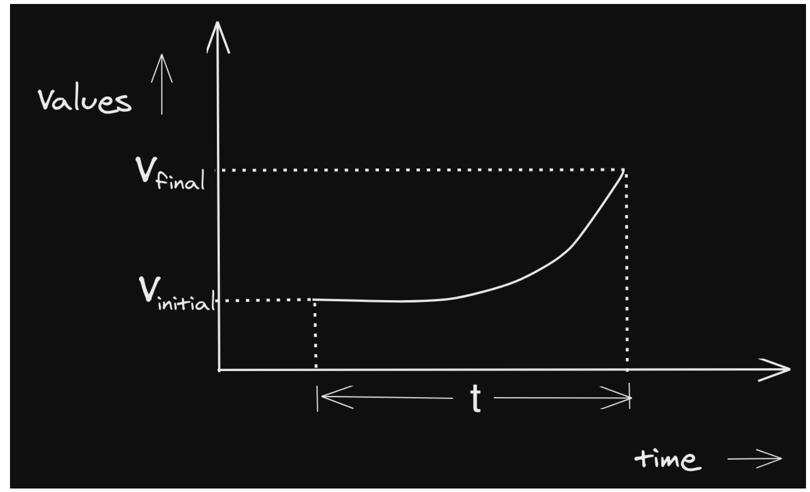
In other words, due to inefficiencies in tracking the index, the CAGR of the index fund can be both higher or lower than CAGR of the TRI, over any given period.

Visualization

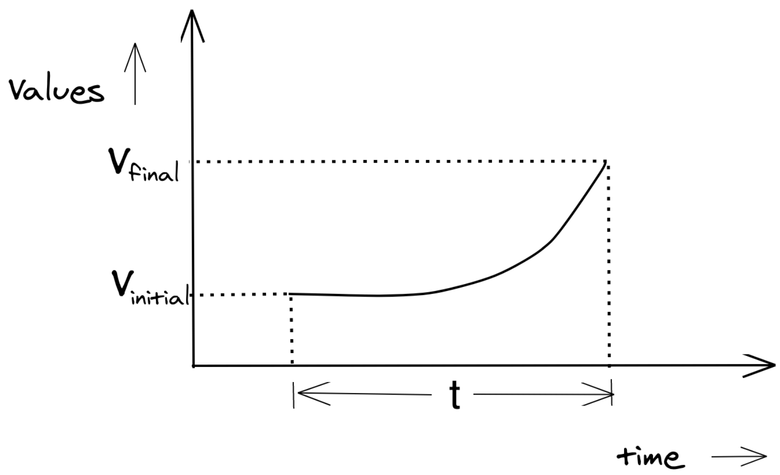
Let's recall the original mathematical equation that we'd written above

$$V_{final} = V_{initial}(1 + r/100)^t$$

To build a mental model of what this formula means, in below diagram, we can plot value against time. Value can be price of an asset, based on our context and use-case.



Compounded Growth and CAGR - Dark Mode



Compounded Growth and CAGR - Light Mode

Value can be price of an asset, based on our context and use-case.

Notice that the growth doesn't have to *look like* compounded growth. It's the other way around - we can *model* it or *think of it* as compounded growth.

This mathematical formula, just needs two values:

- V_{final}
- $V_{initial}$

And on top of that, time it took to go from $V_{initial}$ to V_{final}

In fact, either of these two points in the Y-axis could be smaller / bigger than one another, or even be negative.

The mathematical formula above poses no restrictions on that front.

However, in the above graph, we've no way of visualizing or placing r, the rate of growth (CAGR).

It's a power-law formula.

Semi-log Plots

Instead of plotting value vs time, we can plot **logarithm of value** against time.

> Discussing logarithm in detail, is out of scope for our wiki. However, if you'd like to brush up on basic logarithms, we highly recommend checking out this [YouTube video by 3Blue1Brown](#) ↗

Note that we can take $\log$ of expressions on both sides of the equation **only if both sides are positive numbers**.

> Logarithm, or $\log$ for short, cannot be used on negative numbers — it results in *complex numbers*, which we don't need to

> deal with in context of investments and finance.

In the above equation, taking $\log$ on both sides, we get

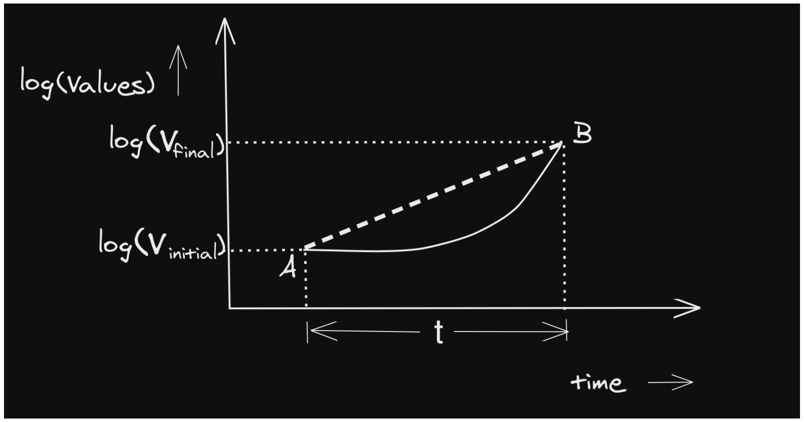
$$\log(V_{final}) = \log(V_{initial}(1 + \frac{r}{100})^t)$$

We can use logarithmic identities (left to reader as an exercise, we won't show detail computation for that here) to arrive at the following formula

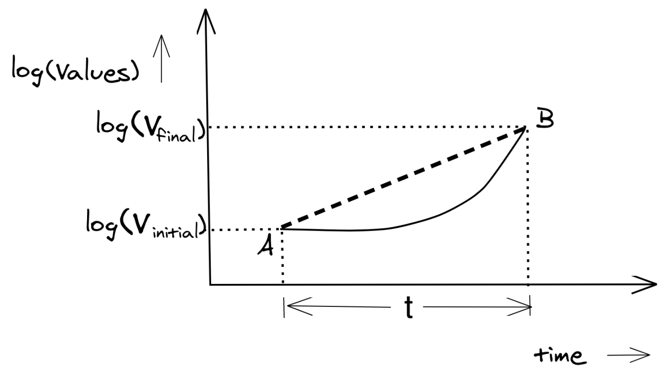
$$t \log{(1 + \frac{r}{100})} = [\log V_{final} - \log V_{initial}]$$

This is effectively the straight line equation, similar to $y = mx + c$. In this scenario, $t$is effectively the X-axis, while Y-axis is $\log V$.

We can now update our diagram's Y-axis.



Logarithm of value vs time - Dark Mode



Logarithm of value vs time - Light Mode

We have plotted $\log$ of values (Y-axis) versus time (X-axis). Then we've joined the start point and end point with a dotted straight-line.

The *slope* of a straight line joining those two points A and B, is $\log\left(1 + \frac{r}{100}\right)$, and can be used to compute r.

CAGR directly relates to slope or tilt of a straight line joining two points, in a semi-log plot of asset prices. If slope is known, r can be computed; and vice-versa.

Also, higher and lower slope of the joining straight line correspond to higher and lower values of r, respectively.

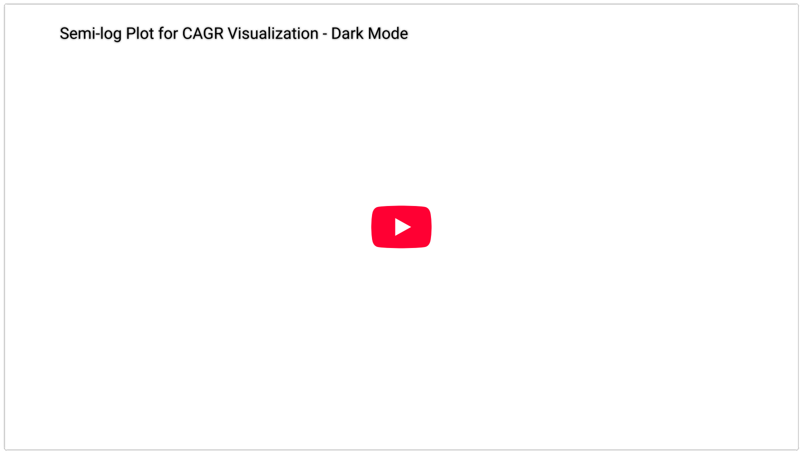
We shall now plot these price points in a graph where price values are logarithmic, and try to validate that our visual idea about CAGR holds true.

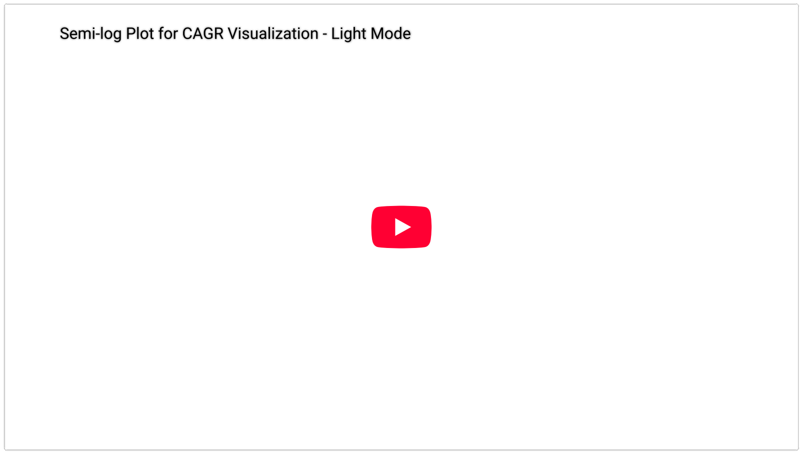
> Since the Y-axis is in log scale, but X-axis is in normal scale; such plots are called *semi-log plots*. For it to be a log plot, both X and Y axes have to be in log scale.

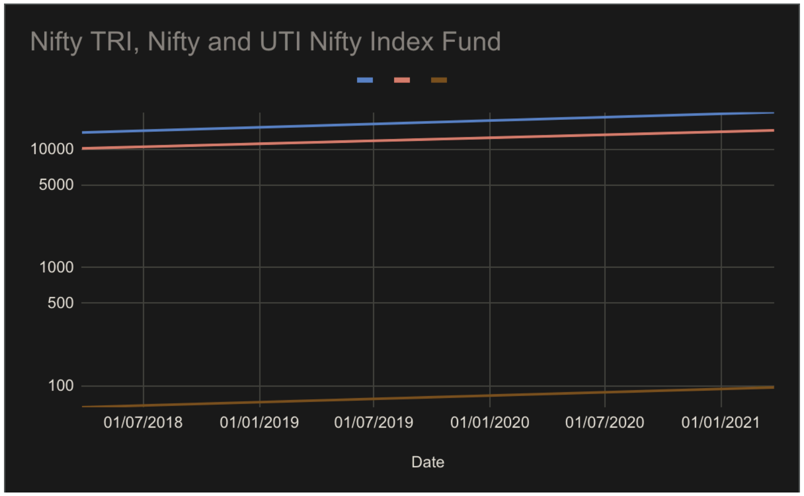
Spreadsheets have fantastic charting / plotting abilities built in. You could use the Charting button on toolbar, or just select an area of cells which has data, then use `Insert` → `Chart`

Refer to this video on how to get this working

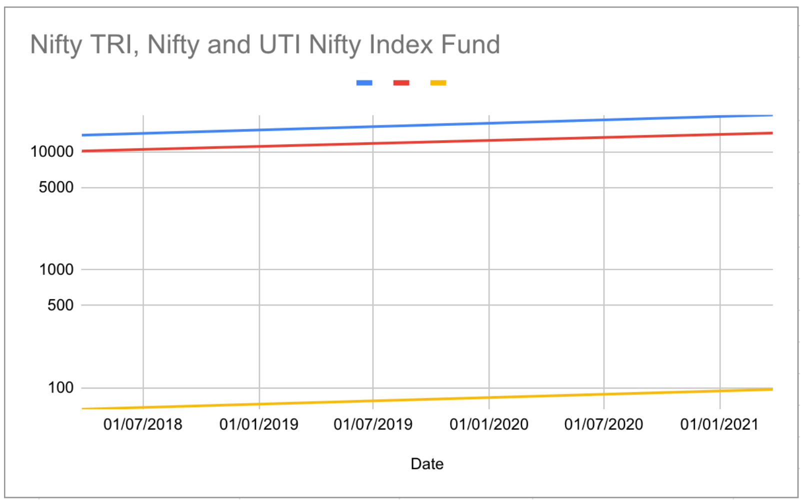
13/04/2025, 11:10 r/IndiaInvestments







Semi-log plot of all datasets - Dark Mode



Semi-log plot of all datasets - Light Mode

We see from the videos / images above, that once we switch the Y-axis to logarithmic values, the three lines start to look parallel to each other.

Parallel lines have same slope, and since slope of these lines relate to CAGR of the underlying data set, through a logarithmic relationship; it stands to reason that these would seem parallel to the naked eye.

Notice that right up until the moment we converted Y-axis values to logarithmic scale, the line for UTI Nifty Index fund was nearly flat-lining, kissing the X-axis closely.

This was because compared to absolute values of Nifty or Nifty TRI, which are above 10k in this dataset, the NAV of this fund was barely even 100. It'd practically be dwarfed in a vanilla line graph.

However, once we switched to semi-log mode, all three lines started reflecting real growth over time in their *tilt* (or slope).

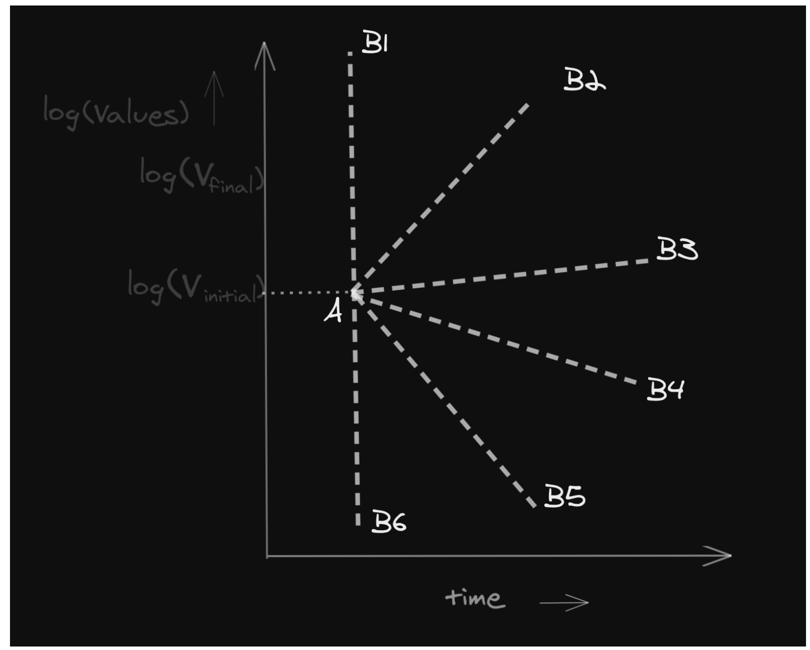
It should intuitively make it clear that absolute value of an underlying asset's price value is immaterial when you purchase it, or the range of absolute values it moves between; only thing that matters is the growth rate *after* you purchase the asset.

An asset whose price moves between 10 and 20, is not that different from an asset whose price moves between 10,000 and 20,000.

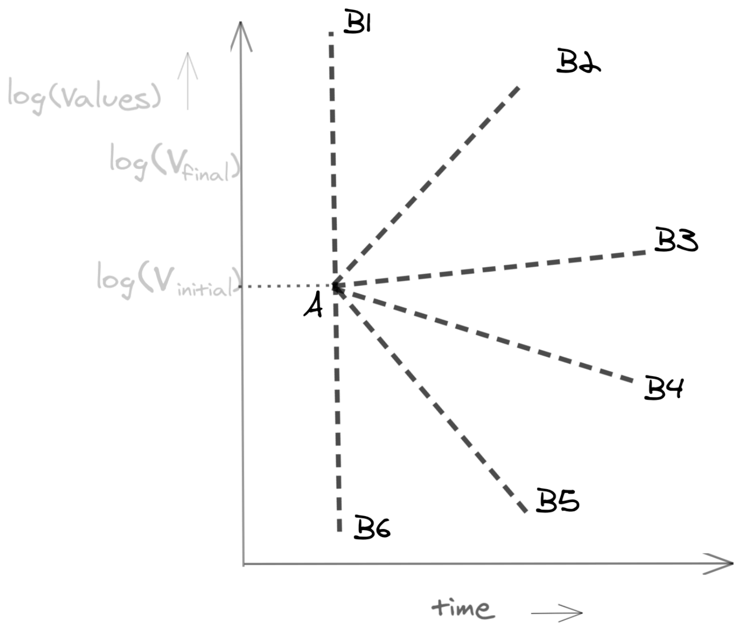
The downside of such visualization is unless the difference is stark, or a larger time periods are chosen; most such semi-log plots would result in near-parallel lines in a line graph.

Maximum and Minimum Limits of CAGR

We can use our visualization of CAGR as slope of semi-log plot, to understand maximum and minimum limits of CAGR.



Various possible tilted lines for different CAGR - Dark Mode



Various possible tilted lines for different CAGR - Light Mode

In the above image(s), the final value can be any one of $B1, B2, ..., B6$. There are more possibilities - in fact, there are infinite possibilities between that semi-circle.

Can it go backwards? No. As in, the Bpoint cannot have a lower X-axis value than A, since X-axis is time, and we cannot go back in time for final value of the asset.

Best case scenario is depicted by the line starting at $A$and ending at $B1$. This line has a slope or tilt of ∞(positive infinity).

Plugging this in our formula, we get $\log\left(1+\frac{r}{100}\right)=\infty$. Which resolves to r being an infinitely large positive value.

Worst case scenario is depicted by the line starting at A and ending at $B6$. This line has a slope or tilt of $-\infty$(negative infinity). Similarly, plugging this in the equation, we get r to be a very large negative value, approaching negative infinity.

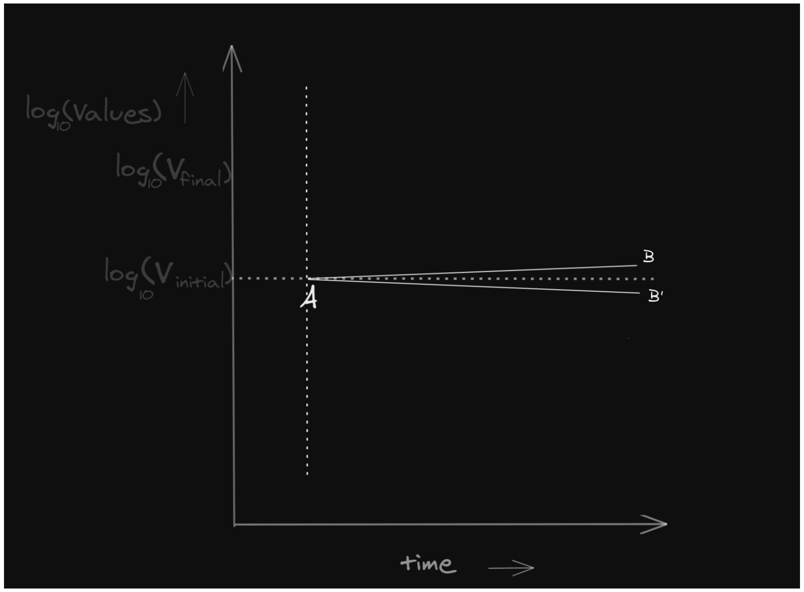
Theoretical limits of CAGR can be any value between $-\infty$and ∞. Most of us wrongly assume, that annual compounded growth rate cannot be higher than 100% p.a. or -100% p.a. As we just saw, it can be any real number.

What if the slope of the line is zero? A straight line in the semi-log plot, that's parallel to X-axis or the axis of time. In this case, r would also be zero. In other words, if there's no net growth over a certain period of time (starting and final value in Y-axis is same), then CAGR of that asset price is zero over that period of time.

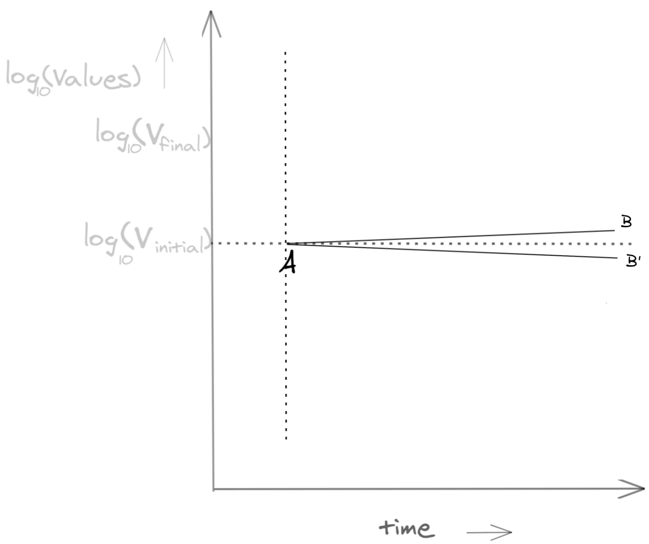
We can build on this.

A 100% p.a. return denotes price doubling every year. What would slope of this line even look like for a 100% p.a. CAGR? Plugging $r=100$ in our above formula, we get slope to be $\log 2$.

If the logarithm base is 10, then the angle of slope is effectively $\tan^{-1}(\log_{10}2)$, or 16°. If the base of logarithm is e, then angle of slope is $\tan^{-1}(\ln 2)$, or 34°.



CAGR Realistic Expectation Zone - Dark Mode



CAGR Realistic Expectation Zone - Light Mode

In a semi-log plot where prices are logarithm of base-10, the realistic expectation would look like this. Most start and end points would be between the angular area A to B or A to B', while other areas outside of this region would remain largely unreachable for most common assets.

Recap and Wrapping Up

When it comes to spreadsheet / excel functionalities, in this chapter, we learned

- how to draw semi-log plots
- how to use `RRI()`

We have also gained new insights into a demystified process of *return calculation*.

The next time we see CAGR reported on any portal such as MoneyControl, ValueResearch Online, Morningstar, CRISIL, BSE India, Kuvera, Coin, PayTM Money, INDMoney, Piggy, ETMoney, or even Smallcase, we'd know how to compute and validate these numbers ourselves.

These platforms and portals are computing these numbers from historic NAV data they have obtained and now we can compute the same as well.

A word of caution!

CAGR is a point-to-point metric. Given any two points in a plane, a straight line can always be drawn to connect those two points. This is one of the fundamental axioms of geometry, known as one of the core axiom of *Axioms of Euclidean Plane Geometry*.

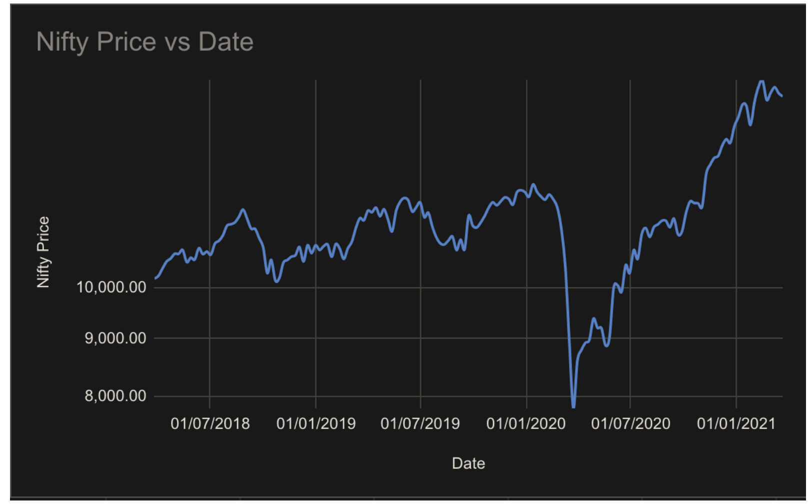
It says nothing about the *journey* or price-movement in-between.

For instance, the computation above might have painted a rosy picture, that one might falsely assume *Nifty can easily achieve 12.5%-14% p.a. return over a 3 year time period.*

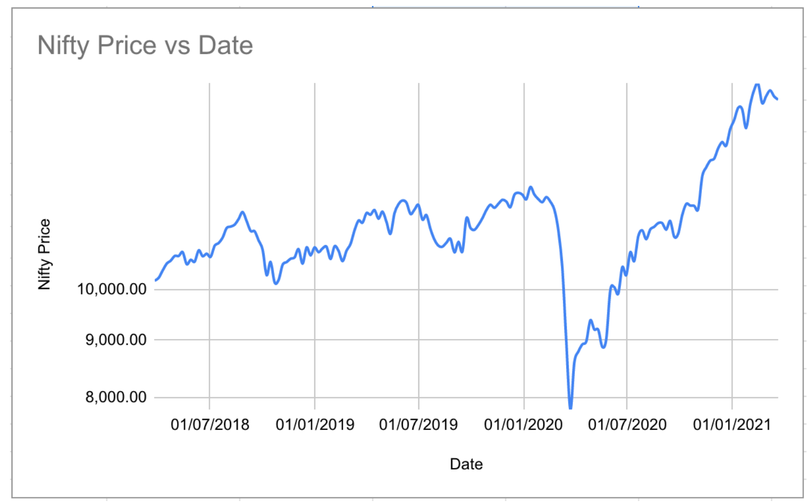
This is wrong, and dangerous to assume.

The actual journey of Nifty 50 index between those two dates, can be viewed as this (plotted using real Nifty price data, which can be obtained from Google Finance). This is also a semi-log plot, where the price axis (Y-axis) is consisted of log values of actual asset prices.

13/04/2025, 11:10 r/IndiaInvestments



Nifty actual price movement 3Y period - Dark Mode



Nifty actual price movement 3Y period - Light Mode

As Nifty TRI and Nifty index fund move closely with Nifty 50 itself, plotting these would lead to similar looking graphs, with lot of volatility.

What we're doing when we compute CAGR, is to connect the starting point and last point on the graph with a straight line, then compute slope of that line.

Since two points on a plane can be connected with so many different lines and line segments (can even be curves), there are infinite possibilities of the *journey within that time period*, which CAGR computation won't capture.

We've alluded to this in one of our previous chapters, where we had computed NASDAQ-based portfolio's final value. Although the point-to-point return of NASDAQ was near zero in that case, the actual returns in a DCA / SIP portfolio were different and didn't show up as one would expect looking at point-to-point returns.

Similarly, CAGR alone cannot produce any information on the price movement of an asset within a time period.

In next chapter, we'd be introduced to a more generalized measure, that captures more relevant information.

A Gentle Introduction to XIRR

What is XIRR? How can I use it to make financial decisions? What affects XIRR in a good way and a bad way? Find answers to these queries here

Intro

In the previous chapter, we've covered CAGR and how it can offer insights into rate of price growth of common listed securities.

In this chapter, we expand on this; and measure rate of growth of portfolios, which is consisted of set of articles.

For an investor, asset's growth and portfolio growth are two different aspects; as we're about to learn.

XIRR

XIRR (e**X**tended **I**nternal **R**ate of **R**eturn) is a generalized form of **portfolio** return measurement, that takes into account both entry and exit transactions.

Why *internal*?

Because it excludes external factors (asset class, risk, volatility etc.); and includes only these information, that are internal to investors' portfolios:

- Dates of transactions
- Cashflow of each transaction on those dates
- Final portfolio value (if all investments are not yet fully redeemed)

XIRR is quite broadly applicable, as long as one furnish these *internal* informations correctly.

Why *extended*?

IRR (**I**nternal **R**ate of **R**eturn) was developed as a measure but it had some limiting underlying assumptions, such as regular intervals between transactions. We won't cover IRR here, because XIRR is much broader and generalized.

XIRR is extended version of IRR, that works for arbitrary set of dates.

Unlike CAGR, most popular spreadsheet applications like MS Excel or Google Sheets, have an in-built `XIRR()` formula.

Documentation of XIRR() ↗ | archive.org link ↗ | archive.is link ↗

Before we gain deeper understanding of XIRR, it'd be better to see how we can use it in our day-to-day finances.

Will you take this policy?

Consider this endowment or *moneyback* policy being offered by a popular private insurer:

> You have to pay a yearly premium of ₹100,000 (1 Lakh INR), for 10 years. From 20th year onward, you'd receive ₹200,000 (2 Lakh INR), every year, for next 10 years.

Let's break this down in a table.

Date	Cashflow
01-Jan-2021	-100,000
01-Jan-2022	-100,000
01-Jan-2023	-100,000
01-Jan-2024	-100,000
01-Jan-2025	-100,000
01-Jan-2026	-100,000
01-Jan-2027	-100,000
01-Jan-2028	-100,000
01-Jan-2029	-100,000
01-Jan-2030	-100,000
01-Jan-2041	200,000
01-Jan-2042	200,000
01-Jan-2043	200,000
01-Jan-2044	200,000
01-Jan-2045	200,000
01-Jan-2046	200,000
01-Jan-2047	200,000
01-Jan-2048	200,000
01-Jan-2049	200,000
01-Jan-2050	200,000

In the above table, we've posted how much you'd receive every year. Cashflow is negative or less than zero, if you're paying the other party (insurer / bank); while it's positive or greater than zero when it's you receiving the amount.

> In XIRR estimation, it's of paramount importance to set up the sign-convention just described above.

If *cash* is going away from you, then from your perspective, it's a **negative cashflow**, and must be entered with a negative sign. For example, paying premium or investing in markets. These amounts should be entered with negative sign, to denote negative cashflow.

If cash is coming towards you, or has the potential to come back to you; it's **positive cashflow**. Your bank deposit maturity amount, or your stock portfolio latest valuation (this is the amount you'd receive as cash if you were to place a sell order) etc. should be entered with positive sign in your spreadsheet, in context of XIRR calculation.

To the untrained eye, it looks *as if* each 1L instalment or premium doubling up in 20 years or so.

These numbers in policy terms aren't far-fetched. Plenty of banks and insurers would happily offer you policies with similar terms and conditions. These would have catchy names too.

Looking at just these numbers presented to you, you won't have any way of finding reasons to accept or reject it objectively.

That's where XIRR can be of help.

Calculating XIRR of a policy.

Let's calculate XIRR of this policy.

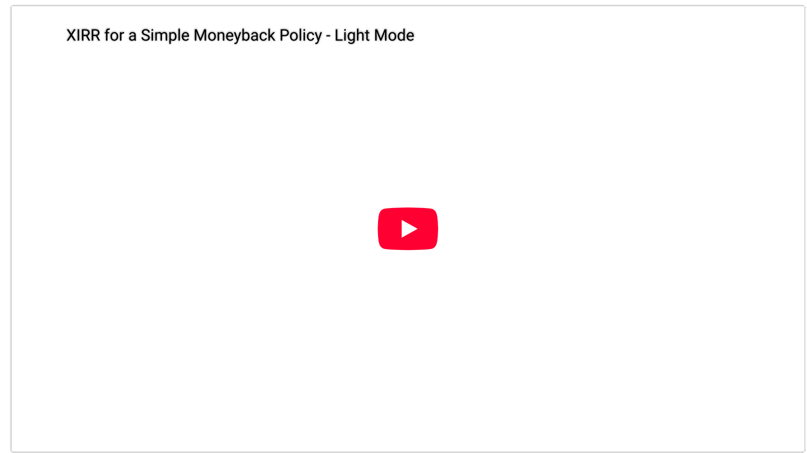
Steps to follow:

- Copy the above table, as shared before, and paste it into a new spreadsheet.
- At the bottom of the table, invoke the in-built `xirr()` function as follows:

```
xirr
(
  <range for the cashflow, the second column>,
  <range for the dates, the first column>
)
```

Here's a video to guide you along:

https://www.youtube.com/watch?v=H4EMN:YkK9w
www.youtube.com



The final results should resemble something like these screenshot(s):

P25 =XIRR(P4:P23, O4:O23)

	N	O	P	Q	R
3		Date	Cashflow		
4		01/01/2021	(100,000.00)		
5		01/01/2022	(100,000.00)		
6		01/01/2023	(100,000.00)		
7		01/01/2024	(100,000.00)		
8		01/01/2025	(100,000.00)		
9		01/01/2026	(100,000.00)		
10		01/01/2027	(100,000.00)		
11		01/01/2028	(100,000.00)		
12		01/01/2029	(100,000.00)		
13		01/01/2030	(100,000.00)		
14		01/01/2041	200,000.00		
15		01/01/2042	200,000.00		
16		01/01/2043	200,000.00		
17		01/01/2044	200,000.00		
18		01/01/2045	200,000.00		
19		01/01/2046	200,000.00		
20		01/01/2047	200,000.00		
21		01/01/2048	200,000.00		
22		01/01/2049	200,000.00		
23		01/01/2050	200,000.00		
24					
25		XIRR	3.52%		

XIRR for the Endowment Policy - Dark Mode

P25 =XIRR(P4:P23, O4:O23)

	N	O	P	Q	R
3		Date	Cashflow		
4		01/01/2021	(100,000.00)		
5		01/01/2022	(100,000.00)		
6		01/01/2023	(100,000.00)		
7		01/01/2024	(100,000.00)		
8		01/01/2025	(100,000.00)		
9		01/01/2026	(100,000.00)		
10		01/01/2027	(100,000.00)		
11		01/01/2028	(100,000.00)		
12		01/01/2029	(100,000.00)		
13		01/01/2030	(100,000.00)		
14		01/01/2041	200,000.00		
15		01/01/2042	200,000.00		
16		01/01/2043	200,000.00		
17		01/01/2044	200,000.00		
18		01/01/2045	200,000.00		
19		01/01/2046	200,000.00		
20		01/01/2047	200,000.00		
21		01/01/2048	200,000.00		
22		01/01/2049	200,000.00		
23		01/01/2050	200,000.00		
24					
25		XIRR	3.52%		

XIRR for the Endowment Policy - Light Mode

While it might've seemed that *initial investment practically doubling means 100% return*, the computation would say otherwise.

In this case, it's **3.52% p.a.** growth in investor's hands, over a ~30 year period.

> Whether 3.52% p.a. is great or terrible, would depend on other alternative avenues for investments, available to an investor.
>
> In US / Canada / EU, a bank offering such policy is pretty amazing; given most banks offer much lower interests on deposits than this.
>
> In a country like India where inflation is higher, there might be options available with potential for higher growth over 30 year period.

What we want to draw your attention upon, is the fact that you might've intuitively believed that 100% return over ~20 years would mean $\frac{100\%}{20Y}$ = 5% p.a. return.

It's actually lower, 3.52% p.a.

This is because compounded growth is non-linear.

Alternatively, 5% p.a. compounded growth over 20 years would result in $(1 + \frac{5}{100})^{20} - 1 = 165\%$ absolute growth.

Tweaking the Policy

Now that we know this ~30 year policy has an effective rate of growth / return as 3.52% p.a.; we'd want to tweak various parameters of the policy wordings, and see how that affects XIRR of the policy.

Change in Terms : Make Payouts Early

After first 10 years of payment, there's some gap of ~10 years. Imagine if the payout schedule were changed, so that payout starts from 11th year onward.

Date	Cashflow
01-Jan-2021	-100,000
01-Jan-2022	-100,000
01-Jan-2023	-100,000
01-Jan-2024	-100,000
01-Jan-2025	-100,000
01-Jan-2026	-100,000
01-Jan-2027	-100,000
01-Jan-2028	-100,000
01-Jan-2029	-100,000
01-Jan-2030	-100,000
01-Jan-2031	200,000
01-Jan-2032	200,000
01-Jan-2033	200,000
01-Jan-2034	200,000
01-Jan-2035	200,000
01-Jan-2036	200,000
01-Jan-2037	200,000
01-Jan-2038	200,000
01-Jan-2039	200,000
01-Jan-2040	200,000
01-Jan-2041	200,000

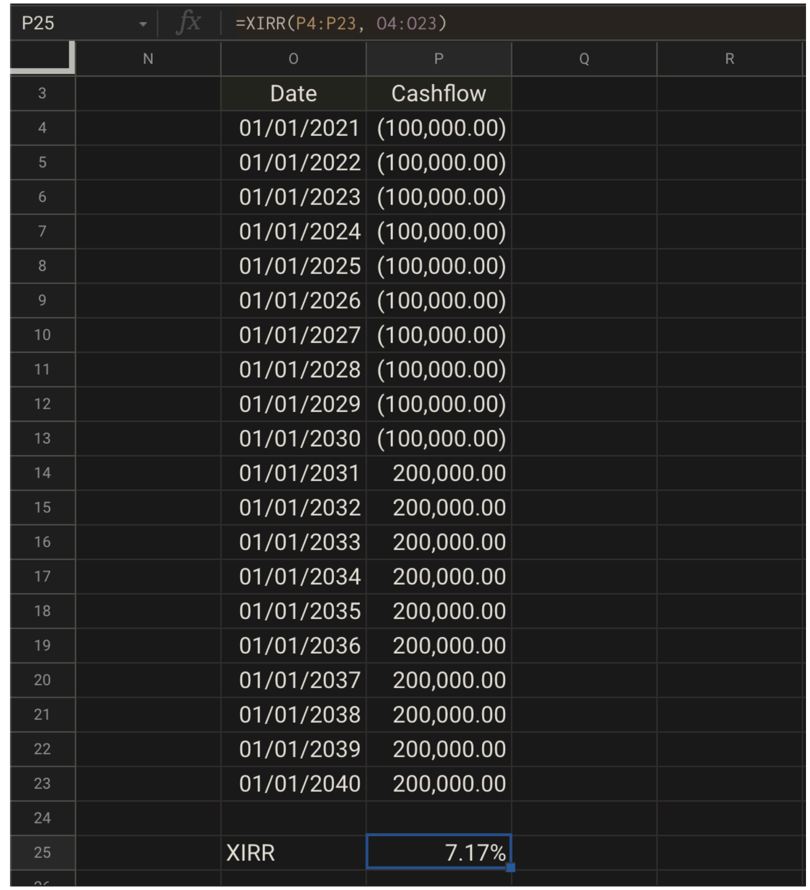
Updating entries in our spreadsheet, and invoking XIRR function, we get **7.17% p.a.** as result.

Refer to these videos if you need help

https://www.youtube.com/watch?v=QoFfq:5dSro
www.youtube.com

- YouTube

When you're done, it should resemble something like these:



P25 =XIRR(P4:P23, O4:O23)

	N	O	P	Q	R
3		Date	Cashflow		
4		01/01/2021	(100,000.00)		
5		01/01/2022	(100,000.00)		
6		01/01/2023	(100,000.00)		
7		01/01/2024	(100,000.00)		
8		01/01/2025	(100,000.00)		
9		01/01/2026	(100,000.00)		
10		01/01/2027	(100,000.00)		
11		01/01/2028	(100,000.00)		
12		01/01/2029	(100,000.00)		
13		01/01/2030	(100,000.00)		
14		01/01/2031	200,000.00		
15		01/01/2032	200,000.00		
16		01/01/2033	200,000.00		
17		01/01/2034	200,000.00		
18		01/01/2035	200,000.00		
19		01/01/2036	200,000.00		
20		01/01/2037	200,000.00		
21		01/01/2038	200,000.00		
22		01/01/2039	200,000.00		
23		01/01/2040	200,000.00		
24					
25		XIRR	7.17%		

XIRR for moneyback policy with earlier payouts - Dark Mode

P25 | =XIRR(P4:P23, O4:O23)

	N	O	P	Q	R
3		Date	Cashflow		
4		01/01/2021	(100,000.00)		
5		01/01/2022	(100,000.00)		
6		01/01/2023	(100,000.00)		
7		01/01/2024	(100,000.00)		
8		01/01/2025	(100,000.00)		
9		01/01/2026	(100,000.00)		
10		01/01/2027	(100,000.00)		
11		01/01/2028	(100,000.00)		
12		01/01/2029	(100,000.00)		
13		01/01/2030	(100,000.00)		
14		01/01/2031	200,000.00		
15		01/01/2032	200,000.00		
16		01/01/2033	200,000.00		
17		01/01/2034	200,000.00		
18		01/01/2035	200,000.00		
19		01/01/2036	200,000.00		
20		01/01/2037	200,000.00		
21		01/01/2038	200,000.00		
22		01/01/2039	200,000.00		
23		01/01/2040	200,000.00		
24					
25		XIRR	7.17%		

XIRR for moneyback policy with earlier payouts - Light Mode

We find that moving the payouts ahead of original schedule has an effect on XIRR - **it improves it**.

This is consistent with what XIRR is supposed to capture. If your portfolio gains higher valuation earlier, XIRR computation is supposed to reflect that by returning a higher value for those set of transaction patterns.

Other Changes to Policy Terms

Similarly, the following changes would also impact it:

- **Delaying the premium payments**

  Imagine if instead of paying 10L (₹1,000,000) over 10 years, in 10 instalments, the policy terms said the payment can be in 20 instalments, over 20 year periods, from 1st Jan 2021 to 1st Jan 2040, ₹50,000 per year.

  This would also improve XIRR, because of delayed negative cashflow.

  It's left as an exercise to the reader, to verify the XIRR in this case, would be **4.55% p.a.**

- **Increase payout amount**

  Imagine if instead of paying ₹200,000 per year from 1st Jan 2041 to 1st Jan 2050, the payout were actually of ₹250,000 (2.5L INR) every year, for 10 years.

  This would improve XIRR, because of higher positive cashflow.

  It's left as an exercise to the reader, to verify the XIRR would be **4.68% p.a.**

- **Both of the Above**

  If we did both of the above (spread out premium payments over 20 years, and increased the payout to 2.5L INR per year); it stands to reason the XIRR to be higher than both these scenarios individually.

  It's left as an exercise to the reader, to verify the XIRR would be **6.00% p.a.**

- **Lumping the payout**

  Instead of paying ₹200,000 per year, for 10 years; what if the total amount of ₹2,000,000 (20L INR) was paid all at once at the beginning of payout period, i.e., 1st Jan 2041?

  It stands to reason that since investor is receiving more value earlier, it'd improve XIRR from 3.52% p.a.

  Verify that XIRR of this scheme would be **4.52% p.a.**

  What if the lumpsum one-time payout of 20L INR was made at the end of tentative payout period, i.e., on 1st Jan 2050?

  Since investor is not getting access to any payout (positive cashflow) until then, it should reduce the XIRR from 3.52% p.a.

  Verify that XIRR of this scheme would be **2.85% p.a.**

- **Adding more payouts**

  A common policy offering is to offer *annuity*, or some form of *pension*, for life.

  Assume this policy was being offered to a person whose age is 25 years, and expected to live till the age of 80. By 2076, they're supposed to reach this age.

  Now we'd tweak the policy to offer payout of ₹100,000 every year (same as premium payment), **for life** (which essentially means up to 1st Jan 2076), starting on same schedule as before, i.e. 1st Jan 2041.

  This can certainly improve the XIRR from original scenario of 3.52% p.a., but by how much? Notice that we've halved the payout amount as well.

  It can be verified that XIRR of this policy is **4.22% p.a.**

  What if this person lives up to age of 90, another 10 years, and collects annuity of ₹100,000 per year for 10 more years?

  Verify that XIRR of this final updated policy would be **4.53% p.a.**

Here are a few changes **that won't impact the XIRR**

- **Change absolute value of the dates, but keeping relative differences same between those**

  Imagine if instead of 1st January 2021; the policy was to begin in 25th June, 1899.

  This policy would have a premium payment of ₹100,000 for every year on same date, for 10 years, from 25th June, 1899; till 25th June, 1908.

  Then from 25th June, 1919 onward, it'd have started paying out ₹200,000 to investor, same date every year, till 25th June, 1928.

  Validate that this has no effect on XIRR. XIRR is *rate of growth*, it cannot depend on absolute value of time in year.

- **Scale up both premium payment and payout**

  Instead of ₹100,000 being premium amount, and ₹200,000 being payout amount; say we scale each value up by 10.

  Insured person has to pay a yearly premium of ₹1,000,000 (10 Lakh INR), for 10 years. From 20th year onward, they'd receive ₹2,000,000 (20 Lakh INR), every year, for next 10 years.

  Verify that this has same XIRR as before.

Just like XIRR doesn't depend on the absolute value of time, only relative positioning of transaction dates with respect to one another; it doesn't depend on exact value in each transaction - only relative valuation of purchased / redeemed amount in each transaction.

Summary of Tweaks

Changes on Policy Terms	XIRR (p.a.)	Change
Original Policy	3.52%	NA
Early payouts, starting right after premium payment term ends	7.17%	▲
Spreading premium payments over 20 years	4.55%	▲
Increase policy payout from 2L to 2.5L per year	4.68%	▲
Both spreading premium payments over 20 years and increase in policy payout amount from 2L to 2.5L	6.00%	▲
Paying out all 20L at once on 01/01/2041	4.52%	▲
Paying out all 20L at once on 01/01/2050	2.85%	▼
Halve the payout, add more payout till 2076	4.22%	▲
Halve the payout, add more payout till 2086	4.53%	▲
Change exact dates, but keep date differences same between them	3.52%	Same
Scale up exact premium, and payout, up to 10x	3.52%	Same

Recap and Wrapping Up

We've seen how XIRR captures *time value of money.*

It rewards these factors:

- Earlier receipt or withdrawal / redemption of higher value from an investment.
- Delayed *negative cashflow* (outflow of money) or investment, to achieve same final payout values.

  If you invest more later to achieve same final redeem-able portfolio value; XIRR value for that set of transaction history would be higher.

Corresponding reverse scenarios would result in lower XIRR values.

It's highly instructive to calculate potential XIRR of an investment, by listing cashflows at different periods, before embarking on it.

This would give you a better objective measure on how good or bad this investment could be, in comparison to other available options whose XIRR has already been computed.

ⓘ CAGR captures asset price compounded growth rate. XIRR captures annualized portfolio growth rate. As we've seen and will be seeing in coming chapters, these two are different, and this distinction would matter to investors.

We've built an intuitive understanding of what affects XIRR in positive or negative way.

But we're yet to learn what XIRR mathematically is, because we haven't formally defined it.

In the next chapter, we'd learn how to *visualize* XIRR and model it with mathematical equations, to gain more insights on this incredibly useful metric.

A Rigorous Introduction to XIRR

Mathematical formulation of XIRR, discounted cashflows, NPV, and decay.

Intro

Now that we've gained some ideas about XIRR (e**X**tended **I**nternal **R**ate of **R**eturn), it's time to formally introduce XIRR.

XIRR is tightly coupled with concept of *discounting*.

Discounting can be thought of as the opposite of *compounding*.

Discounting and XIRR

Popularly, compounding formula is written as $P \times (1+r)^t$.

Instead of $P \times (1+r)^t$, where $(1+r)^t$ is being multiplied with the value of P; in *discounting*, we'd do the opposite, to denote **decay over time**.

Discounted value of P after a time duration t, can be written as $\frac{P}{(1+r)^t}$

In case of compounding, with time, the final value increases.

With discounting, as expected from the above formula, the decayed value gets lower as more time passes.

Sample Cashflow Table

Assume that we've a cashflow series, written like this:

Date	Cashflow
t_0	P_0
t_1	P_1
t_2	P_2
t_3	P_3
......	......
t_{n-1}	P_{n-1}

This format should be quite familiar. We've merely replaced the actual numbers with variables.

Discounted Cashflow Table

We'd add one more column to, to add discounted values

Date	Cashflow	Discounted Cashflow
t_0	P_0	P_0
t_1	P_1	$\frac{P_1}{(1+r)^{[\frac{(t_1-t_0)}{\Delta T}]}}$
t_2	P_2	$\frac{P_2}{(1+r)^{[\frac{(t_2-t_0)}{\Delta T}]}}$
t_3	P_3	$\frac{P_3}{(1+r)^{[\frac{(t_3-t_0)}{\Delta T}]}}$
......	......	......
		$Pn-1$

Third column entries might look a bit cumbersome at first, but we've basically expanded on $(1+r)^X$, where X is $\frac{(t-t_0)}{\Delta T}$.

This is effectively *normalized time*. Given two dates t and t_0, $(t-t_0)$ is equivalent to number of days in between those two dates. And ΔT is a common factor (commonly, 1 year or 365 days).

Then X is number of years, where fractional values are allowed.

Notice the first row of the above table, it's just P_0. Because every discounting is being done corresponding to that date in first row, t_0, so trivially, the discounted value against itself same as the original value.

> ⓘ Remember from your school days, that *anything raised to the power of zero, is 1 in value.*

Mathematically, $\frac{P_0}{(1+r)^{[\frac{(t_0-t_0)}{\Delta T}]}} = P_0$

Net Present Value

NPV (**N**et **P**resent **V**alue) of the above cashflow is sum of all discounted cashflows:

$$NPV = P_0 + \frac{P_1}{(1+r)^{[\frac{(t_1-t_0)}{\Delta T}]}} + \frac{P_2}{(1+r)^{[\frac{(t_2-t_0)}{\Delta T}]}} + \frac{P_3}{(1+r)^{[\frac{(t_3-t_0)}{\Delta T}]}} + ... + \frac{P_{n-1}}{(1+r)^{[\frac{(t_{n-1}-t_0)}{\Delta T}]}}$$

Which can also be written as

$$NPV = \sum_{i=0}^{n-1} \frac{P_i}{(1+r)^{[\frac{(t_i-t_0)}{\Delta T}]}}$$

This formula has *summation* symbol $\sum$, which allows us to write sum of a series of numbers in a succinct manner.

Definition of XIRR

XIRR of a given cashflow time-series data, is defined as value of r, the rate of discounting, such that **NPV is 0**.

Let's see what this means.

As we've seen in the last chapter, in a cashflow, some entries would have positive and negative signs in front of those values; such that these values represent direction of cashflow.

If we take the cashflow from last chapter itself, it's $-$₹100,000 (1L INR) for first 10 years, then after another 10 years, ₹200,000 (2L INR) for next 10 years.

Number of entries, is $n = 20$.

We fill the table up, mapping cashflow variables to values.

Date	Cashflow
$t_0 =$1st Jan 2021	$P_0 = -100{,}000$
$t_1 =$1st Jan 2022	$P_1 = -100{,}000$
$t2 =$ 1st Jan 2023	$P_2 = -100{,}000$
$t_3 =$ 1st Jan 2024	$P_3 = -100{,}000$
$t_4 =$ 1st Jan 2025	$P_4 = -100{,}000$
$t_5 =$ 1st Jan 2026	$P_5 = -100{,}000$
$t_6 =$ 1st Jan 2027	$P_6 = -100{,}000$
$t_7 =$ 1st Jan 2028	$P_7 =$ $$$$−100,000
$t_8 =$ 1st Jan 2029	$P_8 = -100{,}000$
$t_9 =$ 1st Jan 2030	$P_9 = -100{,}000$
$t_{10} =$ 1st Jan 2041	$P_{10} = 200{,}000$
$t_{11} =$ 1st Jan 2042	$P_{11} = 200{,}000$
$t_{12} =$ 1st Jan 2043	$P_{12} = 200{,}000$
$t_{13} =$ 1st Jan 2044	$P_{13} = 200{,}000$
$t_{14} =$ 1st Jan 2045	$P_{14} = 200{,}000$
$t_{15} =$ 1st Jan 2046	$P_{15} = 200{,}000$
$t_{16} =$ 1st Jan 2047	$P_{16} = 200{,}000$
$t_{17} =$ 1st Jan 2048	$P_{17} = 200{,}000$
$t_{18} =$ 1st Jan 2049	$P_{18} = 200{,}000$
$t_{19} =$ 1st Jan 2050	$P_{19} = 200{,}000$

If we use the NPV formula, we'd need to settle the value for power index in the formula, $\frac{(t - t_0)}{\Delta T}$, where $t$can be $t_0, t_1, t_2, \ldots, t_{19}$.

We could reasonably approximate these as whole numbers.

Plugging these in NPV formula, XIRR for this cashflow would be given by this equation:

$$0 = 100000 \times (-1 - \frac{1}{(1+r)^1} - \frac{1}{(1+r)^2} - \ldots - \frac{1}{(1+r)^9} + \frac{2}{(1+r)^{10}} + \frac{2}{(1+r)^{11}} + \ldots + \frac{2}{(1+r)^{19}})$$

Then XIRR is solution for this equation, where r is the unknown variable.

We can verify that for XIRR, this equation results in zero.

Another way to think of XIRR, is it's a value of rate, that makes sum of discounted cash outflows, same as sum of discounted inflows.

Verifying XIRR by Adding up Discounted Cashflows

We shall now go ahead and verify that this NPV equation indeed turns zero when we plug in the value of XIRR from in-built `xirr()` formula.

We had already created a table and verified the XIRR to be 3.52%p.a.

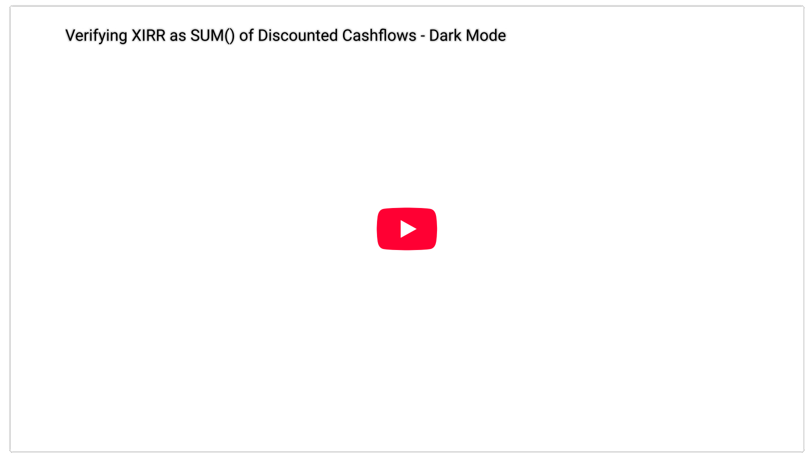
Steps:

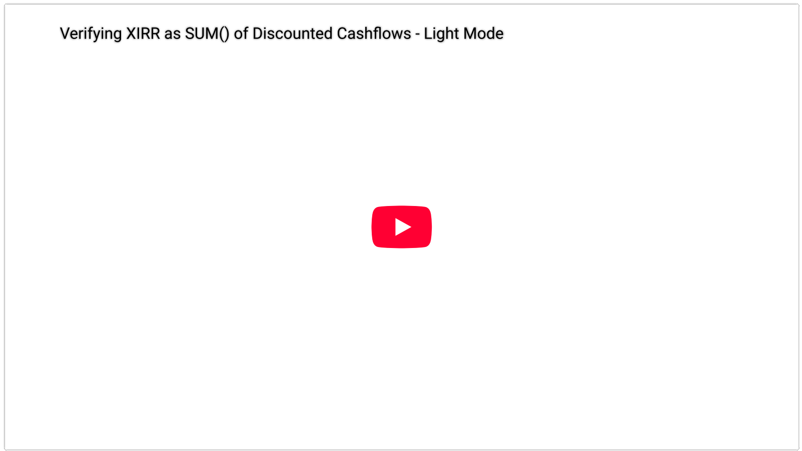
- Create a new column in your original calculation from last chapter, next to *Cashflow* column.
- In the first row, fill out the formula as follows:

  ```
  <cashflow_value> / POW((1 + XIRR_value), (<date_value> - <first row's date value> / 365))
  ```

  Make sure to *lock the cell* with `$` notation, for cell ID pointing to
  - XIRR value
  - first row's date value
- Use *drag and auto-fill* for other values of the discounted cashflow, though your spreadsheet might actually prompt the same with *smart fill*.
- Finally, invoke `SUM()` to compute summation of all discounted cashflow values in last column.

This video should help with above steps:





Final result should resemble this:

D26 =SUM(D5:D24)

	A	B	C	D	E	F
4		Date	Cashflow	Discounted Cashflow		
5		01/01/2021	-100000	(100,000.00)		
6		01/01/2022	-100000	(96,595.92)		
7		01/01/2023	-100000	(93,307.73)		
8		01/01/2024	-100000	(90,131.46)		
9		01/01/2025	-100000	(87,055.06)		
10		01/01/2026	-100000	(84,091.64)		
11		01/01/2027	-100000	(81,229.09)		
12		01/01/2028	-100000	(78,463.99)		
13		01/01/2029	-100000	(75,785.83)		
14		01/01/2030	-100000	(73,206.02)		
15		01/01/2041	200000	100,000.00		
16		01/01/2042	200000	96,595.92		
17		01/01/2043	200000	93,307.73		
18		01/01/2044	200000	90,131.46		
19		01/01/2045	200000	87,055.06		
20		01/01/2046	200000	84,091.64		
21		01/01/2047	200000	81,229.09		
22		01/01/2048	200000	78,463.99		
23		01/01/2049	200000	75,785.83		
24		01/01/2050	200000	73,206.02		
25						
26			3.52%	0.00		

Verifying XIRR value from summing up discounted cashflows - Dark Mode

D26 =SUM(D5:D24)

	A	B	C	D	E	F
4		Date	Cashflow	Discounted Cashflow		
5		01/01/2021	-100000	(100,000.00)		
6		01/01/2022	-100000	(96,595.92)		
7		01/01/2023	-100000	(93,307.73)		
8		01/01/2024	-100000	(90,131.46)		
9		01/01/2025	-100000	(87,055.06)		
10		01/01/2026	-100000	(84,091.64)		
11		01/01/2027	-100000	(81,229.09)		
12		01/01/2028	-100000	(78,463.99)		
13		01/01/2029	-100000	(75,785.83)		
14		01/01/2030	-100000	(73,206.02)		
15		01/01/2041	200000	100,000.00		
16		01/01/2042	200000	96,595.92		
17		01/01/2043	200000	93,307.73		
18		01/01/2044	200000	90,131.46		
19		01/01/2045	200000	87,055.06		
20		01/01/2046	200000	84,091.64		
21		01/01/2047	200000	81,229.09		
22		01/01/2048	200000	78,463.99		
23		01/01/2049	200000	75,785.83		
24		01/01/2050	200000	73,206.02		
25						
26			3.52%	0.00		

Verifying XIRR value from summing up discounted cashflows - Light Mode

> You would be tempted to manually use 3.52% or 0.0352 instead of relying on output of `xirr()` formula. As you'd see, it would add up to a finite positive or negative value.
>
> Due to formatting, we are only seeing two places after decimal point. But actual computed value is something slightly different from exact 3.52%.

How to Solve the XIRR Equation

Given a value of XIRR, we can verify if it's indeed satisfying the equation of NPV being zero.

But given an equation, as above, can we derive the value of r?

Turns out, even if it's a single-variable equation; it's not as simple as solving an algebraic equation.

In essence, we need to use advanced approaches such as Newton-Raphson *approximation* to solve such equations, iteratively.

It starts with a *guess* for the right value of XIRR. Then it plugs that value back into the NPV equation, to extract a new approximate value.

After repeating this and extracting newer approximate values, it only gets more and more precise, through hit and trial.

Eventually, the value stabilizes reaching correct answer for the problem at hand.

A full treatment of Newton-Raphson method is beyond scope for this wiki, but even a cursory search in popular search engines would reveal enough materials that cover it in some depth.

> ⓘ The third argument in `xirr()` function is `rate_guess`, which if you provide, can speed up XIRR computation by reducing number of iteration it takes to reach correct value of XIRR.
>
> But it's best avoided; because if you plug in a value as guess for rate, which is far removed, it would only serve as a means to increase number of iterations it takes to find the value of XIRR.

Why is XIRR annualized growth rate?

Because the ΔT value is set to 1 year or 365 days.

We could, however, change that to 1 month or 1 decade; and get rates per month, or rates per decade.

Visualization

Now that we've a formal mathematical understanding of what XIRR is; it's instructive to understand XIRR visually.

This would help us build a mental model of XIRR, intuitively, because it might not always be possible to have enough information to invoke `xirr()` function and obtain exact value of it.

Two Transactions - CAGR and XIRR

Let's begin with a simple use-case, where a set of cashflows is basically only two transactions.

One purchase, and one sell or redeem-able account value.

It could be a lumpsum purchase transaction for a bond or a stock or even a mutual fund / ETF, and after the first purchase, there have been no transactions on that account.

Let's consider an investor had purchased HDFC (NSE: HDFC) stock at a price of ₹1113.40, on 1st April 2016, for quantity of 1 share.

Then total invested amount is same as share price at the time of purchase.

Also assume this investor has continued to hold on to this share of HDFC. As on today, it'd have a different value from its valuation at the time of purchase.

We can model it as one purchase transaction (negative cashflow, because money is going away from end user), and a potential redemption transaction of today's value.

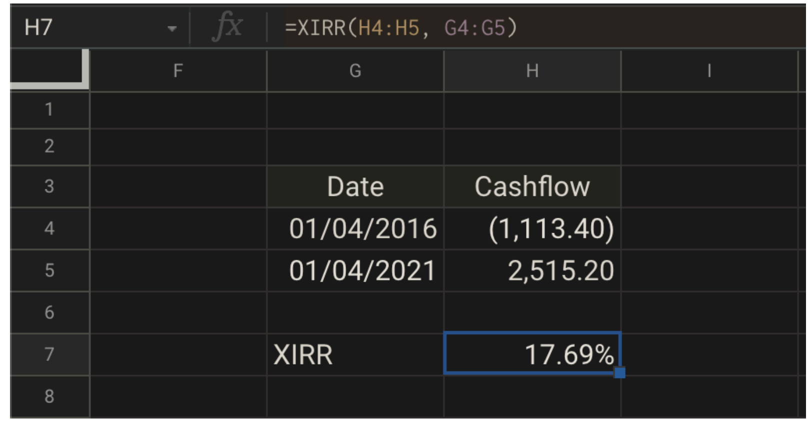
At the time of writing this, this value is ₹2515.20 per share, as on 1st April 2021.

Date	Cashflow
01-Apr-2016	−1113.40
01-Apr-2021	2515.20

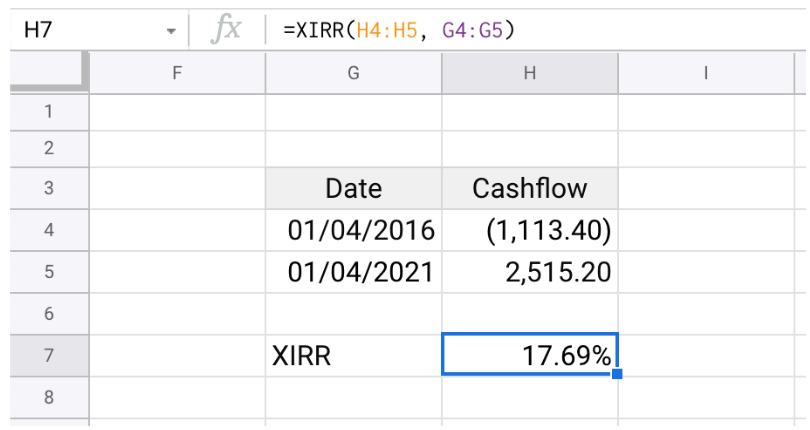
It effectively means, if the investor were to sell the share when price is ₹2515.20, they'd receive ₹2515.20 in liquid cash in their account. We're ignoring STT (**S**ecurity **T**ransaction **T**ax), brokerage, and other fees for now.

Then XIRR of these transactions can be computed easily, by inserting these numbers from the table into a spreadsheet, invoking the `xirr()` formula.

We'd get XIRR as 17.69% **p.a.**



XIRR of only two transactions - Dark Mode



XIRR of only two transactions - Light Mode

At the same time, we could obtain CAGR of underlying asset, HDFC shares, over 5 years, which also comes out to be 17.69% **p.a.**

H14 | fx | =RRI(5, H11, H12)

	F	G	H	I
8				
9				
10		Date	Value	
11		01/04/2016	1,113.40	
12		01/04/2021	2,515.20	
13				
14		CAGR	17.70%	
15				

CAGR computed with RRI function - Dark Mode

H14 | fx | =RRI(5, H11, H12)

	F	G	H	I
8				
9				
10		Date	Value	
11		01/04/2016	1,113.40	
12		01/04/2021	2,515.20	
13				
14		CAGR	17.70%	
15				

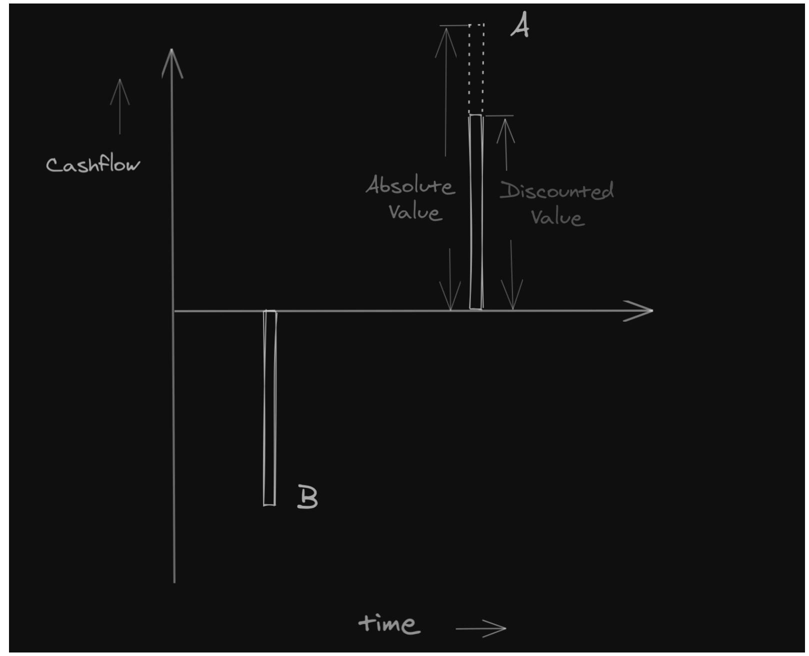
CAGR computed with RRI function - Light Mode

They are the same!

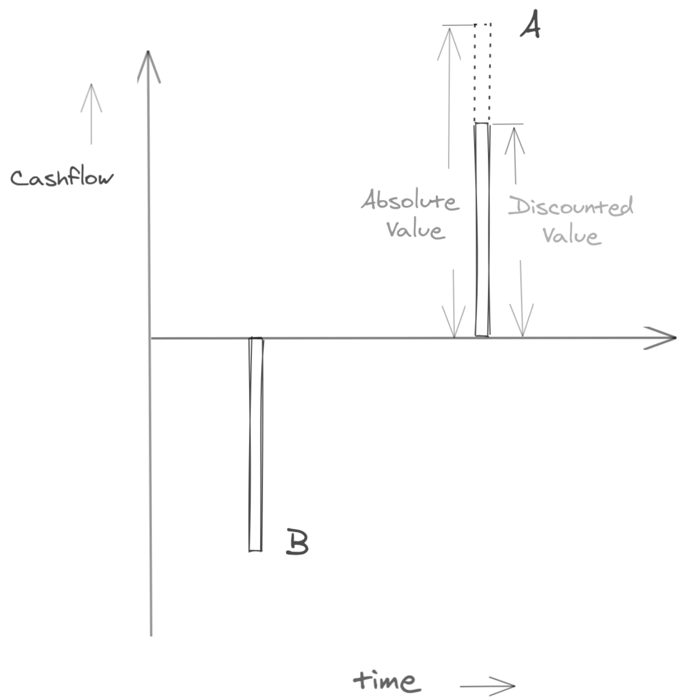
> ⓘ You might have noticed that output of `RRI()` function is slightly different from output of XIRR function. This is because those two dates are not exactly 5 years apart, you've to also count the leap days in between.

CAGR of an asset between two dates, can be computed using XIRR function, by creating a purchase transaction at the start date, and an imaginary sell transaction on the end date.

This is why most spreadsheet or excel applications don't include a dedicated CAGR function ****You only have to invert the sign of first row entry of value!



Discounted cashflow for only two transactions - Dark Mode



Discounted cashflow for only two transactions - Dark Mode

We can mathematically prove it as well.

Recall that formula of CAGR is:

$$V_{final} = V_{initial} \times (1 + CAGR)^n$$

n is number of years, where we're considering 1 year as unit of time.

Then equivalent transactions would be of values $-V_{initial}$ and V_{final}

Plugging these in the NPV equation for XIRR, we get

$$\frac{V_{final}}{(1 + XIRR)^n} - \frac{V_{initial}}{(1 + XIRR)^0} = 0$$

Rearranging, and keeping in mind that power raised to 0 means 1, we get

$$V_{final} = V_{initial} \times (1 + XIRR)^n$$

Therefore, CAGR and XIRR would have same values.

> CAGR eq XIRR

> We've simply found a case, where value of CAGR for an asset between two dates; can be same as XIRR of an imaginary portfolio of two transactions, on those two dates.
>
> This would be true for all investible assets, for any two dates; as long as it can be modeled as two transactions (one purchase, one sell).
>
> But *CAGR of a portfolio*, is a meaningless metric to look for. Asset has CAGR, portfolios have XIRR.

This makes sense intuitively as well.

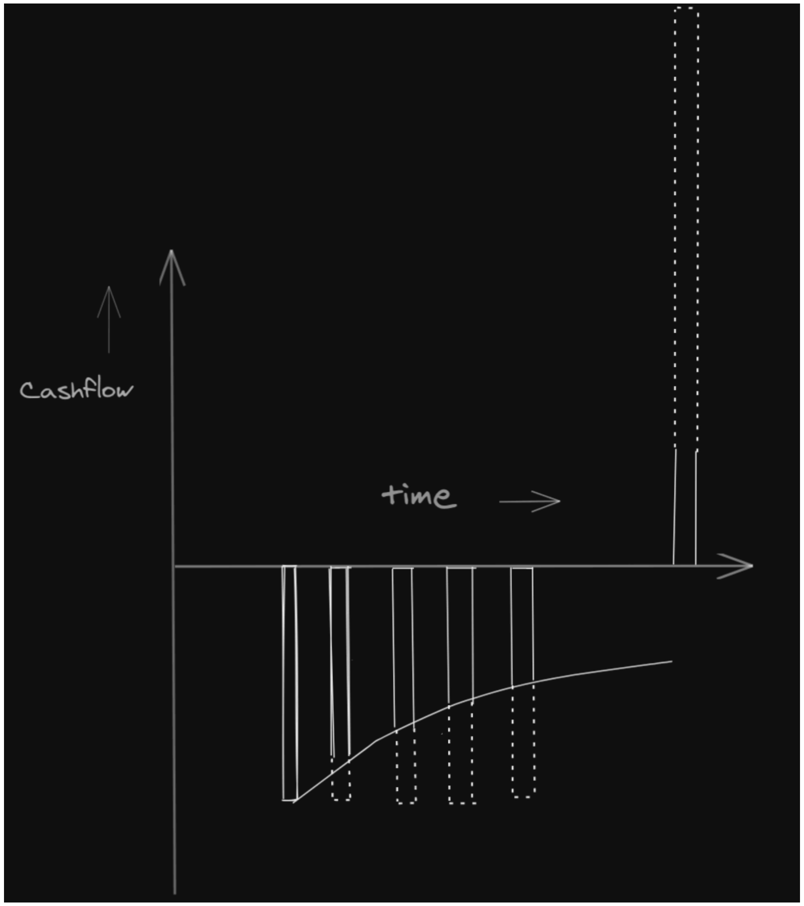
XIRR of a portfolio where investor has invested only once and redeemed once (or can redeem full amount if they choose to), is same as rate of growth of underlying asset over same period - which is CAGR.

More than Two Transactions

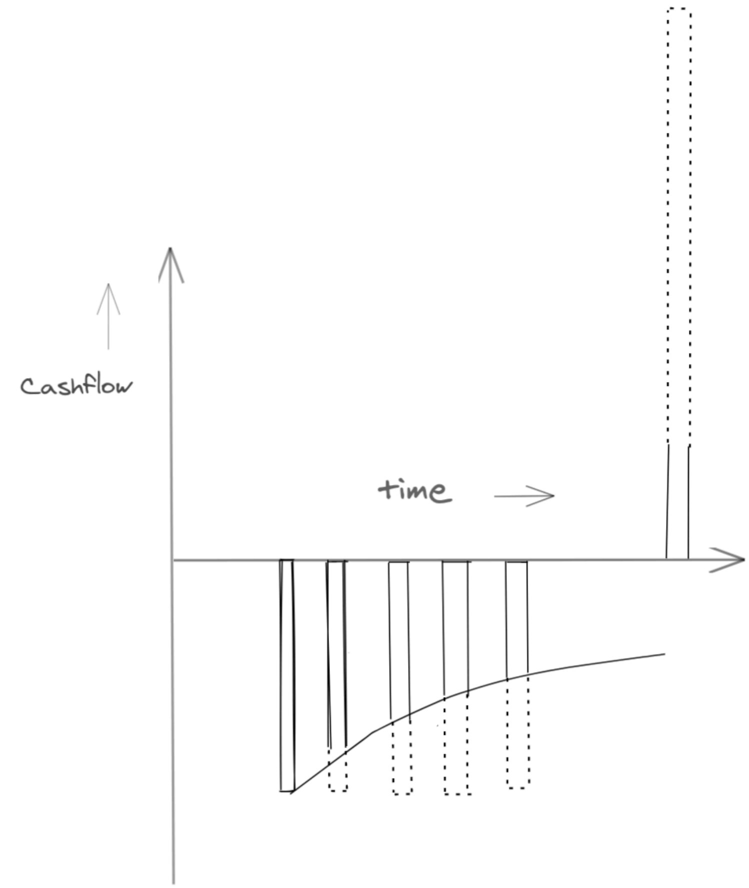
What if an investor has more transactions, mix of buy / sell etc.?

This is usually how normal portfolios look like.

Even if one were to make a bank fixed deposit, there can be year-end TDS, resulting in cash outflow from the deposit account; which would end up having multiple transactions in that portfolio.



Discounting cashflows for XIRR in case of more that two transactions - Dark Mode



Discounting cashflows for XIRR in case of more that two transactions - Light Mode

Dotted line shows actual numeric value, of each transaction’s cashflow.

While, solid lines indicate how these values would be after discounting using the decay formulation.

You can see the decay as a result of discounting.

To understand why the decay over time moves like that, we can plot similar graphs from our spreadsheets

Steps:

- Select the three columns of data on dates, cashflow, and discounted cashflow that we’d worked on earlier, to validate XIRR.
- Insert chart from menubar or toolbar
- Switch to bar chart

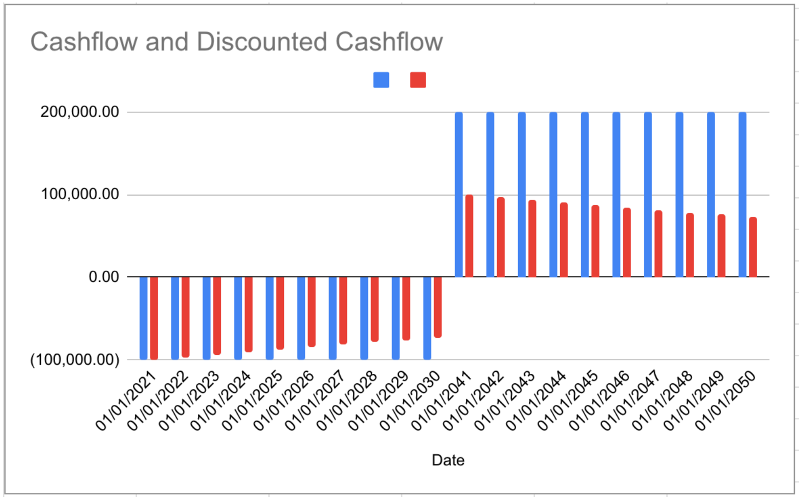
Here's a short video to help you out, though it's quite straight-forward, if you've followed along thus far:

Decay Plot of Discounted Cashflow - Dark Mode

Decay Plot of Discounted Cashflow - Light Mode

Final plot should look like this:

Cashflow and Discounted Cashflow vs Years - Dark Mode



Cashflow and Discounted Cashflow vs Years - Light Mode

While the blue lines in the above plot are of same heights for positive cashflow values and negative values; the red lines are where we see values being discounted more and more over time.

Recap and Wrapping Up

We learned various aspects of XIRR in the last chapter, using an example and output of in-built `xirr()` function.

Now we can cross-validate these, how these follow from definition of XIRR naturally:

- **XIRR doesn't depend on exact dates, rather relative differences between dates of transactions**

  This is because in NPV equation, the power terms are normalized differences in time, and not absolute values of time points (t_0, t_1, t_2, t_3 etc.).
- **XIRR doesn't depend on exact value of cashflow amounts, only relative scaling within those numbers**.

  In other words, if every cashflow amounts were multiplied by some arbitrary number, it won't change the value of XIRR.

  This is readily verifiable; as in the NPV equation, the right hand side is 0. Hence multiplying both sides by a constant co-efficient has no effect.
- **Moving up payout schedule improves XIRR**

  Moving up schedule of payout (positive cashflows) means the discounted value of those transactions become higher; as $(t - t_0)$ decrease.

  To keep the equation at zero, now the base of the fraction would have to go up, which is $(1 + r)$. In other words, XIRR would have to go up.

Similarly, we can refer to the NPV equation of XIRR formulation, and validate our erstwhile understanding of XIRR behavior.

You might have noticed that we didn't do any semi-log plots with cashflow values.

This is because NPV equation is an equation that lists formulas as sum of decayed entities.

There's no mathematical formula to simplify $\log(A + B)$, that relates to $\log A$ or $\log B$ in any way, in general.

Next chapter we would learn about applying XIRR in financial decision-making, in the wild. We'd consider real-world scenarios, and approach decision-making on those, by computing their XIRR; and comparing with XIRR of alternative investment avenues.

BONDS

Bond Basics

A bond is an instrument of indebtedness of the bond issuer to the holders.

Basics

A **Bond** is a contract, between an entity taking the loan (issuing the bond) and another entity providing the loan. It denotes the indebtedness, and captures the necessary information on how much to pay back, and when.

Who issues bonds?

Companies that need capital (fancy way of saying access to large sums of money), can issue bonds. Central banks, like RBI or Federal Reserve or Bank of England, can and do issue bonds. Govt. of a country (GOI, for example) as well as state governments, can also issue bonds. Bonds are market-linked securities, just like stocks. Not unlike stocks, bonds also trade daily in exchanges (often called "secondary markets") such as NSE / BSE etc.

Why?

A company issues bonds to raise capital from the capital markets. It helps with their immediate need for cash. Which they would invest in growing their business. The belief here is they can generate much higher return than it'd cost to pay interest on that loan raised through bonds. Central banks, governments etc. do it for similar reasons as well; but instead of business growth, they're more focused on controlling flow of money within economy and issuing bonds in capital markets is how they start. The buyer of bonds is getting interest on money lent out against bonds.

Is currency a bond?

You might think that 10 rupee note in your pocket is a bond issued by RBI, because it clearly has the signature of RBI Governor, and some legalese printed on that. No, it's not a bond. Currencies are not bonds, even if they're issued by central banks.

History

Bonds were government debt instruments issued by the governments to finance government spending as an alternative to taxation. The first issued bond can be traced to Mesopotamia in around 2400 BC. The bond was backed by grain similar to how modern era secured bonds are backed by assets, as was customary of the time. Failure to repay the bond resulted in forfeiture of this surety. The staple currency in the era was corn. As loans were primarily taken to finance growing crop or herding cattle, interest payments were made in the form of the harvests of said crops. Over time silver became the dominant currency due to the perish-ability of other commodities. The modern form of bonds came to life when European merchants started lending to the aristocracy to fund sovereign spending.

What to look for?

Bonds can be issued by Governments (sovereign entities) or by corporates. Depending on that a lot of things will vary, including how risky the bond is but there are some things to keep in mind while looking at bonds which we will talk about in more depth as we progress in the series.

Coupon

Coupon is simply the rate of interest that the bond will pay out throughout its life. Depending on the type of the bond this can be fixed from the date of issue or keep on varying. Payment dates too can vary.

Yield

13/04/2025, 11:10 r/IndiaInvestments

It is the rate of return. How does this differ from the coupon? Simply put not all bonds give out interest, some bonds instead are sold at a discount and you get a higher value back at maturity. Think of it like a cumulative FD if you may.

Yield to Call

A call option is a special provision in some bonds where the bond issuer has the special right to immediately pay off the bond. Think about how you might want to pay off a loan after getting a promotion with a large hike. Quite often a bond that offers a yield much higher than average will be "called" so it is prudent to check both the yield to maturity (yield which you will get if held till maturity) and yield until the date when the issuer has a right to call the bond. As an addendum there is another feature in some bonds called a put option which is the reverse ie it lets the bond holder force the issuer to pay the money back early, a premature FD closure if you may.

Credit Quality

As mentioned earlier not all bonds are made equal. Some bonds are riskier than others, this risk can be estimated by a "credit rating" which is a score that indicates how risky a bond is.

Government Securities

A government security is a type of bond issued by the Central Government or the State Governments

A government security is a type of bond issued by the Central Government or the State Governments. They are broadly classified into two main categories based on the duration.

- **Short Term Bonds** - Colloquially known as Treasury Bills (T Bills), these are secruities that are issued for durations shorter than a year. Generally, only the central government issues this type of securities.
- **Long Term Bonds** - These are dated securities which are sometimes referred to as GSecs (despite only being a subset of government securities). There are issued by both the central government as well as the state governments. When issued by the latter they are reffered to as State Development Loans (SDLs).

Due to being issued by the government itself, these bonds are a form of sovereign debt and have low credit risk. The overall risk of a nation's bond can be assessed by looking at their sovereign credit rating which is an assesment of the creditworthiness of a country. For example, India's credit rating as of this article is BBB- according to Fitch and Baa3 according to Moody's which is the minimum grade required for a bond to be considered "investment grade". Furthermore, investors see full transparency of the investment process as the RBI conducts the auction for participants to see. As such these can play a crucial role in an investor's portfolio for long term wealth creation as a low risk debt instrument.

Short Term Bonds

Treasury Bills

As mentioned in the previous section, these are short term money market instruments issued by the central government. Treasury bills (T-bills) offer short-term investment opportunities, generally up to one year and are issued by the RBI for managing short-term liquidity. Treasury bills can be issued in a physical form as a promissory note or dematerialized form. It is a promissory note with a guarantee of payment at a later date and is backed by the Govt of India and Reserve Bank of India hence assured yields and zero risk of default. Which means that these are zero coupon instruments that do not pay out any interest and instead the interest component is the difference between the price the face value and the price they are are sold at. They are available in four durations - 14 day, 91 day, 182 day and 364 day T Bills.

Thumb rule calculations would work like this:

- 14 days bill = 1/2 month = 1/24 year
- 91 days bill = 3 months = 1/4 year
- 182 days bill = 6 months = 1/2 year
- 364 days bill = 12 months = 1 year

For example, the 91 day bill can have a face value of ₹100 and issued at ₹98. That means you can purchase it at ₹98 and when it completes 91 days, you will sell it back and get ₹100. Cost of ₹98 and payout of ₹100 with a profit of ₹2. This ₹2 is the interest over 3 months and the effective rate is about 8%.

To formalize this into a formula that a bond trader may use: `Annualized Yield = Interest for the duration of the bond * Modifier` The first part of the formula can be understood as `(Face Value - Issue Price) * 100 / Issue Price`. Which in our example ended up being 2.88%. The second part of the formula is a modifier that would convert the yield from an absolute return to an annualized one. Mathematically this would be `(365 / Duration of bond in days.)`. Comprehensively, the annualized yield works out to be `Annualized Yield = [(100-P)/P]*[365/D]*100` where `P` is the price of issue and `D` is the duration in days.

14-day and 91-day T-bills are auctioned every week on Fridays, 182-day and 364-day T-bills are auctioned every alternate week on Wednesdays.

Detailed maths located below

Cash Management Bills (CMBs)

These are very similar in nature to treasury bills, however these are issued with maturities shorter than 91 days. Introduced in 2010, they help the government manage their cashflows. For example, RBI recently announced the auction of a 48 day Cash Management Bill ↗

Dated G-Secs

These are bonds issed by the government with fixed or floating coupon rates payable half yearly on the face value. There are a large number of bonds that fall under this category of bonds.

Fixed Coupon G-Secs

These are bonds where the interest rate is fixed for the entire duration of the bond and is set at the time of issue. Due to this they may have fluctuations in price on the secondary markets when there is a rise or fall of prevailing interest rates.

Floating Rate Bonds (FRB)

These are bonds where the interest rate is not fixed for the entire duration of the bond and is revised at fixed intervals by RBI. There come in two main types.

- Floating rate bonds without a fixed spread ie they are simply issued at face value and pay out the coupon rate for the currently set period.
- Floating rate bonds with a fixed spread. These are auctioned and sold at a discount similar to the aforementioned treasury bills, which means there's a variable component which is the coupon yield set by RBI as well as the fixed spread which is guaranteed based on the discount the bond was purchased at. An example of this type of bond is the FRB 2033 issued by RBI. ↗

Floating Rate Savings Bond

Retail investors also have the option to invest in Floating Rate Savings Bonds offered by RBI which are a simple way to hold government bonds for individual retail investors instead of FIIs/DIIs or HNIs. These are floating rate bonds offered by RBI. These are successors to the 7.75% Savings (Taxable) Bonds, 2018 which were fixed rate bonds issued by RBI with both cumulative as well as non cumulative options. The FRSB is however, only available in the non cumulative option and investment starts at ₹1,000 and in multiples of ₹1,000, thereof without a maximum investment limit. The interest is fully taxable at slab limits and the interest rates are set to revision by RBI every six months. The main thing to note is that unlike most other bonds *these can not be traded on the secondary markets, nor can they be used as collateral for loans.*

Inflation Indexed Bonds (IIBs)

For some duration post the Global Financial Crisis, inflation was a major concern for most emerging markets. To alleviate this, RBI launched Inflation Indexed Bonds, these are bonds where both the principle as well as the interested rates are matched to the Whole Sale Price Index (WPI) or Consumer Price Index (CPI). On their release however, RBI had used WPI though currently the RBI has switched to using the CPI as their measure of inflation. Future issues are likely to be matched with CPI over WPI.

In recent years, much of the sheen of these are fallen with inflation levels falling much lower. The government has announced a couple of buy backs of these bonds providing investors an exit. Those familiar with the US bond markets will find this very similar to Treasury Inflation-Protected Securities or TIPS.

State Development Loans (SDLs)

State Development Loans are securities issued by various state governments instead of the the central government. In theory based on the Basel III guidelines as well as RBI's Statutory liquidity ratio requirements, these are considered to be having zero credit risk. In the markets this is contested as there is often a premium over the central government's equivalent government security. The spread depends on the credit worthiness of the states in question and can vary from state to state. Since RBI is the facilitator for the state to issue such bonds they have the power to make payments to bond holders from the central government's kitty for the respective state.

Sovereign Gold Bonds (SGBs)

These are very special types of bonds that do not function in a similar manner to the other bonds listed on this page. Instead they are pegged directly to the price of gold acting as a proxy to actually holding gold. Furthermore they offer 2.5% simple interest and capital gains for bonds held to maturity are currently zero. For more on this read up our detailed page on holding SGBs.↗

Corporate Bonds

Bonds that are issued by private and public corporations are known as corporate bonds.

In the previous module we learnt about bonds issued by government but governments are not the only entities that raise debt through bonds. Bonds that are issued by private and public corporations are known as corporate bonds. Companies may issue debt to raise money for a variety of purposes for example to raise money for a new plant and these bonds act as a way for people to lend money directly to the company.

Not all bonds are made equal (AKA Credit Risk)

If you have compared fixed deposit rates at various banks, you would have noticed the big three (SBI, HDFC, ICICI) tend to have lower interest rates on their fixed deposits when compared to smaller players. The other end of the spectrum tends to be small finance banks which tend to offer a good 3-4% over what a major bank would offer. This parity in rates is due to risk and the same applies to bonds issued by companies. Bonds issued by a robust bluechip company has a much lower chance of default than one issued by a shakey unprofitable smallcap.

There needs to be a way gauge this risk and that is why we have something known as a credit rating. Credit ratings are like your CIBIL scores, just for companies. Broadly speaking there are:

- CRISIL Limited
- India Ratings and Research Pvt Ltd
- ICRA Limited
- CARE
- Brickwork Ratings India Pvt Ltd
- SMERA Ratings Limited
- Infometrics Valuation and Rating Pvt Ltd

Generally, speaking a company issuing debt will get themselves rated by one or more of these agencies and they will issue a grade to their company based on the category. There is a separate rating and rating scale for each type of debt issued - long term debt, short term and FDs (there are more subcategories but we will limit ourselves to the three main types).

As the names imply each rating is tailed for the specific type of debt security issued. Each rating agency has their own scale which is publicly available but most ratings go from AAA (safest) to D (default) with BBB being the lowest possible grade for investment grade debt (Colloquially, AAA is commonly used but short term debt is usually rated from A1 to D where A1 is the equivalent to AAA). Any debt with a rating less than that is considered to be junk debt and often will not get investments from pension funds, some mutual funds, etc due to guidelines by their regulators. Colloquially, some bonds are considered to "pseudo SOV rated". These are generally bonds issued by PSUs and PSBs and there is an assumption that the government will recapitalize these entities incase of a default. There is some merit to this argument but it is prudent to assume some risk as there is no guarantee that requirements the government to bail out bond holders.

While a useful metric to analyse the overall risk, it is important to note that these ratings are merely a reference and taking these ratings at face value can backfire and history has several examples of this - the meltdown of AAA rated Mortgage Backed Securities (MBS) during the 2008 financial crisis.

Types

There are a couple of types of debt based securities that companies can issued and these have different consequences both for the company and the investor.

Corporate Fixed Deposits

Corporate Fixed Deposits are *similar but not the same* as bank deposits in that they are not market based securities. Similar to how you would do in a bank you can deposit a variable amount of money for a duration of your choice provided by the company. Unlike a bond these are not market based, which means liquidity is provided entirely by the company. If you want to exit a traditional bond then you can do that at any time by selling the security in the secondary markets ie the exchanges NSE/BSE through your broker (though you might end up selling for a discount if there isn't enough liquidity). This is not possible with a corporate fixed deposit as these are not listed, if you want to get your money back early then you need to go through their early withdrawal process which may have a penalty of 1-2% on the interest.

Furthermore, it is very important to note that corporate fixed deposits are not backed by RBI and DICGC's 5L insurance and if the company goes insolvent then there is a risk of default and the only option for you would be either to sue or wait to get your proceeds from any resulting liquidation process. The "reward" for taking this is risk is usually a much higher rate of interest over bank fixed deposits.

In terms of taxation, these are taxed similarly to bank FDs and tax is deducted at source unless you provide a 15G/H form if you're under the tax slabs.

Non Convertible Debentures (NCDs)

Non-Convertible Debenture is a financial instrument issued by Corporates for specified tenure to raise funds through public issue or private placement. The non convertible in the name implies that the debentures are not convertible to equity (some types of convertible debentures can be swapped for equity shares for example). These can be issued by Companies, including Non-Banking Finance Companies (NBFCs) or any corporate bodies worth more than ₹100 crore that are permitted to issue debt by the Reserve Bank of India. Furthermore, these issuers must be rated by at least one Credit Rating Agency(CRA). If they plan to issue ₹1000 crore or more in debt they must be rated by two CRAs. The minimum credit rating must be atleast A3 for issue.

Unlike a fixed deposit these are listed securities and investors can exit their investment by selling the debentures on the markets. As with any market linked securities these can suffer from changes to interest rates ie a rise in interest rates can make your NCBs to be worth less and vice versa. There can also be a spread (ie if the debenture is worth ₹100, sellers might want 104 while buyers offer only 96 which means you lose money both to enter and exit) due to a lack of liquidity in the market for the particular instrument. As with any corporate instruments, NCDs, are not backed by RBI and DICGC's 5L insurance and if the company goes insolvent then there is a risk of default. There are two types of NCDs:

- Secured: Investors can claim the company's assets incase of a default
- Unsecured: Investors can't directly stake a claim on the company's assets

In terms of taxation if NCDs are sold within a year or lesser STCG will be applicable as per the income tax slab rate. If the NCDs are sold after a year or more or before the maturity date, LTCG will be applicable at 20% with indexation. For those in higher tax brackets these may be superior to holding FDs.

Bonds

Bonds are a financial instrument issued by Corporates for specified tenure to raise funds. These are most part very similar to Non-Convertible Debentures however with some key differences

- Bonds are generally issued by larger, public corporations whereas NCDs can be issued by unlisted corporations as well
- Bonds are usually secured and furthermore incase of an insolvency proceeding, bondholders are higher in the line of recovery ie if there are sales of the company's assets bond holders will be the first to get their money followed by NCD holders (then commonly preferred shareholders and finally regular equity holders who are the last ones to get if anything is left by then).
- Due to the lower risk nature of bonds compared to NCDs, NCDs will have a higher yield than their Bond equivalent.

13/04/2025, 11:10 r/IndiaInvestments

Capital Gain Bonds (54EC Bonds)

While not strictly a sub category of debt, these are bonds that relevant to Real Estate investors as they are a way to gain some respite from capital gains taxes. Do note we will not go in depth into the exact details of how capital gains works in case of property but this section applies on all the gains after brokerage, indexation, expenses, etc are subtracted from the sale price. This final capital gains amount can be then invested in these 54EC bonds as a way to avoid the tax burden. To be eligible for this exemption there are three key requirements

- The amount you invest should be sourced from the gains you have from the sale of property
- The amount should not exceed 50 lakhs for individuals or 50L per partner in a real estate business
- Investment shall be made within 6 months of date of sale or filing of your IT return

Currently, three companies issue bonds under this category and you can invest in them through your bank.

- REC (Rural Electrification Corporation Ltd)
- PFC (Power Finance Corporation Ltd)
- NHAI (National Highways Authority of India)

The key details to note about these bonds are

- As of today, all 54EC bonds are AAA rated PSUs (which are partially divested by the Government)
- TDS is not deducted on interest from 54EC bonds and they are exempt from Wealth Taxes
- They are issued with a lock-in period of 5 years
- Minimum investment in 54EC bonds is 1 bond amounting to ₹10,000

MISCELLANEOUS

Miscellaneous

This section is meant to hold entries which do not have a section of their own, yet.

US Investing

Overview of US indices.

US ETFs and Index Funds

There are several indices involved in the US markets similar to the Indian counterparts Sensex and Nifty. As with India most of the ETFs and mutual funds you will find in the market will be either tracking these indices (Index funds or ETFs) or be benchmarked to them.

Meeting the Indices

As with India there's several indices in the US though we will focus on some of the big ones.

Dow Jones Industrial Average (DJIA)

This is one of the oldest indices in the US markets established in 1885 that measures the stock performance of 30 large companies listed on stock exchanges in the United States. The direct comparison to this index is the Indian S&P BSE Sensex 30 index though there are some key differences to the Dow and all other indices. This difference is very important and the reason why most people in finance consider this a poor measure of the market. The Dow Jones is not a free float index. What is a free float methodology? Courtesy: Investopedia, it's defined as

> The free-float methodology is a method of calculating the market capitalization of a stock market index's underlying companies. With the free-float methodology, market capitalization is calculated by taking the equity's price and multiplying it by the number of shares readily available in the market.

Instead of using the free float, the Dow Jones takes 30 stocks, adds the prices of each share in the 30 and divides them by a fixed value (that value as of 1st February is set to 0.152).

Dow Jones operates across the New York Stock Exchange and NASDAQ.

S&P 500 Index

This is the big one. The S&P500 tracks the 505 common stocks (yes, 505 because someone companies like Google have multiple share classes both included) issued by 500 large cap companies across the US market. Unlike the Dow this index is built by using the free float market capitalization methodology and could be considered the flagship index for the US markets.

The S&P500 is a strongly diversified index compared to NASDAQ due to the NASDAQ having lower barriers to entry as compared to the NYSE which encourages startups and other newly minted corporations to first list on the NASDAQ over the NYSE. Since this index unlike the NASDAQ index tracks the NYSE as well it also covers several mature companies.

The S&P500 operates across the New York Stock Exchange, NASDAQ and the Chicago Board Options Exchange.

NASDAQ Composite Index

As briefly touched in the last index, the NASDAQ exchange has severely lower barriers to entry. Normally, exchange will have tests and if a company can satisfy all requirements under a single test they qualify to list. Furthermore, even post listing the company must satisfy market cap requirements. In the case of the NYSE companies must maintain a minimum market cap of

$15 million over a 30 day trading period versus the NASDAQ requirement of 750,000 public shares outstanding worth at least $1.1 million.

What this means is that many of the smaller startups and growth based ventures flock to the NASDAQ to the listing and as of this post, most of them are tech companies. Investing in the NASDAQ can be considered a proxy for investing in high growth companies or even a bet on the tech sector.

The NASDAQ Composite Index operates across the NASDAQ.

CRSP US Total Market Index

This one is a fairly unknown index but it should not be underestimated. It tracks nearly 4,000 constituents across mega, large, small and micro caps and covers nearly 100% of the investable companies in the US. It is the benchmark index for Vanguard Total Stock Market Index Fund Admiral Shares (VTSAX), the world's largest fund by AUM standing at $1.08 Trillion as of this post.

There is some argument to be made that the overlap between the S&P500 and the CRSP US Total Market Index is very large and the allocation to non large cap stocks is very small to make an absolute difference in returns.

The Major Funds (US Domiciled)

Note: There are two major differences in which US funds differ from the funds in India.

- Indian markets have the concept of growth funds which means that the fund is not obligated to distribute received from assets held by the fund. Meanwhile, a US domiciled fund is obligated to distribute at least 90% of its income to shareholders. Each dividend distribution is a taxable event for the shareholder of the fund. For more detailed reading on the difference, you can refer to this post on bogleheads ↗.
- Indian funds growth/accumulating funds are not forced to distribute capital gains to the share holders. This is not true in the United States. When a US fund sells a stock resulting in some capital gains then they must distribute at least 95% of the gains and resulting taxes to shareholders. This dividend distribution usually happens around November or December. As a result it is prudent to opt for a fund with a low turnover.

SPDR S&P 500 ETF Trust (SPY)

Managed by State Street Advisors and launched on January 22, 1993, SPY was the first exchange-traded fund in the United States. The fund tracks the S&P500 Index. The fund has a net expense ratio of 0.0945% at the time of writing. The SPY ETF is one of the most liquid ETFs traded on the US markets and at the time of this post has an average daily volume of 70,208,796.

This high volume and low spread makes it incredibly attractive for people who may wish to deal in options, despite having a higher expense ratio than its Vanguard counterpart VOO. A popular strategy among SPY holders is selling covered calls to generate some spare income over and above the fund's returns.

Cheatsheet

US Domiciled

- S&P 500 - VOO, SPY
- NASDAQ - QQQ
- US Total Market - VTI

Recommended Reading

List of recommended reading material.

Books

Recommended Reading List:

The Classics

1. The Richest Man in Babylon.
2. Ben Graham – The Intelligent Investor (and Security Analysis).
3. Phil Fisher – Common Stocks and Uncommon Profits and Other Writings. His son Ken Fisher's book (The Only three Questions That Count) is also very good.
4. Warren Buffett's Shareholder Letters & The Essays of Warren Buffett.
5. Charlie Munger – Poor Charlie's Almanack.
6. Seth Klarman – Margin of Safety.
7. Howard Marks – The Most Important Thing. and Memos.
8. George Soros – The Alchemy of Finance
9. Peter Lynch – Beating the Wall Street & One Up On Wall Street.
10. Joel Greenblatt – The Little Book that Beats the Market (there is another book The Little Book that Still Beats the Market). & You Can Be A Stock Market Genius.
11. Nassim Taleb – The Black Swan and Fooled by Randomness.
12. William Bernstein – The Four Pillars of Investing and The Investor's Manifesto.
13. John C Bogle – Common Sense on Mutual Funds.
14. Charles Ellis – Winning the Loser's Game.

Other Popular Books

1. David Dremen - Contrarian Investment Strategies The Next Generation.
2. Robert Shiller – Irrational Exuberance
3. Jeremy Seigel – Stocks for the Long Run.
4. Martin Whitman – The Aggressive Conservative Investor
5. John Kenneth Galbraith - A Short History of Financial Euphoria.
6. Extraordinary Popular Delusions and the Madness of Crowds (by Charles Mackay).
7. Reminiscences of a Stock Operator (by Edwin Lefevre).
8. Andrew Tobias - The Only Investment guide You'll Ever Need. This is a very small book and good for beginners.
9. David Einhorn - Fooling Some of the People All of the Time
10. James Montier – The Little Book of Behavioral Investing. His work.
11. Michael Mauboussin – More than You Know.
12. Daniel Kahneman – Thinking Fast and Slow.
13. For some interesting concepts: Rich Dad Poor Dad - Robert Kiyosaki.

Statistics

How to Lie with Statistics by Darrell Huff (1954 book). It is a must-read. Summary Here.

People Without Books

Jeffrey Gundlach – A short intro. His Work. Ray Dalio – Principles

Indian Authors

Finance Aggregators

1. Abnormal Returns
2. Indian Blogs -
   a. Subramoney
   b. MF Critic
   c. The Eighty Twenty Investor

New to Investing

Zero to Investing

Anyone who has no idea about how to start investing can start with this

WARNING: This section of the wiki needs an overhaul and the information presented in this section may not be up to date or reflect the current state of affairs. However, the concepts presented in this section should still hold true and valuable.

If you're interested in making this section better, send us a message on our Discord server.

Getting Started

Part one of Zero to Investing series : for absolute beginners starting out with investing

Intro : Level Zero 😊

Po Level Zero GIF - Po Level Zero Kung Fu Panda - Discover & Share GIFs

The perfect Po Level Zero Kung Fu Panda Animated GIF for your conversation. Discover and Share the best GIFs on Tenor.

Tenor / 8 May 2018

You're at *level zero*, if you've basic idea about bank accounts, or maybe some idea about FD, have heard about SIP stuff, and that is it.

Otherwise, we'd assume you're a well-earning professional, protected by parents. Who are also likely to not have great ideas about money management.

These are some common ideas you probably hold dear

- *Buy your house first*
- *Real estate is the best investment*
- *FDs are the best, even better if you invest in FD in your spouse's name ,to save tax*
- *Gold is the best hedge against inflation, it always goes up*

A Basic Question ❓

Let's start with the most basic question.

Why do you earn money?

Why have you studied so much (12+3+2 or 12+4+/-2, we have added MBA level to a graduate or engineering graduate). Even longer, if you're in medicine.

In short, 17-18 years of studies. Plus add 2/3 years of working. And yet, there are not equal minutes to have really read and understand how to manage all that money that has been earned and will be earned in the future.

We earn money as professionals, because that is what our parents / peers / society etc. have trained us to do.

That is what has been passively shaped by everyone around us, but not by us internally. Our environment gives us ideas about how to get a good earning career, or how to have a good CV to get into a good company, how to shape our personality, etc.

And then how to save or invest, etc. Everything passive, bombarded by messages from all around us. The result is, if someone asks us anything about it, we even feel proud that we don't know anything about money management.

Where to even start? 🤔

Since we don't know anything about it, and when we are starting to dip our toes in this ocean of information about money management, it's scary.

It turns into an analysis paralysis - *since I don't know what to do, I'll do nothing.*

Some will keep kicking the can down the road, without taking any money management decisions themselves. Some would do what their bank RM or LIC uncle tell them to do. Most would continue to find topic of money quite boring and mundane, something they'd prefer never have to deal with.

If you want to buy things you want, you have to save.

This was our first lesson in savings and investment.

Baby Steps 👶

We'll be writing about someone who has got some amount but don't know how to start managing it. Rather than someone who is about to start.

Bank Account: The earned amount is sitting in the savings account and earning a measly 3%-3.5% (tax free up to 10-15,000 – whatever govt has limited, as such the amount is small). This money is relatively safe. Relatively, because in today's world of online banking and debit cards, the risk is non-zero.

So where to start?

Let us first understand some basics:

Savings Options are FD/RD (**F**ixed **D**eposit / **R**ecurring **D**eposit), NSC (**N**ational **S**avings **C**ertificate), PPF (**P**ublic **P**rovident **F**und), private companies FD (like Shriram finance, Bajaj Finance, and others) and mutual funds categories which deal with bonds (also known as debt papers).

All these are called **Debt instruments.** Basically, you give your money (called principal amount) to the other party (govt, bank, private company), and they promise to give a certain percentage of returns over and above the principal amount. So, you give them P (principal) and then give back P + I (principal and interest) after a period of time.

An example of FD: you give the bank 10,000 today. And the bank promises to give you 10,000 and 7% (700) after 1 year.

An example of RD: you give the bank 1,000 every month, and the bank promises to give you 12,000 (1,000 x 12 months) and around 400 additionally as interest. This is back of the envelop calculation.

Moreover, you have to pay income tax on those 700 and 400 rs. Just try to understand how difficult it is to earn money on the savings amounts and which when subjected to tax, comes out to how little. In this case, if you are in 30% bracket, then you are getting only 490 and 280 rs finally, after you have saved that amount of money for 1 year.

The corollary is since you have not been investing at all, you are not even getting that amount till now. Not even those measly 490 and 280 even all these years.

I will cut short the other options, because they are as pathetic for someone of your condition.

The "best" option right now to move that money out of the rut is to put majority of money into a liquid mutual fund.

Why that thing? Because they are:

- Diversified Basically, Liquid MFs keep money into a large number of different areas, so that if one area goes bad (recent news like IL&FS, or CoVid crash), then your entire corpus is not in jeopardy all at once. The more diversified the money is kept, better is the protection (this is a general rule, but there are exceptions, which we'd get to later).
- In general, you can earn more than FD, both as amount of interest as well as with less tax, ~~if you keep the money in there for >3 years.~~ (Update: Starting from 1st April, 2023, debt funds will no longer provide long-term tax benefits if held for >3 years. However, they are still better than FDs as taxes are only accrued on redemption and not annually)

- Third and most important, the money withdrawal is flexible. You want to redeem only 5,000 INR, you can. You want to take out 1L, you can (of course, you should have more than 1 lakh invested). You want to remove the entire amount and see it in your balance, you can do that as well

> You will receive money only the next working day from liquid mutual fund. For smaller amounts, (<50,000 INR, or 90% of your investments, whichever is smaller), most liquid MFs have the facility of 24x7 instant redemption via IMPS, which is a great thing.

Solution: so, for that person with 24L, we advised him to keep 3L in savings account (he had been seeing that huge amount in his account statement, so just could not ask him to remove everything. It would have been a shock to him), keep three 1L FDs of similar maturity and rest 18L in *ICICI Prudential liquid fund.*

We're giving a specific name here, because there are so many options in that category, that it again causes action paralysis of which one to choose.

Other one which we can recommend is Parag Parikh liquid fund (because they have put most of their portfolio, mostly in the SOV-rated RBI papers; which if you don't know what is, know that it's the safest piece of debt instruments out there).

From other analysis available on the internet, Quantum's liquid fund is a good idea.

Part Two - Defensive Setup

Now that we want to park the money into a more flexible instrument, we can proceed to next options. You focus on what can go wrong and take care of it first.

Part 2A is Health Insurance.

Take a decent amount of health insurance (more correctly called Sickness Insurance, since what it means is that when you get sick and get admitted in a hospital, then you get part or all of the medical expenditure you did).

To shortlist the options, I checked coverfox.com with the following options:

1. Amount – 5L
2. Age – I put in 30 years for husband and wife, just to have an idea.
3. No room rent limit (many policies have sublimits like 1% of cover for daily room, etc. This means for a 5L policy, the daily limit for room would be 5000 a day. Anything above will not be paid to you back). So avoid such sublimits. More about this in the comment in this old writeup ↗.
4. No copay. This means you will have to pay part of the whole bill. Avoid.
5. No Maternity benefits. Even if you are planning to have kid, avoid plans with such benefits because they are much more expensive and it is better to pay such expenses from the pocket rather than get them reimbursed.
6. No restore / refill benefits. Please ignore.
7. Pre-existing disease coverage – this is not important. For young people, this option is not important.
8. Ignore options like Day-care treatment, Home care, Annual checkups, Ambulance expenses, Dental treatment, Spectacle care (I mean these are a thing nowadays!).

For more research, please check into some of the resources mentioned in [Freefincal's Free Resources Page](https://freefincal.com/select-the-right-health-insurance-policy-with-these-free-resources/ ↗). Do read the policy documents for the exclusions and also the list of hospitals in your area. And buy it ASAP (max 3 days research, or 1 weekend).

Part 2B is Life Insurance

What is life insurance? Basically this is an income replacement insurance and not a "life" insurance. The life of a person is invaluable and cannot be replaced by money. What we want is to have a lumpsum amount of money when the bread-winner dies, which can substitute for the income lost due to his absence.

Sidenote: Yes, in today's world, both husband and wife earn and are equal/unequal bread-winners. But because of socially accepted more responsibilities of the wife, I do feel that husband should have higher coverage than wife's. The importance of the wife in the family is so high that she cannot be replaced while I expect the husband to be more financially savvy, so if the wife dies, the husband can manage without that lumpsum due to life insurance of the wife. But if you want, have coverages for both husband and wife.

Buy pure term insurance. In simple words, this plan/policy means that the company will pay you an amount X (called Cover amount), if the policy holder dies within a defined term (10-40 years), and for that it will ask you to pay the insurance amount (called Premium) every year. Typically, the amounts range from 500-1000x.

Eg. If you are a 30 year old male, non-smoker, and you want a 1 crore life cover for 30 years, then you would need to pay around 10,000 a year. This makes to an amount of 3,00,000 over 30 years to be paid if the person does not die. While you die anytime from the start of the policy, then the family gets paid 1,00,00,000 (= 1 crore). If you don't die, then those 3 lakhs have gone to the insurance company and it is your loss. Please ignore this loss. Let this loss occur, since I am pretty sure, no one wants to die!

Any other option than pure term insurance is more expensive. And ignore all such options like life return of premium, money-back, step up, step down, investment-insurance, etc. With the kind of marketing prowess of the insurance companies, there are so many terms that it is much easier to ignore all those things.

An example of a money-back policy will be with the same conditions of 30 year old male, 30 year policy of 1 crore would have a premium of 2-3lakhs per year, yes per year.

These days, most of the companies have some form of Direct plans in which you can buy the policy directly from the company instead of through an agent. Going through an agent usually adds up about 10-20% in the premium at the least. Prefer going direct.

What not to do?

1. Don't buy anything which is not Term insurance.
2. Take the term till 60 years at max and not beyond that, even if there is an option. Basically, you don't want to continue to have a need for income replacement at 60 years. That just means that your investment plan lacks because you don't have enough money even at 60 years.
3. State the details asked in an honest manner. If you are smoker, then state that. If you are hypertensive (=high blood pressure), please state that. Etc.
4. If the company asks for a medical test, let them do it. If they don't ask, then don't force it. Let them do it in the way they want.

Cover Amount:

What is your NET Annual Income? Annual income = This you can get by multiplying monthly income x 12.

· If you are below 35 years, multiply it with 15.

· If you are between 35 and 50, multiply it with 12.

· If you are over 50, multiply it with 10.

There are multiple ways to do it, but for a Zero Level person, above is a decent thumb rule.

Some good companies to go to are Aegon, ICICI, HDFC, Kotak.

Part Three - Spending Pattern

Work done till now:

1. Start a mutual fund account with one/two AMCs and put money in the liquid fund.
2. Got health insurance.
3. Got life insurance.

Now to the question of how to go forward about the monthly fixed/variable salaries.

The most basic rule of Saving/Investing is **Earn more, spend less.** If you are not doing that, no investment plan is going to get you off the ground. You are digging a hole faster than it can be filled.

Some more Terms:

1. ATM card (=automated teller machine card). Basically, a historical thing. It was used in an ATM machine (please, I am not going to tell what an ATM machine is!!) to transact. Not available anymore, in a working condition.
2. Debit card (ATM card functions plus Can be used at merchant's outlets namely stores, hotels, and online purchases). Since it has ATM card functions also, can be used freely at ATMs.
3. Credit card (this is not an ATM card but can be used at merchant's outlets).
4. To use in ATM machine: please use Debit card ONLY. Never a credit card.
5. To use for shopping: please either use Cash or slightly prefer a credit card than a debit card. Basically, cash > credit card > debit card.

How they function:

Debit Card: your card is associated with your real bank account number. And the amount currently in your bank account is the limit for that debit card. So, if the account has 5,000 rs, then you can either withdraw cash up to 5,000 or make a shopping purchase for **up to** 5,000. If you accidently tried to do a shopping of 5,001, then it will be rejected on the spot.

Credit Card: your card is associated with a virtual account, which has a limit. This limit is decided by the bank/credit card company (yes, American Express is an exclusive credit card company without an associated bank, while ICICI bank has both services). This virtual account works like a postpaid mobile bill. Whatever purchases you make are added up and you are presented a bill at the end of month. You are given 20 days to pay up that bill. If you pay within those 20 days (before last date) AND, this is really important, if you pay either the full amount or any amount **more** than the bill, then GREAT. You managed to use extra money from the bank at zero cost to you practically. Continue this always.

Never pay only the Minimum Amount Due or even 1 paise below the bill amount. If you do that, you will incur heavy charges at the rate of 40% per year (which is at least 10 times your savings bank account interest rate).

Better still, don't own a credit card till you are financially savvy enough. **Use Cash and be merry.**

Rules of Thumb with all those Sales advertisements and Big Annual Sales days

Rule 1: If you get an impulse to buy something, put a 72 hour rule between the urge to buy and the actual buy order.

Sidenote: New scientific studies have shown that the serotoninergic receptors take up to 72 hours to absorb the excess serotonin secreted when that buying urge gets triggered. I could have linked up those studies, but then this is all just scientific mumbo-jumbo to really convince you about the 72 hour period! There isn't any such study known to me. Just kidding.

Rule 2: Please delete all those shopping apps from your smartphone, namely amazon, flipkart, myntra, etc.

Sidenote: You just need one app – Headspace for meditation during those buying impulses. Again just kidding.

Rule 3: Start automated investment setups, so that your money goes away from bank account before you can even think about spending.

Flexi Rule 4: How much to Save?

Now that we have curtailed spending and have easy setup for investing, the basic question is how much you should save?

The basic idea is Save as much as you Reasonably can. If that is 60-70%, good (Pattu does that, I do that). If it is 30%, well and good. If it is 10%, again decent, since it is better than 0%. Once you start seeing results of your savings, you will get better. With better incomes, and lesser spendings and more focus, the rate of savings will increase. Don't get limited on to 10%, since that is what I have seen most recommended - that amount is seriously insufficient.

Part Four - How to Invest

How to go about putting the money which has been allocated for savings/investing?

How to decide how much to put where?

We will create two categories or my preferential term Baskets (or Buckets).

Basket 1: Money which can be needed in next 5-7 years

Basket 2: Money which is needed after 5-7 years.

Why 5 years? Because that is the cycle of our national elections! Just kidding. It is just an arbitrary number but 5-7 years is a reasonable. If you like 7 years, keep it 7. Say if you like India (5 letters), keep it 5 years and if you like *Bharata* (7 letters), then keep it 7 years.

Basket 1

Aim: money which is needed within 7 years.

What to use: If you are using **ICICI Liquid Fund - Direct option**. Then, a good option to use here is ICICI Prudential Banking and PSU Fund - Direct option. It is a conservative debt fund with very low chances of reduction in value.

If you are using Parag Parikh Liquid - Direct option as your goto Liquid fund, then a good choice for this Basket would be their Parag Parikh Conservative Hybrid - Direct fund.

Basket 2

Aim: money which is needed at least after 7 years.

What to use: Now this is a little more complicated, so we will go **step-by-step**.

Part A: Some terms explanation needed first (The whole post is Here ↗). I have put it here again, because I fear that a link may be distracting.

Cash - The money is with you physically. The closest equivalent is a Current / Savings account in a bank.

Bonds - You are giving your cash to someone who will provide you regular payouts at fixed intervals and give you back a predecided lumpsum at the end of the period. Sometimes, you can skip the payouts and ask for them to be given at the end of the period (eg, compounded growth option of fixed deposits or bonds). When you invest Rs 1000 in a 9% FD for 1 year , you are basically giving 1000 now with the promise that the bank will give you 1090 at the end of 1 year.

Depending upon the quality and return-back capability of that someone, the net lumpsum and payouts vary. A govt backed bank / agency will give you a lower lumpsum with a higher degree of probability that it will return you the money than a small private business.

Stocks/Equities (=something related to Sensex/Nifty) - You are giving cash to someone to hand over to you a part of a company so that you can get the payments (called dividends) declared by the company. There are no guarantees of the amount or the interval of these payments. There is no fixed time interval or a lumpsum at the end of a time period (effectively holding period is infinite).

To assess these payments, a higher level of understanding is required (higher as compared to above options) to assess the quality and probability of the company to provide those payouts in the future.

Part B:

For long term money (>5-7 years in this case), I will just cut the complications and suggest to put money in a single fund. That would be ICICI Multi-Asset fund - Direct option. The reason is that this fund will give you a 65% minimum equity, some gold, some real estate investment exposure and reasonable bonds. Plus, the biggest benefit is the built-in rebalancing inherent in this style of fund.

As an alternative, Parag Parikh Flexi Cap fund - direct option would be good choice too in this basket group. Just one single fund with predominant Indian equities and 20-30% foreign equities.

More terms:

SIP (systematic investment plan) – this is a way to invest a fixed amount of money on a particular date periodically. They can be applied to any mutual fund, and is not applicable only to equity funds. They can be started for the all the above funds.

Mutual Fund – please refer to this post ↗.

More Questions:

1. How long to continue the above combination? For 3-4 years at the least. Ideally 5 years.
2. Should I increase the money when I get a raise next time? Of course. When your income rises to say 60,000 then increase the amounts to 15,000; 7,500 and 7,500 per month.
3. Which date should I put the SIP date on? Put it 7 days after your normal salary day. So, if you receive your salary on 1st, then put SIP on 7th. Why? Because sometimes the salary gets delayed, and then your SIP will get skipped. Don't worry, they will not charge you money for that skipping.
4. Why equal divisions? I am smart enough to calculate the exact ratios. Well, if this series has woken you up to that level of smartness, indeed do those calculations but do start investing within this month onwards, rather than doing all those calculations only. Stop the action paralysis and get a decent start NOW. Rather than an optimum start some months/years down the line.
5. Why these funds only and not any other? Because I am saying these funds are good enough for long term holding. I have personal experience with each of them. Pattu can vouch for them as well.
6. What if I need to plan out 80C investment also? Opt for Parag Parikh's taxsaver or ICICI Prudential Long Term Equity fund - direct option (their taxsaver) and use it for complete usage of 80C limit. No need for PPF or SSY or any of the moneyback / endowment / insurance plans. Keep it really simple.

To summarise the approach (across 4 posts):

1. Have 1 bank account with netbanking enabled.
2. Keep some amount of money in that account, while rest of the money should be moved to a liquid fund. Or FD, if the tax rate is less for you (10% bracket max.).
3. Get a health insurance, if not done yet.
4. Get a life insurance.
5. Do less spending.
6. Don't get a credit card. Have a debit card and use cash.
7. Target a savings amount (50%, 30%, 10%, whatever and gradually either increase that or increase income and keep that ratio intact).
8. Put 2 SIPs, 7 days after salary credit into account, for the relevant amounts.
9. Do this for next 3-5 years.

Ping me after 5 years for what to do next!!

Addendum:

Why such a plan combination? This is for those who want to know more intricacies of the choices.

1. We have got 3 funds which correspond and take care of respective baskets, across 1/2 AMCs. Much easier to start and manage. Eventually, when there will need for switches between these funds, then it remains easy.
2. Till 1-2 crores of amounts, I don't see any real need to have more funds than these.

Investment Philosophy and Strategy

Basics of Investment Strategy Plan

WARNING: This section of the wiki needs an overhaul and the information presented in this section may not be up to date or reflect the current state of affairs. However, the concepts presented in this section should still hold true and valuable.

If you're interested in making this section better, send us a message on our Discord server.

Basics of Investment Strategy Plan

THE Basic PRINCIPLES:

1. It should be fairly **straightforward**. No need for assessment of complicated risk tolerance (graphs/psychological tests etc). Follow the **KISS** principle (Keep it Simple and Stupid).
2. Identify the objective as **Maximum Terminal Value (Growth) / Regular Cash Flow or a combination** of both in varying degrees.
3. Third objective is **Capital Preservation** - for those who have adequate money and now do not want to risk or have hassles. Precious FEW. Capital Preservation is also good for something like saving for a downpayment.
4. Capital preservation and Growth objectives are polar opposites and are not possible to get in a single instrument. Any instrument which claims to give both is an oxymoron like reality television, selfless politician, mature baby, etc.

THE Basic DETERMINANTS:

1. **Time Horizon**: Select the particular appropriate time horizon. For retirement corpuses, you should consider the life expectancy of both the husband and wife plus if you want to leave for your kids. The longer the horizon, the more equity is appropriate. For say child education (a very common goal), initially it should be in equities and as the time for actual money comes closer, an yearly or 2-yearly change of the allocation pattern according to the graph should be done. The corollary is if you need money in the next 5 years, do not invest in equities. See Graph ↗
2. **Cash Flow**: If regular income required is upto 2-3% of the total portfolio (this is based on US data, but for our country, even 4-5% should be a safe and reasonable yield), then an all-equity portfolio is ok. If more is required, then a blended portfolio of 70:30 or 60:40 (equity:debt) is advisable. Either a SWP (Systematic Withdrawal Plan) or periodic sellings or dividends (from stocks) or interest income is advisable depending upon the instruments.
3. **Return Expectation**. It should be remembered that all asset classes except short-term debt instruments give returns in lumps. That is, for some periods the asset class will give magnificent returns for months, years to decades and at other periods, the same asset class can give flat / negative returns for similar periods.
4. **Individual Pecularity**. Best example of this is ownership of gold. Some people get a warm feeling by having this asset class in their portfolio, while others just hate having an asset class with low returns and high volatility. Although, emotional attachment to various asset classes may not the best thing to do, but if such a thing means a feeling of "*All is Well*" then such personal preferences should be followed.

Some important CHECKS:

1. Check availability of decent amount of **living expenses** (usually for next 6 months) in a liquid instrument, which canbe cash, savings account, short-term/liquid debt funds or FDs. Monthly Living expenses = your yearly expenses (including the compulsory and the arbitrary expenses) divided by 12.
2. Check **Insurance** requirements (life, health, car/bike, etc).

Depending upon the above criteria, the appropriate allocation into stocks, debt and others should be done.

Other important Points to remember:

People chasing heat, trying to get better returns, forget about the law of averages and invariably in-and-out relatively backward —lagging the market by going into **what used to work instead of what will work**.

No matter what portfolio you choose, realize that looking back, you will always wish that you had allocated more to what turned out, retrospectively, to be the best assets.

If you have less than 50lakh to 1 crore to invest, **buying mutual funds is cheaper**. If you're richer, you can and should buy individual stocks or if possible, bonds (eg SBI bonds, etc). The more money you have, the higher the proportion that should be in underlying stocks because in large volume stocks are cheaper to own than anything including mutual funds, ETFs, or any other form of equity.

"You must concentrate to get wealth, diversify to protect wealth." Those who got rich on one, two, or ten stocks are fortunate fools.

As no one equity type outperforms all of the time **diversification helps spread risk** between countries, industries, and companies.

Always Remember You Can Be Wrong. So you need to check things and modify accordingly.

As a general rule, it canbe assumed that about 70 percent of return in the long-term comes from asset allocation (stocks, bonds, or cash), and about 20 percent comes from subasset allocation—those decisions regarding types of stocks to own—whether to have large caps or mid-small caps, or foreign vs domestic, value or growth, sectors, and so on. And rest by individual stock selection. Remember, you **do not need the best** performing stocks/funds of all time, you just need to be in good ones.

WHEN to SELL?

When your asset allocation is out of your intended variables, then you should re-balance to get it to the right proportions. This canbe done by either selling the asset which has become higher than intended or buying the asset which has become lower than intended allocation (in case you have surplus). Remember, don't sell to "lock in profits."

A simple Financial Planning Roadmap

Step 1: Check Insurance requirements

1. Check Health Insurance for you and family. If your company provides a decent amount, well and good. Otherwise, get one.
2. Do you have people who depend upon your income?
3. For most new young unmarried starters, the parents are usually not dependent on them for income (there are exceptions).
4. While for married people, the exceptions will be inverted. So, if someone is dependent on you for your income, get a decent life cover, preferably through an online term insurance plan (works out the cheapest).
5. If both you and your spouse are working, then the overall amount of insurance requirement decreases.

   A short list of good providers is Aegon Religare, Aviva, ICICI, HDFC, in no particular order. There are others too. ~~LIC does not have, and most probably will not have an online plan (don't ask me why)~~ LIC also has now (since May 2014).

Step 2: Check Level of Emergency / Contingency Funds (Basket 1)

Start putting money in a short-term debt fund / liquid fund / FDs partly and cash in savings account partly. Amount should be decent enough to manage your next 6 months discretionary and non-discretionary "normal" expenses. Also, every 6 months to 1 year, try to increase this amount little by little. In case you use it for any reason, then fill it up ASAP.

Step 3: Short-term goals coming up in next 2-3 years (Basket 2)

Examples like holidays, birthday celebrations, school fees, downpayment for home, etc. The idea is that you cannot take risk with the principal amount, but still you will be happy in having a better return than keeping cash in savings account. Good instruments for this are short-term and income debt funds. Plus RD / FD for people having otherwise either 0 or 10% income tax slabs.

Step 4: Longer Term Goals (Basket 3)

All your long term goals including child education, marriage, retirement, foreign holidays 10 years down the line, etc come into this Basket.

Identify the combination and the allocation percentages of various asset classes, according to this post ↗.

A good (minimum, I would say) start is to have a 50:50 equity-debt allocation. For less conservative, this canbe modulated to 60:40 or 70:30. For very aggressive, it can even be increased to 80:20. Identify a single diversified equity fund for the equity allocation. Later on, you can start adding more funds, or direct stocks or international stock/funds, as per knowledge increase and comfort zone. Identify a single decent debt fund (I will stress on having a debt fund, rather than a PPF because of the latter's illiquidity, but YMMV). Endowment / money-back policies, PPF, PF, NSC, etc also come under this basket only because of their lock-ins.

Periodic Reviews:

1. Every month, quarter, 6 monthly or yearly, sit and check the various goals under Baskets 2 and 3.
2. Make accordingly provisions for those requirements.
3. Check the valuations of Basket 3 assets. See if they have strayed much more than your original intended allocation pattern.
4. Eg, you started with 60:40, but currently because the markets have performed well, the percentages have skewed to 70:30. Then you need to either put money slowly into the lesser asset (in this case, debt has gone

down, so add more money to your debt asset instruments.

5. On the other hand, if markets have gone down, then you will need to put money into the equity portion. Doing it slowly month by month is not a bad idea at all. The other option of shifting money from debt fund to equity or vice versa is ok too but that just increases the tax liability (in most cases). And if you are using PPF / endowment policies, then this is not possible too.

In general, your money management should work in this way:

1. Basket 1- sufficient/insufficient. If it is insufficient, next month's income goes into filling it or you shift money from basket 2 to basket 1. Otherwise, next step.
2. Basket 2 – sufficient/insufficient. If if it is insufficient, then fill this up back again either using income or from basket 3 funds. Otherwise, next step.
3. Basket 3 – check asset allocation values. Balance by adding to the lower allocation asset Till the time they are upto the desired values. This may take months of investing in equity followed by months into debt or equal amounts in both as per different conditions.
4. Whenever, there is an acute short-fall, then money should go from Basket 2 > Basket 1. OR Basket 3 > Basket 2. If you are feeling the need of getting money from Basket 3 > Basket 1 (in simpler terms, money from longer term goals / equity for day-to-day expenses, then something is seriously wrong and you need to correct course).

What not to do:

1. Monitoring the performance of your equity fund month over month. Checking their star rating. If you have selected a decently performing fund, then you do not need to change the fund as per its star rating.
2. Selling Equity funds/stocks, because they have moved up, even though, your intended asset allocation is within the initial limits.

A **simple example** of Selection using Direct Investing in a single AMC with a netbanking facility bank.

Basket 1 – Liquid fund + Cash

Basket 2 – Income Opportunities fund

Basket 3 – Dynamic Bond fund and a plain vanilla multicap / flexicap equity fund.

Additional benefits:

1. Lesser expense ratio for all funds by use of Direct Investing.
2. Easy switching of money from one basket to another.
3. Easy buy / redemption using netbanking.

Various types of Risks in Investments

A common definition used is 'Risk is the uncertainty that an investment will earn its expected rate of return." It includes both Upside and Downside Risk. Although, we like the Upside Risk (return much greater than expected), we abhor the Downside risk. One needs to understand that both are sides of the same coin and mostly cannot be separated. If you want an instrument which can give / has given higher returns than expected in the past, then in future, the opposite can happen too.

There are plenty of places in which one can find the various types and details of various types of Risks. References:

1. Investopedia ↗
2. Franklin Templeton Investor Education ↗

I will just mention about the common ones from our perspective.

I. Inflation Risk or Purchasing-power Risk

This is probably one of the biggest "hidden" risk faced by us. I have made a small table ↗ which shows the official data of inflation (This is made by using Cost Inflation Index values in the last 30 years, which itself is calculated by multiplying 0.75 and the average consumer price index or CPI). Also, the rolling 5 year and 10 year inflation rates are also given. In my opinion, it would not be wrong to assume that even these values are smaller than the real inflation rates suffered by us, but then that is a separate discussion. Some main points, during the entire 90's, the average inflation was 10+%, while in 00's, it was moderate in the mid-00s and is again trending up.

What does this mean? In the simplest words, Inflation is a negative debt which is superimposed on all types of investment instruments. For under-the-mattress cash, a 10% inflation means, the value of Rs 100 becomes 90 in one year, in terms of real value, even though, the actual value is 100 only. Progressing this over 7 years, it will make the real value 48, while the nominal value will still remain 100.

Next, if you keep this in a savings account, then after one year, this value will become 104 (assuming 4% interest rate), but the real value will be 94 (in simple maths). After 7 years, it will have a real value of 65, but a nominal value of 128. This actually needs to be hammered in. Agents, advisors, media, etc show us the value of 128 and tell us how good that is, and how 'surely' you will get that nominal value (of course, there is least risk in a savings account), but in actual values, you have lost 35% of your purchasing power.

Higher up, you Save (invest is a wrong word there. Even GOI only tells us that we have a great savings rate of 30-32%, and not Investment Rate, so....) in a FD which presently is giving you 9% return. Amazing right. But if you see, the inflation rate is on an average 10%. So, even with 7 year FD, your real value will be 93, while the nominal value will be 145.

In short, the real return = nominal return – inflation. And this real return is what we should assume in our calculations. For long period of time, equities and real-estate tend to provide above-inflation returns. Whether this will hold for future, we do not know. But this is certain, most debt products and cash-equivalents (=the traditional risk free products) always lose in terms of real return.

II. Systematic Risk or Market Risk

This is an inherent risk of the asset class and cannot be removed by Diversification. This is the value which is mostly perceived by general public. FDs are safe = the systematic risk of loss of nominal value in FDs is very less. While Equities are not safe / risky = the systematic risk of loss of nominal value in equities is high. (Although, if 5-year and 7 year rolling returns are calculated, then FDs lose their real-return while equities score high in both real-return and nominal returns).

How to control Systematic Risk ? This can be controlled by using different assets which are not correlated with each other. So, when a portfolio is allocated across non-correlated assets, a systematic event may cause some assets to go down, while others may be unaffected, or even continue to grow.

III. Unsystematic risk

This risk is related to concentration in one stock or bond or company. Like buying a single stock exposes you to this kind of risk. This risk canbe managed by diversifying across different stocks or different bonds.

IV. Liquidity Risk

This is another "hidden" risk, which most people do not realise. Illiquidity means loss of flexibility. The costs of illiquidity are quiet. The extra yield seems free until there is a need for ready cash, whether to spend or to take advantage of investment bargains. There are all manner of illiquid investments offering yield, but almost all of them lock the investor up for a time. Prominent among them are all non-term insurances and FMPs. FDs have a built in illiquidity in the form of lower interest rate plus some penalty, in case of early withdrawal. Any product which guarantees you something will have high and/or long surrender charges.

Point to Remember: Never trust an insurance agent who is receiving a large commission to sell you an annuity. If they won't disclose the commission, know that it is roughly the size of the initial surrender charge. Invariably all insurance policies never give the first year premium, in cases of early surrender.

"Don't buy what someone wants to sell you. Buy what you have researched." ↗

Are you a Stock or Bond?

Evaluate yourself as having income like a stock or bond or somewhere mixed and then accordingly plan out your asset allocation on a personal level.

One way to view human life is to see it as a process of converting human capital into wealth, both financial and real. When you start out, the human capital is high while wealth is low. Midway (around 40 years), there should be assets which show the result of past 15-20 years of use of the human capital. At 65-70 years of age, the human capital is almost spent and now the wealth capital has to take care of rest of the life.

Now it is important to understand how the human capital is being converted into wealth. If it is in the way of:

- A solid government job, without firing, then it should be considered as a solid bond with a decent coupon rate.
- A big firm with good HR practices, then consider yourself to be a low-risk blue chip stock.
- A freelancer with variable pay and/or performance linked pay, then consider yourself as a non-bluechip stock.

Place yourself in the risk-return continuum according to above 3 examples.

How you should allocate your assets depends upon what you are. So if you are a bond, then you should have an increased allocation to the equities. While if you are the *freelancer group / non-bluechip stock*, it would be better to have more allocation to the bonds in your wealth portfolio. The more like a stock you are in your income flows and job security, the lesser should be your allocation to equity. This is asset allocation at a totally different level and makes the investing decision much simpler for an individual.

Assets and Asset Allocation

In increasing order of possibility of loss of principal:

Income yielding assets:

1. Cash in Bank Account.
2. Fixed Deposit.
3. Liquid funds.
4. Money-back policies.
5. Annuities
6. Government and state bonds.
7. Good quality Corporate FDs.
8. High yield Corporate FDs.

Growth and Income yielding assets:

1. Debt oriented hybrid funds.
2. Equity oriented hybrid funds.

Growth assets:

1. Blue-chip stocks and stock funds.
2. Dividend yield stocks.
3. Real Estate
4. Mid and small cap stocks and funds.
5. Penny stocks.
6. Put / Call options. Futures. (There is too much complexity in deciding which is riskier).

Other points to consider:

- Gold – I cannot place it anywhere in this because I don't know.
- Options and Futures can be in individual stocks, indices, forex, commodities, or any thing else. I have placed them in the order which I perceive to be the right order. Please correct me, if there is any discrepancy.
- Leverage by taking debt does not change the characteristics of the underlying assets. Leverage just magnifies the gain or loss. This is particularly relevant in case of debt-funded real estate.

Asset Allocation

How much one has put in the above mentioned categories is called Asset Allocation. This is the most important parameter of your portfolio (portfolio is the entire collection of your assets).

The asset allocation is what primarily decides the performance, variability (or volatility), expected gains and losses, etc. If you do this right, you have done the majority of the work.

Critical Mass

Critical Mass is a place in which individuals enjoy their own personal financial nirvana. Differentiation between earned income and assets is a fundamental lesson to learn when thinking in terms of it

> A state of freedom from worry and anxiety about money due to the accumulation of assets which make it possible to live your life as you choose without working if you prefer not to work or just working because you enjoy your work but don't need the income. Plainly stated, the Land of Critical Mass is a place in which individuals enjoy their own personal financial nirvana. Differentiation between earned income and assets is a fundamental lesson to learn when thinking in terms of critical mass. Earned income does not produce critical mass......critical mass is strictly a function of assets.

Taken from *Bob Brinker ↗*.

Critical Mass, as a concept appears to be slightly different from the Retirement corpus.

Initially, we grow our assets by savings. Investing these savings over time then starts to accumulate assets in terms of yearly incomes. A simple 10% saving rate, if not invested, will accumulate one year's income in 10 years. While with investing, it will do so in much lesser period depending upon the rate of investment return. Then one day, we see that we have assets worth income of multiple years. And after some years, the yearly growth of our assets can become equal to the yearly income. At this point in time, we have reached the Critical Mass. And now the possibility to retire from a day job / salaried job is a real possibility.

Actually speaking, the salaried job then makes a lot less sense after that, since the regular income gets a worse tax treatment while the tax on the capital growth can be deferred for a long time. Much better to do the latter rather than the former.

The best way to reach a Critical Mass is to save drastically in the initial years and accumulate as fast as possible. Although doing it the slow and steady way up to the 50s with wise savings is not a bad thing. By keeping this in mind, one can change from the more stressful kind of jobs to more relaxed ones much before the actual retirement.

This way of thinking is slightly different from the usual accumulation phase where you work, work and work and suddenly when you cannot or do not want to, you take an (arbitrary) age-based retirement and hope to live off whatever you have got.

Asset Rebalancing

Original Post ↗

Main Ideas:

1. In a well-diversified portfolio, the individual investments are expected to generate a certain rate of return based upon their characteristics and risk profiles.
2. The returns of different asset classes in a short-term cannot be known in advance. And the markets (both debt and equity) can have significant volatility so as to throw the investors off track. In other words, the short-term performances of assets are Unknown unknowns.
3. Over longer periods of time, it has been shown that Regression to the mean occurs for the major asset classes. In Jason Zweig's words - "Periods of above-average performance are inevitably followed by below-average returns, and bad times inevitably set the stage for surprisingly good performance." Link ↗.
4. By rebalancing, we are actually selling the asset class which has gone up, while buying the one which has gone down. It is the idea of Buying Low, and Selling High. Although, in practice, it is quite difficult to do for most people.

Methods of Rebalancing:

1. Calender Method – You do your Asset rebalancing on a monthly, quarterly, yearly, 2/5 yearly basis. Or you do it daily (David Swensen used to do it daily in his Yale Endowment portfolio, largely because that portfolio did not incur any taxes). There have been few studies which have shown that the frequency of rebalancing, as such, does not have any statistically significant effect over the overall return of the portfolio, provided you do the rebalancing. (I cannot get reference for that right now).

2. Percentage Method – In this, whenever the particular asset goes beyond a set percentage value, the portfolio is rebalanced regardless of the last time it was done.

Another classification can be:

1. By Buying alone – For people who are in period of accumulation / investing money, the balancing can be done by investing amounts in which different amounts are invested into the different assets so as to bring the total amounts in the desired percentages, without ever needing to sell from one. This works best in terms of taxation, because there are no realized gains.

2. By buying and selling – This works for people who have set themselves multiple fixed SIPs. Every year or so, they check the various asset values, and then sell from the higher value asset class to buy from the lower value asset class (or by simple switching, if that is possible).

3. By selling – This works for people who are in the Income generation group and who have to sell assets to get regular income. These people can sell from the higher value asset to rebalance towards their desired asset allocation.

Which is better? Statistically, none. It just depends on the individual investor on what is most comfortable to him. The best frequency is the one which one can do consistently and which hurts the minimum in terms of taxation.

Personally, I use the Buying alone and Calender method.

Lumpsum or SIP/STP

Original Post and discussion ↗

This is quite confusing to many people, since the finance world touts SIP (Dollar Cost Averaging in foreign terms) as the best way to invest.

Definitions:

SIP (Systematic Investment Plan) = one invests a fixed amount of money at a regular interval (daily / weekly / monthly / quarterly). In short, it is transfer of money from cash to a particular asset (mutual fund / direct equity called the DIY-SIP or other such names).

STP (Systematic Transfer Plan) = one switches from one mutual fund to another at regular interval, if the money is already with the AMC (asset management company).

Lumpsum = The investment of the whole lot of money into an asset.

Basic Guiding Principle: The overall average return of various asset classes vary. In the long term, the cash and cash-equivalents produce low but fixed returns, while the equity assets produce high returns with volatility (in most cases).

Eg. 1:

You have got 10 lakhs, and your investment horizon is >10 years. So should you put your money in

1. 10L in an equity fund (or equity-oriented hybrid fund) on day 0. OR
2. Put your money in a short-term debt / liquid fund and start a STP into the equity fund at monthly (120 installments) / yearly (10 installments) intervals.
3. Keep your money in your bank account and start SIP into the equity fund at 120 monthly / 10 yearly intervals.

Since the investment horizon is quite long, it is much better if one chooses option 1 (whatever be the sensex levels). Option 3 will give you lesser overall return, because the long term return from the cash component will be quite less than of the diversified equity asset class.

There is one study ↗ released by Vanguard which supports the above.

Eg 2.

You do not have 10L, but can invest at a rate of 8k per month (Total principal amount 10L, over 10 years). So should you, since lumpsum is better than SIP,

1. Start putting your money into your account / liquid fund over all those 10 years, and then invest lumpsum at the end of 10 years, OR
2. You should start putting the money directly into Equity as a regular SIP.

The answer is obviously 2, since you will not be missing out on all those 10 years of equity returns.

TL;DR, if you have money to invest for a long term, put that money into a diversified equity asset ASAP. If you have got lumpsum (eg, bonus money or tax refund), then invest lumpsum. If you have regular stream, then invest at a regular interval.

Insurance

Severe medical emergencies or sudden loss of income can be pretty ghastly to one's finances. An insurance policy acts as a shock absorber. Read more about various insurance policies here.

WARNING: This section of the wiki needs an overhaul and the information presented in this section may not be up to date or reflect the current state of affairs. However, the concepts presented in this section should still hold true and valuable.

If you're interested in making this section better, send us a message on our Discord server.

Life

Life insurance and various forms of it. From ULIP to term insurance, check which one you need, and which one should avoid.

Life Insurance: What it is exactly?

Term cover or life cover, that replaces your income in the event of demise; to help protect your dependents. Read along to understand what factors to keep in mind when buying a term cover.

Life Insurance is basically a Death Insurance and better term is **Income Replacement Insurance**. It is a transfer of risk of your death, in terms of financial liability, from you to the insurance company. Like a car insurance, if something happens to the car, the insurance company will pay for the repairing work / or pay an amount according to the value assigned in case it gets stolen. Similarly, a life insurance is a contract between you and the insurance company, in which the company takes money (*=premium*) to ensure that it will provide money (*=life cover value*) in case of death of the insured person (like Stolen car analogy).

To re-emphasize, by buying a life insurance policy, you have transferred the risk of your death (by disease, accident, etc) to the company.

Principles:

The Life insurance Cover should be the **sum of**

- All liabilities (loans – personal, home loan, relatives, etc)
- The amount which provides income required to maintain the current lifestyle.
- Should be able to provide for future liabilities like child education, home, marriage.
- It is better to be over-insured rather than under-insured. A reasonable amount is 10-15 times the annual income. This rule translates into a corpus amount, which invested properly will provide (1/15 to 1/10=) **6.7% to 10%** of return and that amount is sufficient to provide the family a decent amount of income, which can then be used for daily expenses and rest for investing, etc.
- Only term insurance will be able to give you the above cover at a reasonable valuation. And like when we go with car insurance, we try to find a good deal, similarly presently, the online term insurance policies provide the maximum bang for buck.
- One or Two term policies. You need to remember that the insurance will be required to be encashed by your family after your death, so someone from the immediate family or close relative / friend should know the procedure of getting it. Online plans are available in most large cities and provided by most ~~non-LIC~~ insurance companies (LIC and most Private now).
- Non-term insurance plans. These are basically insurance plans in which besides the premium amount for life insurance (so this expense is there in these too and does not get removed at all), the extra money is put into various investment options.
- In endowment policies (most LIC policies are these), the extra amount is kept by LIC/non-LIC company in a non-transparent manner and "invested" by them and later after very many years, they provide the cover value + bonuses (which are not guaranteed in amount).
- In ULIPs (unit linked insurance policies), there is a reasonable amount of transparency in terms of what are the various expenses and how they are distributed in various heads Plus in most of the policies, you can even decide the type of investment options. In general, these are much better than the opaque policies.
- Return of Premium Term Insurance- This is cheaper type of moneyback policy, in which beyond the basic life insurance cover, an extra amount is taken by the company to generate a corpus which will equal the total mortality charge over the time period of the insurance policy. These are invariably costlier than basic vanilla term insurance.
- Accident / Disability riders. With the detailed analysis of various riders, if you read the terms and conditions, then these riders are not really worth the amount of money spent on them. I will not recommend them in the way they are presently available.

More Consideration about Options

There are 2 major categories now available:

1. Offline

2. Online.

The only major difference between the two is that the offline plans include the **agent commission**, while the online plan is devoid of that and indirectly you become your agent. Apart from that, the processing of papers initially, the medical tests, the claim process (in case it is needed) are the same for both the offline and online plans. And of course, since you are the self-agent, you have to fill the forms, attach the appropriate documents and send them to the company (basic rule is if you can reddit, you can do that too).

Points related to LIC:

LIC is the biggest company in every which way you see, in terms of number of policies, the total amount of insurance coverage, etc. However, there are 2 major points against it:

1. Even though it was established in 1956, it did not start Plan vanilla term insurance till early 2000s, and only after HDFC Standard introduced it (I do not have the reference for that right now).
2. ~~Although, there were rumors about it getting an online variety, but few reports show that LIC has completely dropped the idea and Offline term plans (Anmol Jeevan for 25L) are available only.~~ EDIT: They have an online term policy now (although, the premium is on a higher side as compared to other online policies).

Important points for filling of any insurance policy-

1. **Give accurate information about whatever is being asked**. This is the single most important thing to follow. The emphasis is on 'BEING ASKED', and that also means you do not need to go out of your way to provide information which has not been asked. If you have any doubt, call the customer care and get more information. You have so many options, that even if you reject 1 or 2 based on bad or confusing customer care, you still will be able to get another one with decent service. If the website is bad, customer care is bad, you need not proceed with the company at all. After all, if it is bad now, it cannot be good later on, if your family really need to file a claim process.
2. **Ask how the claim process is done.** Most companies will show the claim process in some way on their website. Check it out. Usually, it is by providing death certificate and filling up of the claim form, which then has to be submitted to the insurance company's branch office (the agent may or may not help in this, so do not count solely on this. Who knows where will be the agent after 15 years.)
3. **Medical Test.** This is done to refine the analysis of the risk taken by the company. If you adopt a cynical attitude, you will think that the medical test is unnecessary and just a way for the company to increase the premium (yes, there have been instances in which companies have done that in the name of increased nicotine levels or borderline hypertension or borderline high blood sugar or similar, but in most cases they will just ask for an increased premium and not rejecting it). If the company has increased the premium, then it is all the more good because if a claim is filed, then the company cannot say that this was not disclosed or that was not disclosed, etc. *In short, if the company does not ask for a medical test, no problem. If it ask for a medical test, and does not increase the premium – good again. And if it increases the premium- still good. If it rejects because of the medical test, then its a problem and you will need to find out why that is so (also, this may be asked in later policies).*
4. **The 15-day return option.** One can return any policy (any means any policy approved by IRDA) within 15 days of RECEIVING it (not STARTING it). The day you receive it is zero day for returning, while the insurance cover starts a little earlier (when the company has generated the policy after medical tests, etc). If you are not happy with the way the company has handled the policy or their customer care or any thing, which you think can be an issue later on, you can return the policy and get back your money. The amount spent on medical tests is deducted with some nominal amount on paper work, while rest is given back. A small negative will be if you ask for another insurance policy to this or another company and they ask you about any previous policy, then you will be better off telling them about this episode (but only if they explicitly ask for it).
5. The Company has after assessing the Risk and Medical checkup asked for **Loading**. *Should I take it now or leave it?* Of course, you should **TAKE** it. This means they have assessed you properly and with the proper re-assessment want to take that chance with your life. That only makes it a better policy for your family, since it is more likely that they do not consider that you are a horrible risk to them. In reality, you also want that assurance, indirectly. Secondly, if you will not go ahead with the Loaded amount, the company will reject it. And any such rejection will work against you when you will want to have another life insurance policy.

6. **Claim Settlement Ratio.** This is much shown ratio comparing different companies, their settlement and payment ratios. It is a complex ratio which does not differentiate between pure term insurance (offline or online) or endowment and ulips and just clumps all of them into a single ratio. If you will see the number of policies and the total amount of settlement done, you can arrive at an average amount of cover per policy. The lower this amount, the higher will be the percentage of non-term insurance policies.

The reasons for claim rejection are:

1. Wrong medical or any other relevant (or non-relevant) data provided by the policy holder, whether online (on his own) or offline (either self or agent filled in wrong information).
2. Wrong doing by the company. In this case, the insurance ombudsman is the way. However, the policy claim process is stuck. This also includes ways by which the process can be stalled or is deemed complicated because of logistical reasons. Eg, the recent floods in uttarakhan causing large number of deaths. It is difficult for the company to verify if the person is dead, or missing or some kind of fraudulent behavior on the part of the policyholder.

Just remember, no company has a 100% claim settlement ratio. Ask the customer care or the agent about it and think about their answer.

Companies and Options:

1. ~~If you want to have LIC and LIC only (because it is govt backed, or its claim settlement ratio is highest, or xyz, then the offline plan is the only option.~~ For private companies, ICICI, Kotak, HDFC, SBI Life are decent. There is an approximate halving of the premium between comparable offline policies between LIC and others. So, decide upon it.
2. For Online options, Religare, Aviva, ICICI, HDFC, Kotak – all are game. Short informaiton about Aegon Religare- it was the first company to introduce online term insurance facility. With time, they put in some more refinements (and also because of competition), they decreased the premium. And added additional coverage to already existing customers (I have never come across any such thing from any other company) when they decreased the premium. LIC online is also available now.

Do check the website of the individual companies, check the premium (recheck whether the premium shown is with or without the service tax) and then go ahead.

TL;DR- go ahead with the easiest company which you find, with a decent amount of cover, and which does not give you (or your family) heartburn regarding settlement of a claim, if it arises.

A Short Note about Financial Structure:

Why does a term insurance levies same amount of premium for the entire term, when it should be lesser in earlier years and more in the later years? I will try to explain in an example.

Eg, for a 5 year term for a 30 year person will charge, say 10000 per year. For the first year, the applicable mortality charge will be 6000, while the rest of the 4000 will be invested by the company into a debt type of instrument. Similarly for the next year, because of increased age, the mortality charge will be 7000, the rest 300 being invested. At year 4, the mortality charge would be 14000, which will be paid partly by the 10000 of the premium, and rest 4000 from the initally invested part-premium monies. This is just an approximation to give you an idea how the insurance company takes into account a same premium for a term insurance.

Some more detail about financial structure ↗.

OTHER TYPES of TERM PLANs:

Return of Premium (ROP) Plans:

These type of plans are sold in a way to show that you get your premiums back. However, these do not come in online options (so much more premium). And, because of the ROP factor, the insurance premium is more than a normal offline plan so as to

invest the surplus in a debt instrument and that is given back at the end of the plan.

Additional Disadvantage: If one wants to leave the plan in between, the extra premium amount paid to the company is not given back. The plan makes you stick to it for the complete duration.

Corollary Advantage: For people, who know that without such a loss-potential they will not sustain an insurance plan, can opt for this plan, as this is the least costly endowment plan. And, 'At least, some thing is coming back' mentality is taken care of.

Increasing / Decreasing Term Cover plan:

The main idea in these is that the Sum assured value should be dynamic and related to inflation or amount of responsibilities, etc.

In my opinion, these just create additional complications.

A good way to analyse things is in terms of **Total Dependency cover** which equals **Life Insurance Cover + (Financial Assets – Liabilities)**.

With age, the (Assets – Liabilities) should increase in a good way, so the Dependency cover automatically increases with time. If the Assets are not increasing, then it is a bigger problem in any case. So, keeping the Insurance Cover constant is not a bad option.

How to Evaluate Life Insurance Needs

Decide on a cover for your term insurance that works for you as the one paying premium every year, and works for your dependents who should receive a large sum if something were to happen to you

Things to ponder over

Apparently, most people tend to be under-insured. That's because what generally happens is that they get approached by some Life Insurance agent who works on a commission basis that throws around some jargon(despite what the advertisements say, this still happens), shows you an amount that looks 'big enough' on maturity or death. You ask how much premium is required, you take a cursory look at your monthly savings and wonder if you can go for it, you arrive at a plan that you think is affordable and boom, you pat yourself for being a responsible adult. More often than not, it is NOT GOOD ENOUGH.

There are other things that happen too. Let's look at what happened with the Mumbai Terror attacks of 2008.

1. The Government announced a 2 lakhs compensation for the victims who were killed. 1 lakh for the ones who were seriously injured. *Ask yourself this, how long will your family last on 2 lakhs?*
2. A family member of a victim said in an interview "My brother had a policy but I do not know the details of the same or where he has kept it." This is a more common occurrence that you would think. People tend to take life insurance but keep the details of these to themselves. May be it's because of cultural reasons. (For example: I don't have a spouse, so when I announced to my parents that I had taken a life insurance and enlisted them as beneficiaries, my mother went 'Tu chup kar, aisi baathein nahi karte!' (*Don't talk about such things*). I just told my father about which company that I was insured with. They have no idea about the amount of benefit they are entitled to in the event of my death. For those of you who are insured, ask yourself this : *Do you know exactly what amount of money your family will receive in the event of your death? and then Does your family know how much benefit they are entitled to and how to go about it?*
3. "Is terrorism covered?" On the life insurance platform, insurers pay the sum assured for basic life insurance in case of death due to reasons other than suicide. This means that a life insurance policy will pay in case of death due to terrorism. *However* Additional riders(for which you pay a little bit extra premium for), like personal accident (PA) rider, which usually pay double the sum assured, will not cover acts of terrorism in most cases. Major surgical benefit, too, may not be paid if a policyholder undergoes surgeries arising out of a terror attack. *Ask yourself this, what are the different ways in which you could possibly die/get disabled, does your policy and additional riders cover all these scenarios?*

Here's hoping that I now have your attention, we will now move towards the fundamental question, how much insurance do YOU need?

In my opinion(humble ofcourse), Life Insurance should not be about saving tax nor should it be about making an investment or maturity amount. It should quite simply be, a means providing for your family, protecting their lifestyle if you are not around and ensuring that the goals for which you have worked so hard are achievable if you drop dead. Which ofcourse implies that everyone's needs are going to be different.

Now there's multiple ways of doing this which have been broadly labelled as *'Income method'*, *Human Life Value Method* and *'Needs Analysis Method'* . Let's start with my favorite:

Needs Analysis Method

Step 1: Determine the one-time expenses of your dependants (like clearing off your loans, siblings/children's education and/or marriage, etc.). Let's call this amount 'A'

Step 2: Estimate your dependant's annual recurring expenses. This is 'B'.

Step 3: Estimate survivor's annual income. Do your parents/spouse/siblings also work? Cool. 'C'

Step 4: 'B' - 'C' = 'D' (Annual shortfall)

Step 5: Multiply 'D' by the number of years you expect the youngest dependant or child to become independent and after that until your spouse is 80 or 90 years old. 'E'

Step 6: 'A' + 'E' = 'F'inancial Risk that you NEED to cover.

Step 7: Calculate the total investments and assets that you own. 'G'.

Step 8: Amount of current life insurance. 'H'

Step 9: 'F' - 'G' - 'H' = 'I'nsurance cover that you'll need to buy. If 'I' is negative, you don't have to do anything.

Now, the challenge with the above method is guesstimating exactly how much money you're dependants are going to need on a yearly basis. You will have to factor in inflation and the averate rate of return on your investments. It's a huge exercise but if you truly louve and care for your dependants and all that, it is worth the effort.

Income Method

The Income method is more like a rule of thumb method and it goes like this.

Take your NET Annual Income and then:

If you are below 35 years, multiply it with 15.

If you are between 35 and 50, multiply it with 12.

If you are over 50, multiply it with 10.

That's it. The resultant amount should be the amount of cover you ought to have.

Human Life Value Method

This one's a little technical but shouldn't be a problem if you understand the concepts of Time Value of Money,

Life ProTip: Learn the concepts of Time Value of Money. If you have an average IQ, it won't take more than a day

The most common definition of HLV is the expected life time earnings of an individual, i.e. what is the total income that the individual is expected to earn over the remainder of his working life, expressed in present Rupee terms.

Step 1: Find your current income. Deduct all expenses. 'A'

Step 2: Find your remaining working life or Years left to retirement. 'B'

Step 3: Find the discounting factor rate. (For example, the rate of interest assumed for capitalisation of future income/salary growth rate). 'C%'

Step 4: Find out the present value of required income stream by using inflation adjusted return.

In Excel, this would be =PV(C%,B,A,0,1)

Once you've ascertained the amount of insurance you'll be needing, the next step is to evaluate the different types of insurance products that are out there.

Here's a useful link that breaks stuff down for the common man ↗

Remember, Insurance planning is an integral part of your overall retirement planning which in turn is a part of your overall Financial Planning. You do not necessarily need a personal Financial Planner to get this right. One of the objectives of this subreddit is to ensure that you make all your financial decisions independently.

Here's hoping this post moves you into action. If it doesn't, just try not to die.

ULIP - Unit Linked Insurance Plan

An opaque form of investment, that's costly for you, and doesn't adequately cover you. More importantly, you cannot exit if you choose to, not until maturity.

BASIC DEFINITION

This is a single instrument / vehicle which gives Insurance and Investments. It uses the income tax laws to provide tax-free returns(most of them do, but changing laws sometimes changes the status of such plans – so always do check the actual laws and the relevance of the particular Ulip).

In other words, Ulip is a *type of mutual fund* (in the sense that they get your money, convert them into units and professionally manage the money while charging you a management fee) which uses the tax laws to make the entire instrument **tax free or as tax-friendly as possible.**

BASIC TENETS:

1. **The insurance component:** Usually it is kept to a minimum. Prior to 2-3 years, most of the Ulips had a minimum of 5x premium of insurance cover. Why? Because the tax laws then said that for any insurance plan to get included in 80C section, it had to have a premium of <20% of the insurance cover. eg. If the plan had to have a cover of 1 lakh, then the premium should be less than 20k. Then this limit was changed to 10x (=max. 10k premium for 1 lakh cover). However, you need to remember that the insurance cover provided is 10x on the lower side. On the higher side, it can be 20-30x also. There will be proportional increase in the Mortality Charges too. Compare this with the amount of cover which an online policy can give – around 1000x.
2. **The Investment Component**: The money which remains after deduction of the various charges is put into one of the fund(s) allowed in the particular fund of that company. Then that money behaves like being in a mutual fund (gives the name Unit-Linked).

VARIOUS CHARGES:

1. **Mortality Charges-** Since this is an Insurance policy, there are mortality charges which are deducted usually every month (not quarterly or yearly). Usually, it is done in terms of Total Cover – Fund Value and the relevant mortality rate is applied. Eg. For a male of 30 years, if the cover is of 10lakhs, while the fund value of the policy is 2 lakh, the rest 8 lakh cover incurs the mortality rate of 1.91 per thousand which means an yearly premium of 1,528 (or 127 per month) plus service tax (12.36%). If the fund value is 6lakh, the mortality rate will be 764 per annum. Only when the fund value is more than the Cover, the mortality charge becomes Nil. The charge is applied by removing the corresponding amount of Units from your total fund units.
2. **Premium Allocation Charges-** This is a variable rate and is mostly related to the Commission to the Insurance Agent. However, on the lower side, it is @ 2% while some years back it used to be 50-70% in the first year, then 20-30% in second year. Usually it is there in the first 5 years (basically the absolute or relative lock in periods). Prior to Sep 1, 2010, the Ulip structures were for 3 year lock in, so the major premium allocation charges were in those 3 years. Later on, the 5 year lock in was put, so the Ulips were redesigned to distribute the charges accordingly. Even the Top Up premiums undergo this charge but usually to a lesser amount. This amount never goes into Insurance or Investment at all.
3. **Policy Administration Charges-** The company charges you this amount to send you monthly statements. It is set to increase yearly and is applied by removing units.
4. **Fund Management Charges-** This is the actual professional management fees of the funds, and they are charged, like any other Mutual Fund, by daily deduction from the NAV of the fund itself. They are usually fixed but canbe increased by the company by intimating it to you.
5. **Surrender charge-** Currently, if you want to surrender your policy in the first 5 years, then it is called Discontinuance and after deduction of charge (range of 2-6%), the remaining amount is transferred to a discontinued policy fund (where it earns 3.5% return, mostly with some kind of fund management charge) and the final amount is given to you at the end of 5 years. If you surrender the policy after 5 years, then after appropriate surrender charges, the policy is terminated and the fund value is provided to you. For Older Ulip policies, similar terms particular to that policy apply.

6. **Rider Charges-** If the policy has riders like accidental death rider, critical illness rider, etc, then the appropriate amount of those charges are levied by cancellation of units.
7. **Guarantee Option-** Some policies use Guarantee option in providing some sort of guaranteed return. Usually such options are completely debt based options and do incur an additional guarantee charge over and above all the other charges.

In short, any type of benefit is *charged accordingly*, and nothing is free. The only major difference from the other traditional insurance policies is that everything is clear and written in Ulips while it is not so in those.

FLEXIBLE OPTIONS:

1. **Top Up:** Over and above the normal insurance premia, you can put extra amount of money as Top Up Premium. This now requires you to have additional corresponding amount of insurance (in the older Ulips, the additional insurance cover was not mandatory). Eg. If by 10k premium you get 1 lakh, an additional 10k top up premium can get you an additional cover which can be variable (eg from 1.1x to 5x to 10x). The other difference is that the Premium Allocation Charge is usually lesser than the normal premium. However, in the newer policies, the top up will have a lock-in of 5 years from the date of the top-up.
2. **Switching:** Out of the various fund options available in a policy (some have 5, some have 7, etc), you can allocate the entire money in a liquid fund, or a longer term debt fund, a large cap type of fund, mid cap or multi-cap, etc. In general, out of the various options, you can allocate your fund money in parts or in total to 1 or more funds of that policy. Some policies have Automatic Switching options in which according to age, the percentage of equity-debt will change or according to an increase in decrease in the fund allocations, an appropriate automatic change will occur. Mostly, such additional options do incur charges but this also depends on the policy.
3. **Premium Paying Term (PPT):** This is the period for which you will pay regular premiums. Usually the minimum is 5 years (in older policies, it was 3 years). However, there are single premium payment policies too. This option appears to be very confusing to many people. If someone opts for a 5 year premium paying term, he/she will be able to regularly pay premium for 5 years, and then depending upon the duration of the policy, after various charges, the net fund value will be given back to the holder at the end of the policy period. Eg, if the premium is 10k yearly for a policy with PPT of 5 years and total policy duration of 10 years, the valuation of those 50k after various charges will be given back at the end of 10 years. It DOES NOT mean that for the empty 5 years from 6-10 years, the company will pay it. Compare this with the same policy with PPT of 10 years and period of 10 years. The fund value will be more than the first example policy.
4. The PPT, the frequency of paying premium and the Sum Assured are all usually kept flexible and can be **changed**.
5. After a specific time frame (mostly 5 years), there is option for **Partial Withdrawal** of your money from the fund. It behaves like Partial Surrender.

RISKS:

The **insurance risk** part is borne by the company and the Mortality Charges are accordingly set. In this way, this part is not different from the plain vanilla term insurance.

The **investment risk** part is completely the responsibility of the policy holder. This is the same as in any Mutual Fund.

REVIVAL:

For Ulips, there are usually no Revival options. If the policy is discontinued or foreclosed, then the appropriate option is followed automatically. Compare this with traditional policies, in which a policy can be revived later too.

What is BAD about Ulips?

INSURANCE Part:

Firstly, Insurance is an expense and by combining it with a savings/investment option, the purpose of the entire instrument becomes kind of tug of war between two different aims. The primary way should be to check the eligibility and requirement of the life insurance for the person which includes:

(I) Whether life insurance is required or not? If there are no financially dependent persons, life insurance is not required.

(II) If it is required, how much is the requirement? For this calculation, check this post ↗.

The 10-30/40 times premium Sum Assured FOCUSES on the amount of premium which you can pay rather than the primary aim of The Total Sum Assured (Life cover amount). Eg. For a 30 year old male, the online plans give a sum assured of approx. 1000 times yearly premium. For offline the corresponding value is anywhere between 500-700. At higher age groups and with large term periods, there is corresponding lowering of the sum assured.

In short, the insurance component of a Ulip is 99% of times inadequate as a sole policy.

Secondly, the mortality charge table used in Ulips is higher as compared to mortality charge table for the same company in its own non-ulip term (offline / online) policies. In general, the inadequate insurance cover is expensive too.

INVESTMENT Part:

Part 1: CHARGES

1. The *Premium Allocation Charge* is a front-loading charge, which means the charge is levied first and then the rest of the money is put for investment. Compare this with ongoing charges like Fund Management Charges or Back-loading (eg Exit loads in which the charge is levied at the time of withdrawal). In older times, when there was an Entry Load on the General Mutual Funds, which now is not present. This charge as mentioned is basically a commission charge for the agent and/or company, and does not help the investment in any manner.
2. *Policy Admin Charge*- completely useless charge. Everything can be seen online and this charge is waste of money. Over that, this charge usually increases year on year.
3. *Surrender / Discontinuance Charges*. This is the back-end load and decreases the liquidity of the money.

Part 2: FUND MANAGEMENT

In older times, the insurance companies used to delegate the responsibility of fund management to the regular mutual fund companies and did not require a separate fund management team. Now they are required to do so. In most companies, the size of the investment team is small (sometimes even 1 or 2 main persons managing the various funds). *The quality of fund management in insurance companies is thus lower than that of the regular MF companies.* The 1.35 -1.5% FMC (adding service tax of 12.36% means this gets translated to 1.5-1.7% net) of most equity funds in the various Ulips is comparable with the charges in the Direct Plans of the regular equity mutual funds. Similar is the case with the debt mutual funds. If you will look in more detail, then presently the FMC of equity and longer debt Ulip funds is in general slightly lower than corresponding regular funds, while those of liquid/shorter term debt ulip funds is slightly higher.

As far as I know, *simple index funds are not available in any of the Ulips* (I have checked the insurance fund section of Morningstar.in and have not found any index fund). For some people, this is a very decent option with minimum charges (but then, Ulips are not cost-effective at all).

Part 3: The Various OPTIONS-

Switching Options:

This is touted as a major benefit of Ulips. The ability to move money from equity to debt at market tops, and then move money from debt to equity at market bottoms is extremely beneficial. The only problem with that is no one has been able to do that consistently ever (at least that is what all the major gurus say in the world all these years). Moreover, market tops and bottoms are only apparent in the hindsight and not when they are occuring. So, if all the smart people have never been able to do that consistently, how can that be expected from a relatively unknowledgeable / less knowledgeable person buying a Ulip. It may be helpful for a very select few, but not for the 99.9% people. Also, behavioral finance tells us that if given an option like that, most people would do it in reverse, that is put money into equities near tops and put money into debt near bottoms. This is even worse than not doing anything at all.

Part 4: ILLIQUIDITY and LOCK-IN

If the management team of a regular mutual fund is not performing to your satisfaction, you can remove your money from them and put that amount into a different company. OR you can remove your money within the fund company. In Ulips, neither you can change the fund management company nor you can transfer away from funds available in your particular Ulip to another fund within the same company.

The surrender / discontinuance charges are extremely high. Compare this with 1-3% exit loads in various regular mutual funds.

The Illiquidity costs in a Ulip are very high WITHOUT providing a corresponding degree of benefit.

MAJOR CONS:

1. Too many charges. = Expensive and Complex.
2. Not-so-great management teams as compared to regular Fund Companies. = Suboptimal Management with comparable management expenses.
3. Very Illiquid, without providing any corresponding benefit for that illiquidity.
4. Insurance Benefit is too low for use and expensive as compared to a comparable term insurance.
5. Complex Options which in general are worse.

What is GOOD about Ulips (=Pros)?

Ulip is probably the perfect option for those people who get utterly confused and get policy-paralysis or decision paralysis (No, this is not an uncommon thing. More and more options, after all there are thousands of mutual funds in India, just create a severe type of confusion and to prevent selection of a bad or suboptimal option, one just does not choose any).

The advantages of Ulips are:

1. They give you an *equity based tax-free option* in the 80C category. The other pure equity based option is ELSS (Equity Linked Savings Scheme). While private pension plans (like Templeton India Pension Plan and UTI Retirement Benefit Pension Plan) are hybrid debt oriented mutual funds with decent options) are also there. In case, ELSS get dropped in DTC, then these will remain as the only pure equity based plans (of course, one can choose an 80% or 50% equity option too).
2. Although, the insurance component is inadequate in these, but as an **asset allocation instrument** (and NOT as a market timing instrument), this provides free transfer from equity to debt or vice versa. Free both in the sense of a number of switches every year as well as no payment is required in terms of capital gains tax as would happen if this is done outside between mutual funds or direct stocks, debt instruments, gold and cash.
3. The trigger portfolio option and automatic life-cycle based asset allocation are decent options for people who do not have the know-how or emotional execution capability.
4. The loyalty addition is a small bonus if the requirements are fulfilled diligently.

In short, presently Ulips are mostly good in terms of behavioral financial aspects.

Some FAQs on Life Insurance

Commonly asked queries on term / life insurance

Q1. What happens if the company I have bought insurance from goes bust? Is there any mechanism to protect customers like Deposit insurance corporation?

A1. The IRDA regulations mandate that the solvency ratio (mainly indicates the assets versus liability adequacy) of the insurance company should have a decent margin of safety. Check this Link ↗ for more details. Currently, all the companies have decent solvency ratios. Hence, we do not need Deposit Insurance corp or any other such fallback for that.

Q2. How do insurance companies use funds to pay? Is it 'pay as you go' OR 'is it that they invest the money and pay accordingly when the claim arises'?

A2. In short, the latter. In the longer form the basic idea is that the mortality actuarial rates of the life insurance premium is calculated in such a way that probability wise, insurers make money on those. Eg, for a person of age of 30, the old mortality rate (used by LIC) was 1% (example) then they would price it as 2%. On a probability play, they are betting that if 100 persons aged 30 take Re 1 insurance per person, then only 1 of them dies (on an average because the mortality rate is 1%). They would then have to pay Re 1 to the dead person's family and keep the rest (Re 1) as profit. for regular term insurance, the company sets up a way to invest partially the extra premium (1% from the total 2% of the above example) and uses it to compensate in the later years. for single payment term insurance, the above is done in a much bigger way. for ulips / endowment policies, whether they are transparent or opaque, the mortality premia are deducted from the total amount regularly and work in a similar way as the first example.

Q3. Can I have 2 insurance plans at the same time?

A3. Yes. But you will have to declare that in any subsequent plan, if you already have any. The company considers if the total cover is within its risk profile or not. Eg, you can have 1 crore cover. You can take 1 policy. But if you already have a 50L policy, company will say, sorry boss, we don't feel comfortable providing you an additional 1 crore plan. If you are ok with 50L, we can do so.

Q4. Should I have 2 insurance plans of half the cover each, instead of 1 single large plan? This will diversify the risk of claim rejection. This is a little difficult question. It is probably a simpler idea to have only one large term insurance plan because it is much easier for the family to get claim later on. If the company creates any issue, then the insurance ombudsman is the way to go. An alternative is if you already have some other small policy, continue that policy and use that as the diversification tool. The rule is that if one company pays up ANY policy in case of demise of the policy-holder, no other company can reject the claim (citation needed).

Q5. What about the Claim Settlement Ratio?

A5. I will first put up this link = http://www.subramoney.com/2012/03/insurance-claims-settlement/ ↗

The basic idea is that the CSR ratios touted on the IRDA sites (and the individual companies' sites) are so opaque that you cannot differentiate between data of term insurance versus non-term plans (way too large in numbers), actual claims due to death versus maturity of plan, early (<2 year) claims versus late claims, etc. Also, consider the fact that how can one apply the CSR data of 2011-12 to a plan which has been introduced subsequently (most of the online term insurance plans have come later). In short, it is a completely useless statistic. Just another point to be considered, why is the CSR of LIC not 100% ?

EDIT:(2 more)

Q6. Why is there a big difference between Smoker and Non-smoker premium in many Term Plans?

A6. The difference is because some companies have differentiated the mortality rates of smokers and non-smokers and use different rates for them. In general, the chances of dying for someone smoking is more than someone who isn't. So, those companies have different options to pass that benefit to the consumers. Many others have decided not to differentiate between the two categories. If you will look more, you will see that even men and women have different rates.

How to use this? If you are smoker, it would be preferable for you to use a company which does not differentiate between the two, so that there is no issue of this point. While who are complete non-smoker, prefer a company which gives you the benefit of being a non-smoker.

Q7. Should I go with online or offline plan?

A7. In the offline plan, the agent is in between you and the company and helps you to fill the form (rightly or in a few cases wrongly) and he does take a commission out of the total premium. The main point remains in case of claim, to use the services of the agent, (a) you would need to stay in the same place, (b) the agent has to stay in the same place and (c) remain with the same company and (d) he needs to really help your family in that case. All 4 conditions have to be met and the chances of that happening decrease with passage of time (who knows about 10 years down the line). While the alternate which is always available is to go directly to the insurance company's office, fill the claim form, put the appropriate supporting documents and get the claim. So, understand the two procedures and make the choice.

Links to Answers related to Life Insurance

External links, to common queries and responses, regarding term or life cover

1. Short Primer on Life Insurance as a comment: Link

Health

All things health insurance

How to Buy Health Insurance ↗ - this includes a pointer regarding Room Sublimits.

Varun Dua (Co-founder of Coverfox.com) AMA ↗

Post/Comment Section

Health Insurance for Parents ↗

Others: Disability / Home

Disability and critical illness related cover. And home insurance too.

HouseHolder Insurance

Comment ↗

Child Plan

Investing in child plans

Basic Principles:

Please check This. You need to define the following 2 things-

1. Time horizon. If you will not need the money in next 10 years, the equity allocation would be 80-100%. If it is 5-10 years, then equity allocation would be 50-70%. Etc. It really depends upon the age of your child and when you would approximately require that money. Say, if you child is 10 years old, and you may need the money at 18 years, then the approx. time horizon is 7-8 years. While, if the child is 3 years old, the time horizon will be 15+ years. **2. Your own investment psychology.** The above allocations are kind of aggressive. You may want to tone it down by 10-20% from equity to debt. You may want to add Gold as some percentage.

ASSET ALLOCATION Plan to be Used and Managed:

The baskets 1,2,3 Plan can be used in REVERSE. This means-

1. When the goal is > 3 years away, keep the money in Basket 3 in the respective equity and debt assets (funds). This means keep 70% into equity and 30% in long term debt.
2. When the goal is within 3 years away, transfer the money into Basket 2 type of allocation. This means start transferring money from equity to long term debt asset.
3. When the goal is within 1 year, then transfer the money from both equities and long term debt to Short Term Debt instruments.

For you as an **EXAMPLE**, if the child is 3 years and you want to invest your 50 lakhs and use it for him/her partly for undergrad admission at 18 years (time horizon of 15 years) and rest at 25 years (say marriage or some other education degree). I also assume you have a fairly conservative kind of investment method.

1. Put all the money into an equity oriented hybrid fund (eg. Franklin Templeton Balanced / HDFC Balanced fund. Basically, any fund with a long good track record backed by a stable and good management team), in 1 go (or say in a short period of time of 3-6months). Keep the money in there for next 12 years.
2. At the age of 15 years of child, you migrate part of your money from that equity-oriented fund to a long term debt fund (in the same AMC) as per approx. need at 18 years. Eg. If we take a 10% annual growth rate (very conservative for this type of fund), you will have an approx. amount of 1.5 crore. If you want 80lakhs at 18 years, you will want to shift the entire 80lakhs into the long term debt fund for 2 years or so. While the rest 70lakhs will remain in the equity hybrid fund.
3. At age 17 years, you will shift the value of those 80lakhs from the long term debt fund into a liquid/short term fund and use it whenever you need.
4. At age 22, you shift the entire corpus from equity fund (approx. value of 1.1 crore @ 10% CAGR) to the long term debt fund. And at age 24, you shift it to a liquid fund/short term fund.

VARIATIONS / MODIFICATIONS:

1. If you have a slightly aggressive mindset (aggressive means you can undergo the deep cut associated with equity investments), you can use either a large cap fund (like Franklin Blue Chip Fund or HDFC Top 200) or a multicap fund (like Franklin Prima Plus or HDFC Equity or DSP Equity) instead of the equity-oriented hybrid fund mentioned above.
2. It is not necessary to use Indian instruments alone. You may want to use your own resident country's funds too. Say you are living in USA, then you can use their index funds and manage accordingly. The basic idea remains the same.
3. If you want to use a Ulip with a marketing name of “Child” placed in it (No, there is no major difference between a non-child Ulip or a Child named Ulip except as a marketing tool), so be it. Please do go through the Ulip primer to understand them first. The shifting across equity, long term debt and short-term/liquid

debt instruments would remain the same in principle. There is one added advantage in the sense that the money will remain tied into that for the entire duration, which can be a good thing.
4. It is preferable to use Direct route to AMCs if you are clear about the entire concept.
5. One can take the help of a professional financial planner too for actual management of the instruments. The entire above thing will then at least guide you.
6. If the goal is single or multiple, the above example can be modified accordingly.

Some Major Questions which can be asked:

1. *Why one equity / equity-oriented hybrid fund?* Many people advise for 3-4 funds. The reason being a well-managed single fund gives enough diversification. Adding more funds does not increase diversification. On the other hand, multiple funds start to make the entire portfolio like a broad-market index, at the cost of active management. If you want, you can use an index fund too (eg. IDFC Index fund is one of the lowest cost fund, while Franklin Index fund is well managed too but more expensive). Also, in case of real reasons for changing over a fund, it is much easier to monitor and change from a single fund to another fund company rather than juggling around with 2/3/4 different companies.
2. *Can Fixed Deposits be Used?* They can be used in the end periods. In the earlier periods, because of adverse tax treatment of these (1. Taxable at marginal rate of tax, 2. Tax deduction at source and 3. Tax on accrual basis and not at the time of Realisation), I do not recommend it. The corresponding debt funds are much better in this respect.
3. *Can PPF be used?* As the debt asset part, it can be, if the goal is beyond 15 years.

All About Mutual Funds

Beginner-oriented simple guide for all things mutual funds

WARNING: This section of the wiki needs an overhaul and the information presented in this section may not be up to date or reflect the current state of affairs. However, the concepts presented in this section should still hold true and valuable.

If you're interested in making this section better, send us a message on our Discord server.

What is a Mutual Fund?

Basics of everything mutual fund. NAV, underlying portfolio, expense ratio, dividend vs growth, NFO, and why one should invest in mutual funds.

A mutual fund is an instrument / vehicle by which a company (called Asset Management Company or AMC) collects money from investors by selling units / shares and using that money to make investments.

Depending upon the mandate; a mutual fund can invest in equities, bonds, a mix of both, gold, international equities, other mutual funds etc. So, mutual fund automatically does not mean equity mutual fund. Equity mutual funds are a subset of all mutual funds.

There are some 4000 odd funds presently in the Indian markets.

Portfolio

The combined list of different securities of the fund is called the Portfolio. Because of transparency requirements, the companies have to periodically update their funds' portfolios on their websites.

For Debt mutual funds that invest in various IOUs, bonds etc.; it's required to disclose portfolio every 2 weeks.

Different portals like Morningstar.in, Moneycontrol.com, and Valueresearchonline.com also show these details along with other characteristics.

Net Asset Value (NAV)

This is the price of 1 unit of the particular mutual fund. It's calculated by adding the market value of all the securities (equities, bonds, gold, etc), subtracting the market value of the liabilities, and then dividing this value by the total number of outstanding units.

Mathematically, NAV = (Total market value of Assets – Total market value of liabilities) *divided by* (number of units / shares)

Features:

- It is calculated daily at the end of the trading sessions and should be available on AMFI website by 11 p.m. Some funds, like those which have securities of foreign assets, can have delayed announcements of their NAVs.
- If the underlying market value of the securities (shares, bonds, gold) increases on that day, the NAV will increase (unless there are other reasons) and vice versa.
- One can purchase / sell the mutual fund at the announced NAV of the day. Usually, the selling and purchasing NAV are similar, but in some cases that can be different.
- Mutual funds can issue fractional units, up to 3 decimal places. A fund can collect ₹1,00,000 and issue 1000 units with NAV of 100. Other one can collect the same ₹1,00,000 and issue 10,000 units at NAV of 10. The underlying net value of the fund is same, only the NAV value is different because of different number of units. **This is why when somebody tells you that a fund with NAV of 10 is better than a fund with NAV of 300, you should not agree to it.** The total fund value depends upon the securities and not the NAV. Better to avoid such advice.

Dividend Income

When a mutual fund announces dividend, it pays out that dividend money from the net assets and gives it back to the investors. There is no additional money generated, in the same way companies distribute part of their profits to shareholders as dividends.

If the NAV is 100 and the AMC announces a dividend of 5, you will get 5 in your account for every unit you hold, and the NAV would fall to 95. **Your own money is being given back to you**. It is not like you will get 5 in your account *and the NAV would continue to be 100*.

Instead of relying on mutual fund dividends for cashflow tricks, it's easier to just withdraw it yourself, periodically; from growth scheme of same mutual fund.

NFO (New Fund Offer)

Companies come up with new portfolio guidelines or asset balancing, etc and create a particular mutual fund for that purpose. One can read about the details of the NFO on their site or SEBI's. Usually, these are sold at NAV of 10 (but it is just an arbitrary number).

The underlying philosophy of the fund is more important and before buying a NFO, one should see whether that philosophy fits into the overall requirement. Any NFO requires lot of advertisement (online, offline), seminars, selling, etc – all these expenses are deducted from the net assets (in the liabilities section specifically) and gets reflected in the NAV. For 99% cases, don't invest in NFO.

It's also a misconception that fund's NAV cannot be smaller than 10. JM Core 11 Growth plan, was opened to public in early 2008. Its NAV stayed below that NFO NAV for ~13 years, before reaching same value again in Jan 2021.

Expense Ratio

The funds charge a specific amount of money for using the services. This charge is applied on a daily basis and comes under the Liabilities head in the calculations.

If a fund charges 2.5% expense ratio, then it would deduct about 0.01% on each working day (5 days a week, for 52 weeks) from the net assets and give you the final NAV. For lower expense ratio funds, this value will be lesser.

Presently, each of the mutual fund have two different types based on expenses – a regular / retail plan and a direct plan. In the direct plan, if you invest directly with the AMC through their office / website AND you opt for Direct plan, you will get a lower expense ratio plan (by about 0.5-0.6%). All other methods of investing, namely agents, demat account, banks, investment accounts, etc can only use Retail / Regular plan.

You could also invest through various new-gen free direct plan apps, including but not limited to, Coin / Groww / INDMoney / Kuvera / MFUtility / PayTM Money etc.

Make sure you're investing only in Direct plan of the fund, in growth scheme (not dividend).

Types of Mutual Fund

Open-ended Mutual Fund – The buying and selling of the units from the AMC is open. If you buy, they create more units (if needed) at the day's NAV and if you sell, they can remove those units.

Closed-ended Mutual Fund – For a 3 year closed fund, the AMC does not allow creation / deletion of units for that period of 3 years.

After 3 years, it can either convert it into an open ended fund or pay back the money and close it.

During the 3 year period, the investor can buy/sell the units on the exchange (NSE/BSE) from other unit holders. Sometimes, the buying / selling price can be different from the NAV of the fund because of supply and demand forces. And sometimes, one may not be able to sell it if there are no other buyers. There can be 5 year funds too. FMPs (Fixed Maturity Plans) are a type of closed-ended funds.

Advantages of Mutual Fund

1. **Diversification:** Most funds have a number of different securities in their portfolio. Some can have stocks of 25 companies, while others can have stocks of 100 companies. There are guidelines which prevent the companies to invest in only 3-4 companies. This prevents severe loss in case one company is involved in a fraud and its stock price collapses. Same is the case with the bond funds. They can have bonds of different companies and even if 1 or 2 companies default, the overall NAV does not go down to zero.
2. **Affordable:** With ₹500 / 5000, you can go and buy units in a mutual fund and get that diversified portfolio. If you want to replicate that kind of diversified portfolio on your own, you will have to have a big amount.
3. **Professional Management:** The management team employed by the AMC use their expertise, research and analyses to manage the portfolios. This is better than most of the investors. The main point is that the aim of the management is *same* as that of the investor – to maximize the NAV (investment value).
4. **Liquidity:** By definition, the open-ended mutual funds can be sold back to the AMC and the money can be received in the bank account. Depending upon the type of fund (this will be mentioned in the scheme document), it can take 1 to 10 days for the amount to get transferred.
5. **Convenience:** Most of the things like buying, selling (partial/full), statements, tax statements, etc. can be done online. Except for the KYC (know your customer) norms which has to be done in person (called In Person Verification). However, these days, KYC done over video call is also accepted. And everything can be done by going to the AMC office or common services like of CAMS / Karvy. Automated investment plans can be done in the form of SIP (Systematic Investment Plan) or SWP (systematic withdrawal plan) and their variations.

Types of Mutual Funds

Different categories and sub-categories of mutual funds explained

Income Objective

You have to opt for dividend option if you want to get the dividend declared to come to your account. Alternatively, you can opt for growth option and ask for a specific amount of money as per needs to get the actual income. This can be automated with SWP or it can be done as per your request.

Liquid Funds

These are a type of Money-market funds. These types of mutual funds invest in highly liquid and high credit rated securities with very short maturity time frames (usually less than 91 days) like CD (certificate of deposit which is a big FD), government securities, commercial papers, and corporate bonds (AA+ and above, mostly).

They usually pay higher interest rates than corresponding FD or savings account rates and are extremely safe. The last 1 year average return is around 8.9% and the forward yield is around 8.7%. The 5- year return has been 8.1%. (Time-End Nov 2014). Source – Morningstar.in. Reliance MF has an ATM card which you can associate with their funds. Link ↗. I don't have personal experience with it.

Bond Funds (Debt Funds)

Bond funds have the aim to earn more than the liquid funds by investing in a portfolio of bonds and other instruments. Depending upon the underlying specific objective, bond funds can be of the following types:

Ultra-short Term Bond funds

These use bonds for up to 3-6 months in most cases. They can invest in government as well as corporate bonds.

Gilt Short Term Bond funds Funds which exclusively invest in government (gilt is for gilded = backed by govt) short-term securities. They are safer than funds which invest in corporate bonds.

Short Term Bond funds These use bonds up to 1-3 years.

Income Funds These are usually flexible funds which can change their portfolio according to the interest rate outlook and tend to provide with a less fluctuating income.

Gilt Medium to Long Term funds

These use government (gilt) bonds, which have longer maturities. Currently, some of the funds have average maturities of 20-25 years.

Growth Objective

These funds have the objective of increasing the value of the fund. The equity funds will come under this group.

Large cap funds These funds invest in equities / stocks of the top 30/50/100 companies. Cap is for capitalization, which refers to the total stock market value of the company.

Mid cap funds These funds invest in stocks of companies which are not Large-cap. They do so by having a mandate of not investing in companies which are in the top 50 or top 100 by market capitalization size.

Small cap funds These funds invest in companies which are not in the top 200 or top 300 companies.

Flexi cap or Multi-cap funds

These have flexible mandate to invest in any group of stocks and not limited like the above 3 groups. They may have additional restrictions like not investing in very small stocks. The idea is to invest in a particular group according to market conditions – so they can become large cap during one phase and small cap in another phase. Or they can have some money in large cap and some money in mid-small cap phase so as to have benefits of all worlds in a single fund.

Sectoral Funds

These funds in a particular sector only, like infrastructure, banking, capital goods, pharma, etc. which are defined in their scheme document. Many infrastructure funds have pretty wide coverage and do not invest only in specific infrastructure companies.

Regional and Country Specific Funds

These funds invest in a particular region / country of the globe.

International Funds These funds invest internationally without restriction to a specific country.

Gold / Thematic funds These funds invest in gold ETFs or gold mining companies, commodities, agribusiness, real-estate, real asset companies. Thematic funds appear like sectoral funds on the surface, but a theme is much larger than a single sector. Infra funds are usually considered thematic instead of sectoral, since the companies cut across various sectors related to infrastructure - banking and finance, engineering (who finances the projects), construction (who builds them), energy, metals and automobiles (where do the raw materials come from and who transports them) etc.

Ethical / Socially Responsible Funds These funds do not invest in companies associated with "sin products" like gambling, cigarette, porn, alcohol, etc. The Shariah related funds come under this.

GROWTH AND INCOME OBJECTIVE

Balanced Funds These have variable allocation to equity and debt. There are equity-oriented hybrid funds which have >65% equity allocation, while others are debt-oriented hybrid funds which have lesser amounts of equity (can go to 5-10%). They have an in-built asset re-allocation based on changes in the values of the securities.

Asset Allocation funds These funds use other funds to manage the assets. Many life cycle funds and dynamic ratio funds come under this head.

ETF

Exchange traded funds are a separate type of mutual fund. These funds can be bought / sold during the trading hours on the Exchange and these track the price of the underlying portfolio. So, a nifty index ETF can have a variable NAV throughout the trading period, while a nifty index mutual fund will only have a single NAV for the day declared at the end of the trading hours.

What and Why of Mutual Fund Ratings

Star ratings are, at best, a lagging indicator. It can measure what has happened, and that might be very different from what will happen after you invest.

AKA **Mutual Fund Rankings do not make Sense! Or Do They?**

You will find lot of media (print, TV, blogosphere, sites) screaming their heads off about 5 star funds. Friends swearing about some sites about 5 star funds. We will try and dissect the methodology of this, and then the disadvantages.

1. The major sites (Valueresearchonline, Morningstar, Moneycontrol) first categorise different funds in different categories, according to their own whims and fancies (if you will check, they will tell you they have definite criteria but all those criteria are based on relatively short-term periods of recent past, eg. 1 year or 3 year). Few years back, VRO had a group of Diversified Equity, which later got divided into Large, Large-midcap, Multicap, Mid-Small cap. In future, it can happen with the higher number of funds, that there will be a Large-Medium-Mid and a Medium-Mid group too (who knows!).
2. According to their current portfolio, different funds are kept in different groups at different times. Eg, a flexi-cap fund like HDFC Equity will be placed in Large-mid cap fund group at one time, while at other times it will be put in multi-cap group (which is actually its group). So, the place of individual funds can change over time. Which means, if you categorise HDFC Equity as a 5 star fund in the large-mid cap fund group and later on, its group changes to multi-cap, then the rating of 5 star of large-mid cap is just junk for this particular fund. (For clarity sake, HDFC Equity can invest in any company, will prefer to get mid and large companies, and since its benchmark is CNX 500 (major 500 companies, so it is best characterised as a multi-cap).
3. The method of Rating. A Risk adjusted Return is followed which includes a lot of maths, usage of exotic terminology like 'downside risk', 'utility function theory','risk aversion', etc. Then they compare monthly/weekly returns with a risk-free return (savings bank account rate or short term FD), and assign downside risk and excess returns, do some more jugglery in terms of percentages allocated to various parameters. Then all the funds of a category are separated into different star groups, the top 10% are awarded 5star rating, next 22.5% 4 star (so the top third are 4/5 star).
4. All these ratings are purely quantitative without any subjective component. If the main catalyst of all fund selection – eg the fund manager, leaves, there will be no change in the rating. Even, the complete change of the entire management team like Fidelity leaving lock-stock-and-barrel does not change the rating of their funds which have been taken over by L&T with a new team. Amazing, if you really look at it.
5. Then these ratings are disseminated to people in various forms and adverts. And people flock to the 4 and 5 star funds.

What are the problems in this way? Is it not better to use 4/5 star funds than to use the lower performing funds (the 1 and 2 star funds)?. Yes, selecting funds on basis of stars can be a good start, since most of the long term decent funds are 3 or 4 or 5 funds. But the problems are:

1. The ratings are calculated every week / month (as per category). So, it is possible for ratings of individual funds to change every week/month. So, a person who invested in 5 star fund on Friday may end up getting units allocated in a 4 star on Monday. How bad will that be for the person, and what will he do now with that pathetic looking 4 star fund (sarcasm!).
2. In star rating system, there are no subjective criteria, which makes comparison of the performance of the same fund under different managers / management teams uncomparable.
3. **Biggest problem is a 5 star fund may not remain 5 star** 2-3-5-10 years down the line. Then what are you going to do and how will you cope up with that. Past performance is not an indicator of future returns, which just means ranking based on past returns cannot tell you if the 5 star fund will remain 5 star 10 years down the line OR the 2/3 star fund will become one. So, all calculations of alpha, beta, standard deviation, volatility, etc BASED on past 1 year (this is most common time frame for these values) cannot tell you the future performance.
4. Comparison of a different style of fund like Value funds (Eg are Templeton India Growth / Templeton India Equity Income and ICICI Discovery) with Growth funds does not work since they are not comparable at all, even if their benchmarks and portfolio capitalizations are similar.

5. Then, if the top 10% of a group are 5 star out of say 20 (which means top 2 will be 5 star). Now let us say, there are 200 funds, then the top 20 funds will be 5 star. So, even though the relative ranking of a fund has dropped from say 2 to 20, it will retain its 5 star ranking - it just needs a constant increase in the number of funds and relative good performance.

So how to proceed?

1. Look behind the Quantitative performances of funds. You can start with the Qualitative Analyses provided by Morningstar for a start. Understand the Fund Company behind the fund. Have they been stable in retaining their management teams? Are they able to generate profits for themselves? If they are not, then it will be difficult for them to retain their teams for longer periods of time or sustain themselves, both of which can prove to be harmful for you.
2. Is the fund manager(s) been with this fund for the last 3-5 years (over which the ratings have been generated and which has attracted you to it)?
3. Is the style of fund consistent over these time periods? And can you stomach that style? Value funds can have long periods of relative underperformance followed by great outperformance as compared to growth funds. Similarly, large cap funds will have lesser volatility than say multicap or mid-small cap funds.

If after selecting funds across these parameters, the fund ratings drop, then you just need to check whether the fund team is still consistent in their approach and their underperformance is because of market cycle. In that case, it will be more beneficial to accumulate more units of the same fund which will help you when the fund regains or upgrades its ratings.

Remember, you make most of your money in Bear Markets, the only problem is you do not know at that time.

How to Select a Mutual Fund

With too many categories and thousands of mutual funds, it can get confusing when selecting mutual funds. Various selection strategies for mutual funds explained here

PRINCIPLES

It is important to understand that selection of mutual funds is **NOT** the first or the most important step in the making of a portfolio.

For all long-term investors, there is only one objective – maximum total real returns ↗ after taxes (John Templeton). Warren Buffett has specified the same with the phrase, across the *prospective holding period*.

CORE INVESTMENT BELIEFS

Investing is a young field with only a few decades old historical data. And new data cannot be created so scientific analyses cannot be applied rigorously to different trading / investing systems. That is probably a reason why there is no consensus system of something which works across everything (no irrefutable laws). So, you believe or you do not believe in them!

Some of the major beliefs can be:

1. Equities ↗ perform best across long horizons of time. The performance comes in short bursts (a lumpy behavior ↗) interspersed by prolonged dull periods.
2. Markets show return predictability over the long term but not over short horizons. So, a dynamic / tactical long term allocation strategy is better while short-term timing strategies (eg day trading) should be avoided.
3. Markets are imperfectly efficient. The more liquid the markets, more will be the efficiency.

STRATEGIC ASSET ALLOCATION (SAA)

- This is a *static mix of asset classes*, intended to be long-term plan to best meet the investor's objectives. This is considered to be the Principal determinant of long term performance (risk/return) of the portfolio.
- It should be based on long-term relationships of asset class returns and the behavior of investor's liabilities.
- It is important as a behavioral map/guideline so that investor does not get tempted to follow short-term market trends.

Optimum variance analysis based on efficient frontier (MPT ↗ based) has 2 major problems:

1. The ratios are based on short term past data which may or may not sustain in the future.
2. Small changes in the values can lead to major changes in the outcome. Eg a 0.1 change in value of beta of 1 class can cause 5-10% change in the proposed allocation.

APPROACH:

1. Determine the allocation between equities and bonds.
2. Establish domestic versus international equity and fixed income splits.
3. If needed, alternative asset classes can be introduced.
4. Asset-liability analysis shows that any allocation less than 5% does not have any major effect on the risk and return of the portfolio. A gradual buildup over time can be done so as to test waters and gain confidence.
5. 5 year evaluation horizons are quite optimum for testing and evaluating strategies.

TACTICAL ASSET ALLOCATION

This allows for adjustment of the asset mix as stated in Strategic Asset Allocation, when the prices of the asset classes are too far away from their longer averages. It requires the belief of Mean-Reversion ↗. It is better done by investors / managers with relevant experience (otherwise, stick to SAA).

ACTIVE versus PASSIVE EQUITY Investment

An active investor is anyone whose portfolio of Indian equities is **NOT the cap-weighted portfolio.** In US, there is Vanguard's total stock market index.

I. Reasons to deviate from Passive cap-weighted index-

1. Availability - We do not have any here. Not in equity, not in bonds.
2. Tax-reasons – International funds are not tax efficient. So, the after-tax returns are lesser for international funds than for a comparative Indian fund. Any fund with *>65%* **and** *Indian* equities get a tax-free status beyond 1 year. International funds like Birla International equity fund or the ICICI US focused blue chip funds which directly invest in foreign markets do not get tax benefits and are charged like debt funds (now with LTCG applicable above the holding period of 36 months). While, Templeton India Equity Income and PPFAS Value fund get those benefits since their international allotment is <35%.
3. Some investors do not want to hold stocks of sin companies (cigarette, alcohol, etc). For them, there are some shariah based funds like Goldman Sachs Shariah index fund and Tata Ethical fund.
4. Short-term liabilities for which fixed-income is better, much better.

II. Number of Active Equities/Funds:

1. A single active fund can deviate largely from the benchmark (both up or down) called as high tracking error.
2. Multiple active funds have lower tracking errors.
3. While both single and multiple active funds tend to have higher returns than benchmarks on an absolute basis (with fees, this comes down).

III. Style Orientation:

1. There are 3 major groups – value, growth and market oriented (who lie in between, sometimes denoted as Blend).
2. The different styles work in different ways in terms of risks and returns over different phases of the market cycles.
3. A particular style can have long periods of underperformance as compared to the broad market index, so that should be understood well. There should not be any *unintended style bias.*
4. Any style which becomes popular makes that part of the market very efficient causing decrease in future performance.
5. Complimentary styles can work synergistically.

Style Agnostic / Diversified portfolio, by using multiple managers, can be better for investors who have:

1. Shorter time horizons for performance evaluation.
2. Low risk tolerance as compared to equity indices (some people look at Sensex/Nifty rather than say BSE 500 or BSE small cap).
3. Multiple uninformed parties to whom performance has to be explained. Put spouse and relatives here.

IV. Different Structures in Equities:

1. Separate Large-cap, mid-small cap and separate growth and value groups. This gives a more granular control but it limits the individual managers to particular segments of the markets.
2. Multicap structures across growth and value groups – this allows the managers to work as per market conditions.

3. Stable Equity structure which allows the manager to take bets across asset classes. Eg ICICI dynamic fund can take large cash calls if it feels that the markets are overheated. Other funds cannot do that because they have a minimum 65% or 85% equity mandate.

INCOME STRATEGIES

1. Some funds have fixed duration styles (short term versus long term bonds).
2. Some funds have flexible style and use duration and yield curve forecasting for selection of bonds.
3. There are some funds which are restricted to govt bonds while others are restricted to corporate bonds.

   A Complimentary combination of styles in terms of duration and govt/corporate can give a structure which will work across time horizons.

MISTAKES

1. Too many funds. If one has too many funds, it becomes difficult to monitor and assess them. Short-term performance then becomes the short-cut for assessment leading to a 'hire-and-fire' policy and 'hot-fund-chasing' phenomenon. Solution: Have Lesser Funds.
2. Rather than having a top quartile fund selection, which is not sustainable, a target of second quartile performance is more realistic.
3. Not investing internationally. Diversification across economies and markets is a good practice (depends upon investment beliefs).
4. Unclear policies. Write the policies in such a way so that if given to a *competent* stranger (or spouse / relative), the portfolio can still give the desired results.
5. Short-term performance horizons for long term strategies. Eg, looking at 1 month / 6 month / 1 year performances of equity funds when they have been chosen for 5-10 years.
6. Excessive focus on peer performance (star ratings).

Analyses of Specific Funds

Define the asset class structure Whether one wants a large cap/small cap/flexicap or growth flexi-cap or value-large cap or international, etc. The selection of the appropriate asset class structure helps in refining the fund search universe, so that a fund which fits in the portfolio structure is selected rather than one which has performed recently. There is no point in keeping in mind the sensex and then selecting a small cap fund.

Qualitative Analysis

Organization (AMC)

1. Is the AMC investment team stable or undergoes rapid changes? I do not like ICICI AMC for that specific purpose despite being good performers.
2. Vision of the firm and their practices. PPFAS and Quantum AMCs are unique in this sense.
3. How do the managers get promoted? Is their some kind of hierarchy or is it hotch-potch? Templeton AMC has a pretty solid structure. Their managers stay for decades and go on from individual manager status to CIO equity / income / overall levels. This makes me very confident in keeping and recommending them.
4. How often new funds are launched and their overall history? If the business focus on more on asset gathering rather than value adding, it is red alert.
5. Investment philosophy of the AMC and do their funds follow those overall philosophies. This can be in terms of diversification across a large number of stocks or only few stocks. And a general style. This will also tell how the funds of the AMC will behave across different market conditions. Eg, Reliance funds behave great during bull phases while they are down in bear phases. Franklin Templeton's funds have much better downside protection during bear phases, but do not work very great during bull phases.

6. Is the business profitable for them? If it is not, the long term viability is suspect.

Quantitative Analysis:

Only after the qualitative assessment is complete and proper, quantitative analyses should come into picture.

Two important points:

1. Are the returns (highs and lows) consistent with the fund's dictated policies? The measurements should be against the proper benchmark and not against some other arbitrary one. Eg, Templeton India Growth fund is benchmarked against MSCI Value and not Sensex.
2. How does performance compare with other funds with similar investment strategy?

   Good sign is excess performance across bull and bear phases adjusted for risk. A lower fee structure is preferable if all other things are equal.

When to Remove a Fund

1. Objective of the fund changes.
2. Objective and/or risk tolerance of the investor changes
3. Asset class structure changes. Best example of this is Reliance Growth fund. It started as a mid-small cap fund but because of size bloating, it got converted into a large-mid cap fund.

FAQs for Mutual Funds

Commonly asked queries on mutual funds, and answers to those

Can I buy mutual funds directly? Or do I need a broker like Zerodha? Or does it depends on MF/AMCs?

Refer to our FAQ on Best platform / app for buying mutual funds.

What is the best mutual fund app for investments?

Are MFs also stored in demat?

Not necessarily. Only if you buy from a broker, then you can see them in your demat account. In all other options, you get statements like demat accounts and it can work out completely online, eg. for a particular AMC, you can have an account wherein you can do all types of transactions. From Karvy/CAMS, you can get overall statements of all of your MF based on the PAN. There is no advantage of having MF units as demat.

Is there a lock in period? Or it depends on MF

Only the ELSS (equity linked tax saving schemes) have a fixed minimum lock-in period of 3 years from the date of allotment. All other MF are liquid without any lock-in period. However, depending on the MF, there can be exit load which is different from lock-in. what are some other/hidden charges? E.g. MFs have annual charges. Like will there be any other charges also I have to look for? And also annual charge is always mentioned in percentages. So annual price also increases every year? There are no hidden charges. The fund management fees is a slightly variable charge which is charged as a percentage of the AUM (assets under management) and the details of which you can find in the prospectus. You can also get the charges details of last few years from the AMC or any of the aggregator sites.

What about dividends of those underlying stocks?

The dividends declared by the underlying stocks go into the AUM of the MF and work like compounding. They are not passed on to you directly or indirectly.

Is MF advised for someone who is looking for long term investment? Like 8-9 years?

Sure. There are some people who have invested continuously for 20 years.

Are MFs like, buy once and forget? Or do I have to keep track of them every month? (Cos if there is no lock in, then, when I see prices have gone up, I can sell it and book profits right?)

That is a complicated question. Basically, it would depend what are your goals and how have you selected the MF for those particular goals. If the underlying criteria for selecting an MF remain same, then you do not usually need to change or flip over.

I am seeing charts of MFs performance and returns seem to be less for a longer period. Something like this: 3 months - 22% 6 months - 12% 1 year - 3% 5 year - 24% 10 year - 14%

A simple basic idea is this. Keep in mind, the returns mentioned are usually simple returns for less than 1 year period and compounded returns for periods over 1 year.

From your data (using backtracing).

Time	Return	NAV
10 years back	14%	10
5 years back	24%	12.7
1 year back	3%	35.9
6 months back	12%	33
3 months back	22%	30.3
Today	-	37

How will buying at an NAV of 37 behave in next 3 months, 6 months, 1 year, 10 years, we don't know? Past data does not mirror into the future. check more at these links 1[1] and 2[2] .

So Growth option means no dividend? Instead dividend money will be put back into buying units?

Yes. Growth option means the gains (and losses) will keep on accumulating within the individual units. The dividend option of the same fund will periodically (regular / irregular intervals) declare a certain amount of dividend which will be sent to your associated bank account directly or if that is not mentioned to your address as a cheque. *This is not to be confused with the dividends declared by the companies in their portfolios - that dividend goes back into the corpus of the fund and not directly to you in any way.*

CDSL and NSDL, Are they analogous to banks which provide demat for BSE and NSE respectively? And can I keep my shares which I bought in BSE in NSDL? (And NSE shares in CSDL?)

CDSL and NSDL are central depositories which keep the securities (shares, etc) in a demat or certified formats. All demat accounts, I suppose, have to be kept with either of them. The brokers (whether individual or banks) act as an intermediary to open an account with them. Once you open a demat account with either of them, you can trade on either NSE or BSE and it will not matter.

I have opened a new demat and trading account with Karvy. So can I use this same demat with other brokerages? Like Anand Rathi? I mean, the demat is not associated with karvy's trading account right?

Mostly no. If you opened an account with X and you then opened another account with Y, you will have the option to transfer your dematerialised stocks from account X to account Y, without going through the brokerage. This works like bank accounts. You can transfer money from one to another, but your account number will be changed.

Is there any advantage/disadvantage if I buy MF directly from AMC or via Karvy?

I think you are getting a little confused by Karvy. There is a [Karvy backend services provider] (https://www.karvymfs.com/karvy/ ↗), along with CAMS, FTAMIL and SBFS, which takes care of nearly all the mutual fund transactions (like what CDSL and NSDL do for shares).

And there is Karvy Financial Services which will act as a distributor (Distributor code ARN-0018).

So when you go through AMC directly, the mechanism is like this: You -- AMC <--> Karvy/CAMS. While when you go through a distributor, it works like You -- Distributor -- AMC <--> Karvy/CAMS.

The relation between AMC and Karvy/CAMS is common and the expenses regarding that are in-built within the fund management charges as Registrar & Transfer Agent Fees. Nowadays, there is a single total expense and the AMC is free to not decide to show the individual bifurcations. However, I had an old SID document which showed this fee to be 0.12%, but included in the total FMC.

Is direct plan recommended for a beginner?

Yes, there is no difference APART from *expense ratio*. The cons are you have to manage different logins and if there is any need for submission of some more documents (which SEBI does at 2-3 year intervals), you will have to go yourself and submit those papers (It is easy though). It is not heavy paperwork. It is filling up of 2 forms and submitting it yourself.

Regarding the Jagoinvestor article, it gives you the pros and cons.

More perspectives in this Freefincal article ↗. And this is the Smart Tag for Direct Plan in Freefincal ↗.

Direct Plans are not good for:

- Those who do not / cannot learn to find out which MF are beneficial to you (=failure to learn). There is nothing wrong in that, many people cannot go through the jargon.
- Those who cannot control their emotions when any MF will not perform or lose its star rating (=failure to control emotion).
- Those who find it is extremely tedious to manage multiple AMCs.

Many people find easier to go with an agent for license or passport also. Same is the case here.

There are so many direct plan transaction portals - Invezta, Unovest, ORO Wealth, Bharosa Club. How do I choose one?

Freefincal has written an article comparing some of the popular portals ↗.

Why AMC gets to keep trail commission even when I am opting for direct plan?

No. The distribution / trail commission charges are explicitly mentioned as NOT to be included for Direct Plans. You can compare any Direct and Regular plan and see the difference (about 0.4-0.6% difference).

There are no more **Percentage Upfront Charges** (just for information sake, previously, there was a 2-3% initial investment charges. In USA, going through agents means a charge up to 7%). Except a fixed Rs 100/150 depending upon the amount you invest when *going through a distributor. There are no upfront charges for Direct investing.*

The Fund Management Charge includes all charges including trail charges in Regular plans, which is absent in Direct ones. As well as custodian, Investment Management & Advisory fees, Registrar & Transfer Agent fees, Investor communication, Investor Education, Audit, Brokerage and transactions charges. Plus Service tax (at actual). Plus a max of 0.3% for smaller cities inflow amount. Plus 0.2% extra permissible expenses. *This all gets included in the Total single value of Fund Management Charge, which you can get from the AMC sites.* Eg for Franklin Prima Fund, the FMC is 2.48% for Regular fund and 1.5% for Direct fund. For Franklin Fund, check this Factsheet link for every month ↗.

Why cannot I become MF agent myself, sell MFs to myself & pocket trail commissions also? ;-)

Yes. Some people did do that to save some money. Nowadays, this is not required. A penny saved is a penny earned. Becoming an agent needs some investment and regular registration. So unless, your corpus is huge, it will not be economically feasible.

How Karvy will make money if I buy a MF direct plan through them? (Cos I believe there are no free lunches).

As explained above, as Registrar and Transfer Agent fees (included in the net FMC).

When to exit a fund?

- Objective of the fund changes.
- Objective and/or risk tolerance of the investor changes
- Asset class structure changes. Best example of this is Reliance Growth fund. It started as a mid-small cap fund but because of size bloating, it got converted into a large-mid cap fund.

How will know when to exit ?

- If there are major changes, you will be intimated by the AMC (if you have email registered with them).
- Otherwise, check over your period of review (yearly / 2 yearly / 6 monthly etc.). Do the conditions which prompted you to invest in the fund are still there more or less. Like, if you selected using the ELI5 guide, whether the fund still has the Gold / Silver rating plus comparatively decent downside ratio at your Review time. Are there any better ones, etc. Are they really very significantly better ones?

  Morningstar had removed the ratings of the Fidelity funds (which were pretty high) to Under Evaluation when the funds changed hands to LnT.
- Another heuristic is if you listen to Financial advisory programmes on the TV. If you find that most of the recommendations include your particular fund, it is time to be alert (even hyper-alert). If they are not mentioning your fund, enjoy your peace.

Mutual Fund Decision Checklist

- If you're considering a new mutual fund, is it because it's a hot recent performer? Have you considered fees or the manager's tenure and track record? Is the current manager the same individual who delivered the advertised returns?
- Or is it because some smooth talker came and told you great things about it?
- If you are considering selling a mutual fund, if it because its performance has been weak? Is it weak because of the adverse market conditions not suitable for the style of the fund ? Have similar style funds worked well while this fund made some serious errors? Or it is because the fund manager (team) has left?

SIP and Mandates

Different ways of setting up your SIP, and various types of mandates to enable automatic debit from bank account

Most retail investors prefer SIPs over any other mode of investments, reason being it's automated, and drives the whole thing on auto-pilot.

It should be abundantly clear that SIP only automates the process of investing, and keeps investors disciplined. It's a behavioral easing tool.

If you manually purchase (lumpsum first purchase, or additional purchase), for same amount, on SIP date; you'd receive same NAV and units against those NAVs.

There's no difference in return, whether you invest via SIP or invest manually, as long as it's the same amount on same dates as SIP dates, in same set of funds.

SIP puts your investments on auto-pilots. That's all.

Benefits and Downsides

Before we go into how this automation works in SIP, it's better to understand what are benefits and downsides of this automation.

It's certainly helpful for the fund house. Steady cash-inflow commitment means fund management can project their future income with some certainty. There's a reason why SIPs are promoted to investors so much so often in past decade, that it's synonymous with investing and investment assets itself.

Benefits for the investor:

- Can just *set it and forget it*, then focus on other areas of job, life etc.
- Prevents looking at the market before investing, thereby removes some bias a lot of people might have.
- Helps investor avoid seeing large losses up front.

Potential downsides could be:

- Keeping you out of the market

  SIP is a form of rupee-cost-averaging, but it also keeps your entire principal from getting into market at once.
- False sense of security

  Just because you're averaging purchase price, doesn't mean you would not see losses. If market is trending down, no SIP can prevent you from seeing losses.

  It's possible to get low returns after years of SIP. There are small-cap funds that have had zero or sub-zero returns after certain 5-year periods of SIP.

  Equity is a volatile and risky asset, and it's better to accept that.
- Returns vs Corpus

  People are obsessed with returns, and less focused on final corpus. Say, you did an SIP, which generated 11% p.a. return in a year. Also assume, if you had made a lumpsum investment at the beginning of the year in the same asset, it would've generated 9% p.a. return.

  Even if SIP return is higher here, corpus size would be higher for lumpsum investment.

  It's easy to show this assuming initial investment of 120 INR vs 12 month SIP of 10 INR per month. In SIP, return of 11% would be applicable to each leg of SIP, but for varying duration.

  Investing 120 INR all at once would've taken corpus to `120 * (1 + 9/100) INR = 130.8 INR` over a year.

  Investing via 10 INR / month SIP, would've generated 127 INR (refer to any online SIP calculator).

  Despite being able to get higher return, the lumpsum one wins out, because the corpus experienced those returns longer.

  It's possible to get higher return from SIP, and yet lose out in final corpus, compared to a lumpsum with lower return over same period.

What people don't realize, is even if they are doing SIP, they are still investing using lumpsum mode.

When you do a monthly 10k SIP in a bluechip equity fund, you are doing it because that's the most you can afford to invest that month. And if you could invest more, you would've had a bigger SIP amount.

Real question of rupee-cost-averaging arises when you come into huge capital, comparable to your annual income or more, but much higher than your monthly income.

In a situation like this, is it wise to invest all of it at once, or do an STP (Systematic-Transfer-Plan)? That's a topic for a separate discussion, and not within scope of this one.

How SIPs Work?

At the time of writing this, it's to be noted that not all SIPs are *real SIP*.

A real SIP is one where fund house recognizes it as a systematic purchase. It'd be marked as such, in your account statement from fund house or RTA. Even your CAS (consolidated account statement) would mark it as a systematic purchase.

There are platforms (Coin, Piggy, MFUtility etc.) that offer some form of pseudo-SIP, which would be an SIP from your point of view (money getting automatically debited from bank, and invested into a fund, every month), but the fund house won't record it as an SIP purchase.

This is an important distinction process-wise, i.e., how it works under-the-hood; but as mentioned above, won't make a difference in your corpus size or return.

Going forward, when we use the term SIP, we'd mean to say "real SIP" - one that shows up as systematic purchase in your account statement.

SIP is a contract between three parties:

- You
- Your bank
- Biller Intermediary / Fund house

There are platforms like BSE StAR or MFUtility or even PayTM Money, that can act as biller intermediaries for SIPs. It doesn't necessarily have to be an AMC or fund house.

Biller intermediary sends a bill to your bank in advance (some send in 30 days advance, while some like BSE might send it 9 days in advance), before your SIP date.

Assume you've an SIP 5th of a month. Then, about 10 days before (around 25th of previous month) that your bank would get a bill for SIP amount from the biller intermediary.

Your bank might or might not notify you, depending on what alerts you're supposed to get from bank.

This gets queued in bank's internal bill processing systems, and would be processed on 5th of the month, as that's your SIP date.

Processing of bill means the bank would debit this SIP amount, present on the bill, and send it to biller intermediary.

Biller intermediary would forward that amount to fund house or its RTA, along with details of your SIP purchase (your personal details, folio number, fund name, amount of SIP etc.).

Now comes the question - *how can a biller intermediary send bill and take money out from my account, without my consent or explicit intervention? Don't they need a netbanking OTP?*

That brings us to the next point - *Mandate*.

Bank Mandates

A mandate is an authorization from your end, that this certain biller, identified by a specific URN, can approach the bank at any time with a bill and directly debit your bank account without needing any intervention from you.

Mandate creation takes some time - banks wait for a while (cooling-off period, or time-to-set-up), to allow the account holder to come forward, in case this was set up mistakenly or if this was a fraudulent activity.

There are more than one ways to set up a mandate. Note that a mandate is specific to a biller, and linked to URN of the biller.

Generally speaking, these are different types of mandates:

- NACH mandate

  Can be set up via paper-form submission at bank by your biller. Bank verifies it based on your signature matching with the one in bank's record.

  Takes up to 30-45 days to set up.
- e-NACH mandate with Aadhar (deprecated now)

  NPCI had an Aadhar OTP based mandate set-up process, but it was rendered obsolete through judgement of Hon'ble Supreme Court in September 2018.

  Basically, if you had an Aadhar linked to your bank account, you could authorize the mandate with an Aadhar OTP to NPCI.

  Use to take up to 4-5 days to set up.

  This covered most banks in India, except a few PSB ones not under NPCI framework (like, Allahabad bank, for example).
- Billpay Mandate (most common)

  Some billers have special deals and contracts with some of the big banks uin India, that you'd find them listed in bill payment section of the netbanking portal or app from the bank.

  Most fund houses, and biller intermediaries like BSE StAR would be listed as pre-authorized biller in portals / apps of HDFC, SBI, ICICI, IDBI, Kotak, Axis, Yes Bank, Federal Bank etc.

  If this is the case for you, you can simply select the biller of your choice, and enter URN provided by your biller in your netbanking portal / bank app.

  Takes up to 7 days to set-up. And once set up, you can modify the limit amount from your bank portal itself.

So, which one should you use? As always with most things, *it depends*.

NACH is universal process for mandate creation. It'd work with any biller, any bank. It's time-consuming, but works. However, it's also error-prone, because it's verified based on signature.

Billpay mandate is most convenient and transparent to end users - you can easily delete the biller from netbanking later if you wish to delete the mandate, you can even stop payments on some incoming bills through netbanking (some banks offer this).

Sometimes, biller intermediaries like BSE would allow paying for a lumpsum order with NACH or e-NACH mandate. For you, the end user, the process is one-click. You don't have to wait for any OTP, no need to worry about payment failures. Just place the order in lumpsum mode, and let the biller reach out to your bank to deduct the payment - one-time.

You could think of it as *one-click payment*.

But BSE as an intermediary don't allow for lumpsum payments with Billpay mandate (the mandate you've set up via netbanking).

There's one process of mandate being tried out by Zerodha and PayTM Money - creation of e-NACH Mandates via digital signing from netbanking. This mandate, once created, might not be visible in your netbanking portal or banking app. However, we haven't included it yet, because it's a new process, and not enough feedback is available on its failure rates, convenience etc.

FAQ

These are some common queries we see in advice threads and other corners of internet, regarding SIPs and mandates.

- ***My SIP date was today, but no money has been deducted yet. What do I do now?***

  This is an aspect of MF you've to learn and remember - unless it's a liquid fund and order amount is above 2L; fund house can process orders without actually receiving the amount.

  It's to account for payment gateway delays, bank bill-processing delays etc.

  All order confirmation emails from fund house or RTAs carry this warning: *units allotted are provisional and subject to fund realization.*

  Actual bank debit might happen on same day as SIP date, or next business day after SIP date.

  However, you should contact customer support of the intermediary, if the amount hasn't been debited from your bank even after one or two business days from designated SIP date.

  You'll get NAV of the actual SIP date (effective SIP date, if actual SIP date was a holiday that month)
- ***Today is my SIP date, but it's a Sunday. What do I do now?***

  Relax. If SIP date is a holiday or non-trading day in a certain month, it'd be processed on next available trading / business day.

  You'd get NAV of that effective SIP date. It won't cancel or fail your SIP.
- ***It says first payment can be made now. Would this be lumpsum or SIP? Which NAV would I get?***

  Assume you want to start an SIP on 20th of a month, and today is 1st.

  Some platforms and most AMCs would give you an option to make first-purchase on 1st of the month itself, for that installment.

  It'd be a lumpsum payment, with SIP limits applicable - but it doesn't matter, because we've already discussed above that mode of investment has no bearing on your returns or investment corpus.

  You'd get NAV of 1st, and not that of 20th. And your SIP would start next month of 20th (because this month's installment is going in today as first purchase).
- ***What should be the payment limit of mandate I'm setting up?***

  Most likely, your intermediary you're transacting with, would give you a recommended amount. You're better off following that.

  Note that, you cannot edit a NACH or e-NACH mandate, same way you can edit a bill-pay mandate. So, it makes sense to set a high amount as limit for NACH mandates.

  It should be higher than SIP amount you're planning to invest.

  Actual debit from bank would be your SIP amount, not your payment limit.

  Payment limit is a daily limit on how big a bill your biller can send. It's there for security reasons, same way your Debit card has a purchase and withdrawal limit.
- ***Can I migrate my mandate to another platform?***

  In almost all cases, you won't be able to. Mandate is identified by URN, and as you switch platform, your biller's URN would be different.

  You'll have to cancel the existing mandate, set up a new mandate following process & guidelines of new biller / intermediary.

- ***How do I delete this mandate I have?***

  If it's a billpay mandate set up through your netbanking or banking app, you can delete it yourself.

  For other types of mandate, you can approach your bank and the intermediary. Most banks ask you to visit a branch in person to remove mandates, but some banks would also accept it over email.

  If you're having issues with removing a mandate, your bank's relationship team is better suited to handle this query.

How to Become Crorepati using Mutual Funds

How to use mutual funds and disciplined investing over the years, to let compounding generate wealth over long term

Mutual funds are outstanding investment vehicles after you learn how to utilize them correctly. Most people, however, do not have a solid understanding or conviction about mutual funds.

The first absolutely essential point to understand is that the **big money** in mutual funds is always made **by sitting through several business cycles.** In other words, to reap large returns from funds, you have to have the strong belief and patience to sit tight for 10 or 15 years or longer. It's like real estate. You may not make anything if you buy and later become impatient or shortsighted and sell out after only three or four years. It simply takes time. Nervous Nellies ↗ are not good fund shareholders. Investors in open-end investment companies, as mutual funds are sometimes called, tend to buy the best-performing fund after it has had a huge performance year. The next year or two will probably show slower or poorer results followed by an inevitable economic recession. This is usually enough to scare out those with less conviction or the "I want to get rich quick" fund holders.

Sometimes shareholders will switch to another fund that someone convinces them is much safer (usually at exactly the wrong time) or has a "hotter" recent performance record. Switching breaks up your long-range holding plan. I suppose you should switch if you have a really bad fund or the wrong type, like an income or industry fund when you should own a diversified growth fund, but too much switching quickly destroys what must be a long-term commitment.

Bear markets can last from nine months to two years or more and if you are going to be a successful long-pull investor in funds, you'll need to acquire the courage and perspective to live through numerous discouraging bear markets. Have the vision to build yourself a great long-term growth program, and stick to it.

The super big gains from mutual funds come from compounding over a span of years. Funds should be an investment for as long as you live. Diamonds are supposed to be forever—well, so are your mutual funds. So buy right and sit tight, period!

How to Become a Crorepati the Easy Way

Here is what I regard as the ideal manner for a shrewd mutual fund investor to plan and invest.

Pick a diversified domestic growth fund that performed in the top quartile of all mutual funds over the last 5-7-10 years. It will probably have averaged an annual rate of return of about 15-20%. The fund should also have a better-than-average record in the latest 12 months when compared to other domestic growth stock funds. Steer away from funds that concentrate in only one industry or one area like energy, electronics, or gold. The investment company you pick does not have to be in the top three or four in performance each year to give you an excellent profit over 10 to 15 years.

When you purchase a mutual fund, you are hiring professional management to make decisions for you in the stock market. Most diversified funds should be treated differently from individual stocks. A stock may decline and never come back in price. That's why the loss-cutting policy (called Stop-Loss) is necessary.

However, a well-selected fund run by an established management organization will, in time, almost always recover from the steep corrections that naturally occur during numerous bear markets. This is because mutual funds are broadly diversified and should participate in each recovery cycle in the economy. Therefore, I believe an extraordinarily different strategy should be employed with mutual funds. Each time you get into the thick of an economic recession and the newspapers and TV tell you how terrible things are, why not add to your fund when it is off 25% to 30% from its peak price. It might even be a possible time to borrow a little money and buy more shares. If you are patient, within two or three years the shares should be up sharply in price. Remember, you're going to hold through many economic cycles, so why not be smart and add to your investment during each bear market?

You can also reinvest your dividends and capital gains distributions and benefit from compounding over the years. When you buy your growth mutual fund, you should make up your mind at the outset that you are positively going to sit through the next three or four bear markets or economic recessions. This will give you the maximum opportunity to make really big money.

How about Income from Funds using the Dividend Option?

If you need income, you may find it more advantageous not to buy the dividend plans of a fund. Instead, you could select the growth option of the best possible fund available and set up a withdrawal plan equal to 1.5% per quarter or 6% or 7% per year (=systemic withdrawal plan or SWP). Part of the withdrawal would come from dividend income received and part from your capital, but the fund should generate enough growth over the years to more than offset the withdrawal of capital, if it is limited to 6% or 7% per year.

There are many Asset Management Companies, such as Franklin Templeton, HDFC, DSP Blackrock and Reliance Mutual that offer a large family of funds with varied objectives. These families could offer you the added flexibility of making prudent changes many years later. These funds have been having a very stable management team over the last few years, with a good and consistent management style across funds.

How Many Funds Should You Own?

As time passes, you may discover a second fund you would also like to begin accumulating in another long-term program. If so, do it. At the end of 10 or 15 years, you might own a worthwhile amount of two or even three funds, but there is no reason to diversify broadly, so don't overdo it.

Those rare individuals with many crores could spread out in more funds which would allow them to place almost unlimited sums into a more diverse group of funds. If this is done, some attempt should be made to own different-style managers. For example, money may be spread among one value-type growth fund, one aggressive growth fund, one small cap fund, one global fund, and so on.

If you own a growth fund which, by definition, invests in more aggressive growth stocks, it should go up more in bull-market years and fall off more in price than the general market in some bear market years. This is fairly common and in keeping with the nature of most growth portfolios, so don't get alarmed and panic out at the wrong time. During the poor periods, try to look ahead several years. Daylight follows darkness.

When Is the Best Time to Buy a Fund?

Any time is the best time. You'll never know when the perfect time is and waiting will usually result in your paying a higher price.

Should You Buy a Global or International Fund?

Yes, these could be a sound investment and provide further diversification, but I would definitely limit the percent of your total fund investments. International funds can, after a period of good performance, suffer several years of laggard poor performance.

The Size Problem of Large Funds

Asset size is a problem with most funds. If a specific fund has huge amount of assets, it will be less flexible in retreating from the market or in acquiring meaningful positions in smaller, better-performing stocks. Therefore, I would generally avoid most of the very largest mutual funds. However, if you have a fund that has performed well for you over the years and it has now grown large but still performs reasonably well, maybe you should sit tight. Remember, the big money is always made over the long haul.

Checking Management Fees and Turnover Rates

Some investors try to evaluate the management fees and portfolio turnover rate of a fund. In most cases this nit-picking is not necessary. A good fund manager will sell stocks when he or she is worried about the overall market or a specific group, believes a stock is overvalued, or finds another, more attractive stock to purchase. That's what you hire a professional to do.

Why Many People Lose Money in Top-Performing Funds

Believe it or not, half of the people invested in some of the best-performing funds in the country may lose money. How can that happen? Very few people buy during a bear market. They're afraid. Far more people buy much later, during a bull market, when

they feel much more assured. Some of these people then sell out over the next year or two when performance is slower or down. Why not buy and sit tight for the rest of your life and make a big fortune?

The Five Dumbest Mistakes Mutual Fund Investors Can Make

1. Failing to sit tight for an absolute minimum of 10 to 15 years.
2. Worrying about a fund's management fee, turnover rate, or dividends paid.
3. Being affected by news in the market when you're supposed to be investing for the long pull.
4. Selling out during bad markets.
5. Being impatient and losing confidence too soon.

To summarize, the way to make a fortune in mutual funds is almost always by your long-term sitting, not your thinking. If you purchase Rs 1,00,000 of a diversified domestic growth stock fund that is able to average about 15% a year over a period of many years, here is what could occur, compliments of the magic of compounding and time:

In 30-35 years, this Rs 1,00,000 will go on to become Rs **1,28,00,000**

Now suppose you also only added 1,00,000 each year to your program and let it compound over the years and you also bought a little extra during each bear market while the fund was temporarily down from its peak 25%. What do you think you'd be worth?

So, in my opinion, faith and confidence in our long-term future is a very shrewd and intelligent position to take and stick with for as long as you live.

Modified from Advice by a book by [William O'Neil](http://en.wikipedia.org/wiki/William_O'Neil ↗)

Analysis using long term equity and debt funds in India

Long term equity and debt portfolio, with different asset allocation tilts, and their outcomes

Part 1: Only Equity Fund

Data used: NAV of Franklin Blue Chip funds, since its inception. Modifications: Used average monthly NAVs for analysis. I did not put the 2% investment charge which was there for most of the period.

Some basic data:

Time	NAV	Note
Dec 1993	9.4	
Dec 1994	20.2	(a jump of 100%)
Dec 1995	15.6	-22% loss
Feb 1997	10.3	back to starting point of 3 years back (with 30% loss)
Feb 1998	14.0	40% up in 1 year, but still not recovered over 2 years
Jan 1999	20.3	gain in 1 year, but over last 4 years, Nowhere.
Feb 2000	57	almost tripled in 1 year (+200%)
Oct 2000	20.7	retraced back, & lost 65%, back to level of 6 years ago.
Oct 2001	16.1	20% more loss.
Nov 2002	20.3	same old story, back to 8 year level.
Jan 2004	53.9	again a 150% increase.
Jan 2005	61	just 11%
Jan 2006	92.9	50% more
Jan 2007	132	50% more
Jan 2008	181	50% more & 9 times in last 5 years.
Jan 2009	97	lost 50% in 1 year.
Jan 2010	186	gained 100% again
Jan 2011	217	an 11% increase
Jan 2012	196	a 10% loss.
Jan 2013	241	20% increase.
Jan 2014	242	flat.

Few conclusions:

1. This is a conservative large cap fund. Even then the gyrations are very strong.
2. Returns in equity funds have always been volatile, even 20 years ago and the increased volatility is not a new thing.
3. There can be long periods (8 years in this series) in which the NAV has not gone anywhere between the start and the end.

4. The near or medium term past performance is completely different from what is going to happen in the future. There can be a huge spike in 1 year followed by all the way of retracement OR there can be 4 years of unbelievable increases with sudden whip-lash.

Part 2: Separate Equity and Debt Funds

Data used: NAV of Franklin Blue Chip and Templeton Income Builder Account funds, since their inceptions.

Modifications: Used average monthly NAVs for analysis. I did not put the 2%/1% investment charge which was there for most of the period.

Asset Allocation Basics:

1. Started in July 1997, since that is the first month of the income fund.
2. Started with monthly investment of 10,000, with yearly increase of 10-15% every financial year.
3. Used different styles of portfolio management / asset allocation as detailed below.
4. Total investment amount from Jul 1997 to Feb 2014 has been 69L.

Type of Asset Allocation	Total Corpus amount	CAGR	Std Dev	Max Drawdown	Ulcer Index
Pure Equity	2.20 crore	18.6%	26%	-57.7%	19%
Pure Debt	1.11 crore	8.9%	3%	-2.7%	0%
Auto 60:40	1.76 crore	16.7%	16.0%	-32.3%	8%
Auto 70:30	1.82 crore	17.0%	18.0%	-39.0%	10%

Pure Equity / Debt - In this, all money was put into the equity / debt fund.

Auto 60:40 / 70:30- If the asset allocation of equity was <= 60% (or 70%), then the monthly investment was done into the equity fund, otherwise the money was put into the debt fund. No amount of money from transferred from one asset to another even when the asset allocation was out of range to avoid taxes.

Max Drawdown- This is the amount by which the total corpus suffered from its peak (the maximum downside).

Ulcer Index- supposed to be a better indicator of Risk ↗ compared to SD.

The Chart ↗

Few Conclusions:

1. For the first 6-8 odd years, there is no significant difference between any of the methods, since the monthly amount was a big chunk (hypothesis that till the monthly amount is about 1% of the total corpus, there is not much of a difference in the amounts provided all other parameters are kept same. 100 months = 8 odd years).
2. There is not much of a difference between a 60:40 and a 70:30 asset allocation.
3. For long periods of time (some years), all monthly investments were done in one or the other asset to bring back the ratio to the prescribed levels.

Part 3: Using Mid and Small Cap fund

Data used: NAV of Franklin Prima a mid and small cap fund ↗ and Templeton Income Builder Account funds, since their inceptions.

The basics and methodology is similar as from Part 2.

Type of Asset Allocation	Total Corpus amount	CAGR	Std Dev	Max Drawdown	Ulcer Index
Pure Equity	3.01 crore (2.20)	23.3% (18.6)	29%(26)	-63.3%(-57.7)	19%(19)
Pure Debt (same)	1.11 crore	8.9%	3%	-2.7%	0%
Auto 60:40	2.15 crore (1.76)	19.7%(16.7)	18.4%(16.0)	-45.0%(-32.3)	11%(8)
Auto 70:30	2.32 crore (1.82)	20.7%(17.0)	20.1%(18.0)	-48.0(-39.0)	12%(10)

The numbers in brackets represent the values when Franklin Blue Chip fund was used instead of Franklin Prima fund.

The Chart for Prima fund.

Another chart which compares the Pure Prima fund, Pure Bluechip fund, and a 60:40 allocations of both the funds. Link.

Few Conclusions:

1. The returns using Franklin Prima fund show more return with even more volatility, as compared to with using Franklin Blue Chip fund, along all parameters (100%, 60:40 and 70:30).
2. The maximum drawdown in case of balanced (60:40 or 70:30) asset allocation is still high (nearly 50%), which means even with partial rebalancing, the corpus can go down to half of the peak (this is a chilling thought). This is shown in the Ulcer Index too.
3. It is interesting to note that the Ulcer Index of Pure Equity in both the cases is same (at 19%).
4. The pure large cap fund almost behaves similar to the 60:40 equity:debt combination of the mid-small cap fund. Only in the later years, the pure equity fund has taken a slight lead. While the 70:30 combination slightly leads the pure large cap equity. **This means that a balanced fund with mid and small cap leanings (eg HDFC Prudence) behaves like a pure large cap equity fund.**

EDIT:

For a pure investment into HDFC Prudence, the values are:

Type of Asset Allocation	Total Corpus amount	CAGR	Std Dev	Max Drawdown	Ulcer Index
Pure HDFC Prudence	2.60 crore	21.0%	16.9%	-42.2%	9%

This is even more surprising. The Ulcer Index and Std Dev are nearly the same as the large cap 60:40 ratio, while the returns are much better than any other combination with either the Prima or the Blue Chip fund, except for pure Prima fund. The corresponding Chart.

Retirement

Discussions on basic retirement planning and various strategies

WARNING: This section of the wiki needs an overhaul and the information presented in this section may not be up to date or reflect the current state of affairs. However, the concepts presented in this section should still hold true and valuable.

If you're interested in making this section better, send us a message on our Discord server.

Primer on Retirement Planning

What is retirement planning? How to begin estimating how much you need as corpus when you retire? Read more here

Original Post and Discussion ↗

So, you probably groaned in your head when you read the title. Retirement planning is not something that you feel is something that deserves your attention because 'Hey, my career started quite recently! I have a long way to go before I start worrying about things like retirement, right?'

Wrong! Now I am not asking you to worry about it. But through this post, I will hopefully be able to teach you why you should do it whilst explaining the different options that you have out there.

According to a MetLife India Insurance survey results published in 2008(kinda old but I doubt if much has changed), over 80% Indian employees have done no retirement planning independent of any mandatory government plans. For comparison, those numbers stood at 58%, 46% and 31% for Australia, US and the UK respectively.

In India, while almost three out of four employees (71%) say they are "concerned" about outliving retirement money, only one out of every three (35%) say they have taken steps to determine retirement needs; only 20% say they have done actual planning for retirement.

Personally, I think it's a cultural thing. My brother affectionately calls his first born as 'Retirement Plan A'. Our parents/uncles/aunts did support our grandparents in some way or the other. You probably already know that it's a bit of a struggle to support our own parents. It's rather easy to extrapolate that we shouldn't expect much from our children. I mean, I consider myself to be fairly 'well brought up' but when it comes to having the discipline to be regular in sending money back home, turns out, I am a selfish douchecanoe. And if there's one thing I've learnt on reddit, it's that I am 'not the only one'.

Combine this with the fact that our country's social security is system is kinda non-existent, you and your spouse(if you're into that) are going to have to be the ones who'll have to look after yourselves. You probably have a lot of other goals that you want to plan about (like buying a house or car or preparing for your children's education, or going on a world tour, etc) but most financial planners will agree that retirment planning should be your top most priority.

Thanks to the time value of money concept, the sooner you start, the better it will be.

TL;DR:- THOU SHALL PLAN FOR RETIREMENT OR THOU SHALL REPENT!

Like all my previous posts, I am going to assume that you are not a financially savvy person and am going to try and break it down for you.

Question no.1 How can I know how much money I'll be needing post retirement?

To be honest, there's no accurate answer to that question. You'll have to make a whole lot of assumptions not only about yourself but also about the state of the economy. But the lack of accuracy shouldn't put you off from doing what you can right now. As they say in /r/running, 'When you've just started, it doesn't matter how much distance you run, you're still doing better than the millions of guys who are just sitting on their couch.'

Okay, that might have been a little too dramatic, but you get the point. Moving on.

Visualise yourself at the time of your retirement. I know it's tough but just do it. What is your average day going to look like? Resist the temptation to wonder if they've invented Star Trek style transports. A good way of doing this is to look at your retired parents and grandparents. What are their lives like? My folks spend a whole lot on groceries, medical bills and people's weddings and funerals. They travel every couple of months to visit their children or host their visits. The question is, are they spending more money than they used to when they weren't retired or are they spending less money?

More often than not, you'll find that their expenses have actually reduced since their pre-retirement era. Simply because, they don't go out partying every weekend, they no longer need to spend on their children, they no longer think that over-priced coffee is the besht, they no longer feel the need to watch movies within the first week of it's release and so on and so forth.

But then again, this differs from person to person. Some people assume that their post retirement household living expenses will only be about 70%-80% of their pre-retirement household expenses. Not a bad assumption IMO.

So, going with this assumption, suppose you currently spend about Rs. 20,000/- per month on stuff like groceries and utilities, etc, assuming you'll only need 80% of your expenses, when you retire about 30 years from now, you'll be spending about Rs. 16,000/- only, right?

Wrong again! *"Accept certain inalienable truths...prices will rise, politicians will Philander, you too will get old, and when you do you'll fantasize that when you were young prices were reasonable, politicians were noble and children respected their elders."* (In case you are wondering why that sounds familiar, it's from the legendary song called Sunscreen by Baz Luhrmann)

What I am trying to say is, you will have to factor in INFLATION^INFLATION^INFLATION^INFLATION. The amount of stuff you can buy for Rs.100/- today will be a lot less 30 years from now. Inflation Rate in India averaged 9.83 Percent from 2012 until 2014, reaching an all time high of 11.16 Percent in November of 2013 and a record low of 7.55 Percent in January of 2012. Ceteris Paribus, let us assume that over the next 30 years the average inflation rate is 8%, then, to maintain the same level of expenses of Rs. 20,000 per month, 30 years from now, you will need to spend about Rs. 2,00,000/- PER MONTH. (You can do the math yourself using the FV formula in MS Excel. *Rate* will be the expected annual inflation rate, *nper* will be the number of years left to your retirement, *PV* or present value will be your present expenses).

I am not sure what salary hikes are like in your industry/company, but for people like me who are in banking, if you are an average to above average performer, assuming you work continuously, chances are that your salary will rise in tandem with the inflation. In which case, you don't have to panic as much. People tend to shift jobs every few years and get an average hike of about 25% at every jump. This will hopefully keep your income above the inflation line. But let us assume that you are an average joe and that you won't be jumping around much. How the hell are you going to maintain your lifestyle once you are retired? Plan my friend. Plan!

You need to figure out your required retirement corpus and start building towards it. Assuming you have a life expectancy of 75 years, this corpus of yours should be able to support you for approximately 20 years past your retirement.

I hope I didn't scare you. Did I scare you? I did want to scare you but just a little bit. Relax people, there's a whole bunch of retirement planning products out there and your-friendly-neighbourhood-aspiring-financial-planner is going to break them down for you. Before we move on to that, if you want to further discuss exactly how to arrive at your retirement corpus, make posts explaining your specific scenarios. Use throwaways if you are uncomfortable with sharing your details. We'll discuss your case as a community.

Question 2: What kind of retirement planning products are out there?

In the interest of time and space, I am going to be very brief about each one of these. If you want further clarity on any of these, feel free to comment below or start a new thread. Also, I have left out the usual suspects like FDs, Mutual Funds, Insurance policies, etc.

Which of these products or a combination thereof are best suited for you is something you are going to have to figure out yourself. Preferably, in consultation with a professional. Also, make sure that you keep reviewing your choices periodically to ensure that they are in sync with your expectations.

Due to character restrictions and to facilitate future discussions, I am going to post each product as a separate comment.

P.S:- The rates and rules are as current as I could find, if you find that the information provided is incorrect/outdated, feel free to point them out.

A. PUBLIC PROVIDENT FUND (PPF)

There is a **Separate Page** for PPF ↗

The PPF is a government backed, long term small savings scheme which was initially started by the Government because it wanted to provide retirement security to self employed individuals and workers in the unorganized sector.

Features:

Interest Rate (Effective April, 2020): 7.1% p.a. compounded annually

Tenure: 15 years

Maturity type?: Lumpsum

Minimum and Maximum Investment: The minimum deposit amount is Rs. 500 per annum and the upper ceiling limit is Rs. 1,50,000 per annum.

Tax Benefit?: Yes, Under Section 80C, interest is tax exempt.

NRI Friendly?: Nope. NRIs are not eligible to open an account under the Public Provident Fund Scheme. However, If you already had a PPF account, when you were resident in India, and during the tenure of the PPF account you became an NRI,then you are eligible to continue investing in the account until it matures, but on a non-repatriable basis.

Loan Facility?: Yes. You can avail a loan from your PPF account from the 3rd year of opening your account to the 6th year. Also, the loan amount will be restricted to a maximum of 25 per cent of the balance in your account at the end of the first financial year (if you opt for the loan in the third year). If you opt for a loan in the fourth year, the second year's balance will be taken in to account and so on.

Withdrawal Facility?: Customer can make one withdrawal every year, from the 7th financial year, of an amount that does not exceed 50% of the balance of the customer credit at the end of the fourth year immediately preceding the year of withdrawal or the amount at the end of the preceding year, whichever is lower.

How to?: Almost all the PSU Banks open the PPF account.

Here's an online PPF calculator ↗

and some FAQs on PPFs ↗

B. New Pension Scheme

New Pension System (NPS) is a defined contribution based pension system launched by Government of India with an aim to provide old-age security coverage and pension for all citizens of India. ◁ The scheme provides investors an option to avail reasonable market based returns over long term. Periodic contributions will get invested through PFRDA appointed Pension Fund Managers (PFMs) in a combination of investment avenues as per the choice of investor.

Features

It's got two tiers. Tier-I is the main pension account and is non-withdrawable. Tier-II is a voluntary savings facility which is withdrawable.

Tenure: Till you become 60 years old.

Interest Rates: Not applicable. Returns are Market based. NPS offers the investor an option to decide an asset allocation between Equity Instruments, Corporate Bonds and Government Securities, with up to 50% exposure to Equity instruments.

Maturity type?: Pension

Minimum and Maximum Investment:

Tier I: Minimum Rs. 500 per contribution and a Minimum yearly contribution of Rs. 6000/-

Tier II: Minimum Rs. 250 per contribution and a Minimum year end balance of Rs. 2000/-

Tax benefit?:

Tier I:

The contribution made by a National Pension System subscriber in Tier I scheme is deductible from the total income under Section 80CCD of the Income Tax Act. Like wise, the contribution made by the employer for the employee in Tier I of National Pension System is also deductible under Section 80CCD. However, the aggregate deduction under Section 80C, 80CCC and 80CCD is fixed at Rs.1 lakh.

So, if the NPS subscriber already has other eligible deductions such as LIC premium, PPF, bank or NSC deposits, ELSS etc., under Section 80C, 80CCC and Section 80CCD., deduction allowed under Section 80CCD in respect of National Pension System may not be of much use as the overall limit of savings eligible for deduction is pegged at Rs. 1 lakh.

Tier II: Nope.

NRI Friendly?: Yes, an NRI can open a NPS account provided he has a valid correspondence address and a bank account in India.

Loan Facility?:

Tier I: Nope.

Tier II: Nope.

Withdrawal Facility?

Tier I:

Before retirement: Maximum 20% or atleast 80% of the pension wealth to be kept invested and annuitized at retirement.

After retirement: Min 40% of the pension wealth to be kept invested in life annuity or Maximum 60% of the pension wealth may be withdrawn in lump sum or in a phased manner, between retirement age to next 10 years.

Tier II: Yes. Limitless.

How to?

Six designated Pension Fund Managers (PFMs) have been appointed who would be responsible for investing the funds and generating returns from them. An investor would have the liberty to choose or change their fund manager if so required:

• ICICI Prudential Life Insurance Company Limited

• IDFC Asset Management Asset Management Company Limited

• Kotak Mahindra Asset Management Company Limited

• Reliance Capital Asset Management Company Limited

• SBI Pension Funds Limited

• UTI Retirement Solutions Limited

Various Points of Presence have been constituted, which act as a customer interface for investors. Here's a list of PoPs where you can open the account ↗

Here's an online NPS Calculator ↗

and here are some FAQs ↗

C. National Savings Certificate

National Savings Certificates popularly known as NSC is a saving bond , primarily used for small saving and income tax saving investment in India, part of the Postal savings system of Indian Postal Service. The certificates were heavily promoted by the government after Independence of India in 1950s, to collect funds for "nation building".

Features

Tenure: There is a 5 year instrument(NSC VIII Issue) and there is a 10 year instrument(NSC IX Issue).

Interest rates: 8.5% for 5-year Instrument and 8.8% for 10-year Instrument. Compounded Half yearly.

Maturity type?: Lumpsum

Minimum and Maximum Investment: Minimum Rs.100/- No maximum limit available in denominations of Rs. 100/-, 500/-, 1000/-, 5000/- & 10,000/-.

Tax Benefit?: Yes. Although the Interest on NSCs is taxable, this interest is not paid to the holder but is reinvested in NSC. As this interest is re-invested in NSC which is a specified instrument u/s 8-C, a tax payer can claim this amount of interest as a tax deduction subject to maximum of Rs. 1,00,000/-.

NRI Friendly?: Nope. NRIs are not eligible to purchase these. However, if a person was a resident Indian at the time of purchasing the NSC and becomes an NRI during the maturity period, he shall be allowed to claim it's benefits..

Loan facility?: Nope. But Certificates can be kept as collateral security to get loan from banks.

Withdrawal Facility?: Yes. If certificate is encashed within one year from the date of issue, only the face value of the certificate is payable. If the certificate is encashed after completing one year but before the end of three years from the date of issuing the certificate, an amount equivalent to the face value of the certificate together with simple interest is payable.

How to?: You can apply at a post office.

Here's an online NSC maturity calculator ↗

and here's some further reading ↗

D. Employees Provident Fund

You are probably already in on this. Read on to understand how it works.

There are several crucial aspects about EPF that many would not know. For instance, there are two elements to EPF - EPF and Employees' Pension Scheme (EPS). The 12 per cent employee contribution goes to EPF. However, the employer's contribution is divided in 8.33 per cent that goes in EPS, subject to a maximum of Rs 541 a month. The rest goes to EPF.

Features

Interest rate: Interest rate on EPF deposits for 2013-14 is 8.75% (as announced on Jan 13, 2014). The compound interest is provided only on EPF part. The EPS part (8.33% out of 12% contribution from your employer) does **not** get any interest.

13/04/2025, 11:10 r/IndiaInvestments

Tenure: You contribute till you retire and then get the pension. An employee is eligible to earn pension only on attaining 58 years of age, after completing 10 years of service. Or, on having contributed to it for 20 years. In either case, the pensionable service or number of years of contribution are increased by two years. For instance, one has attained 58 years and contributed for 25 years. Then, the pensionable service will be taken as 27 years. Or, if contributed for 20 years, then also it will be considered as 27 years.

Maturity type?: Lumpsum/Pension

Minimum and Maximum Investment: You can always invest more than 12% of your basic salary in EPF which is called VPF. In this case the excess amount will be invested in EPF and you will keep on getting the interest, but the employer is not supposed to match your contribution. He will just invest upto maximum of 12% of your basic, not more than that.

Tax Benefit?: Yes. The employer contribution is exempt from tax, while an employee's contribution is taxable but eligible for deduction under Section 80C of Income tax Act. The money which you initially invest in EPF, the interest you earn and, finally the money you withdraw after a specified period (5 years), are all exempt from income tax. Withdrawal from an EPF amount is subject to tax if it is carried out within 5 years of employment with the same employer. However, if you have not worked for at least five years with the same employer but the EPF has been transferred to the new employer, it is not taxed.

NRI Friendly?: Nope. It is applicable to employees working in India for Indian firms wonly.

Loan facility?: Nope. But you can withdraw.

Withdrawal facility?: Yes. But only in the following conditions:

1. Marriage or education of self, children or siblings
2. Medical treatment for Self or family (spouse, children, dependent parents)
3. Repay a housing loan for a house in the name of self, spouse or owned jointly.
4. Alterations/repairs to an existing home for house in the name of self, spouse or jointly.
5. Construction or purchase of house or flat/site or plot for self or spouse or joint ownership

These are all subject to various unique conditions each.

How to?: Well, your HR will take care of that.

Here is an online EPF maturity calculator ↗

and here are some FAQs ↗

Why You should not Opt for a Readymade Pension Plan

Perils of pension or annuity plans, or retirement plan mutual funds.

One of my friends recently met a smart young supposedly "IRDA approved financial consultant" who gave him an overview of investing into a **retirement plan** (and which was not a Ulip, in his words). I was merely an observer.

He gave him nice descriptions about the plan, and how that will be the best thing for his retirement and how he can then enjoy the best things in life automatically (only and only) if he invests in that plan. Awesome idea. Their fund management team had worked fabulously, and provided 15% returns on balanced funds (balanced funds = funds which can invest in both equities and debt). And implied in the response was that they will continue to do that for all the coming years. Great thing indeed again.

My friend asked "How much will this cost to me?". Sir, around 2.5% are the total management charges. Hmm. That sounds decent.

Next question "How much will I have to invest?". Sir, if you can tell us how much will you need, then we can tell you. Or you can mail us directly about that and we can get back to you with specific numbers. Fair enough.

After the talk, my friend asked for the brochure, and asked them to wait for his call after a week. In any investment plan, delay the hurry.

So here comes my **analysis from the Brochure**.

"In this policy, the investment risk in Investment Portfolio is Borne by the Policyholder". In big bright bold letters. *Inf= Ok. Good, they had told him but with an oral implication of 15% returns.*

Then comes a slew of good things and offers. Blah Blah.

"In this plan, your premium, net of premium allocation charges, will be invested in an **exclusive Pension Fund**. At the end of the policy term, you will receive higher of the following – Fund Value or Assured Benefit of 101% of all premiums (including top-up premiums). *Inf= So, the guarantee is what one pays over all the years. And they will add 1% to the total principal and return it as the guarantee. Even this is not free and comes with its own charge.*

Your maturity benefit will be used to provide you with **post-retirement income** i.e. an annuity which you have to purchase from us. *Oh.* The advisors had already told him that he can get UPTO 33% of that amount as cash, while rest has to be used for annuity or have to pay tax on that.

If there is unfortunate demise of the policyholder, then the nominee will get the **death benefit**. This is Higher of 1. Fund value or 2. Total premiums paid plus interest @ 6% per year. And of course, if the fund value is less than the alternative total value, then the company will deduct mortality charges, based upon the age of the policy holder (more the age, more will be the mortality charges).

Then there is a slew of different options, most of which I do not think I have any idea. Eg:

1. Plan your maturity age. How is one supposed to plan the retirement age, will it be 55,60,65 or 70.
2. Retirement needs. Which are extremely difficult to assess. Too many variables.

Investment Fund- The fund in this case is a single fund, which is a **balanced fund with a max of equity of 60%**. Actually, this is not a bad option for a short-to-medium term (say 8-10 years). But for a period of 20-30 years, this restriction is a bad option.

There is no information regarding the investment team (who are they, how many, how long is their experience, etc. How has the performance been).

Then there are standard clauses regarding the investment fund and benefits (which I have already enumerated above). One important thing is again, the investment risk is borne by the policyholder (which means, if the fund value goes down, ultimately it is the policy holder's responsibility only).

Some special considerations:

Policy Discontinuance- Upto 5 years, if the policy is not paid continuously, the money will get transferred to a Discontinued Policy fund, which will get a princely savings account interest rate of the biggest bank of India (SBI) – currently 4% - minus the discontinued policy fund charge of 0.5%. Amazing.

After 5 years, if one does not pay, then it will get an automatic surrender and the fund value will be paid back.

At Maturity: Apart from 1/3 of the fund value taxfree cash, I will HAVE to buy an annuity from this company (or probably from other companies too). The various annuity plans have different monthly/ yearly amounts depending upon the prevailing long term interest rates, type of annuity and the company's analysis of the policyholder's longetivity (again too many variables to even give a decent approximation). So, even if they look lip-smacking (7-9%) at current rates, they may not be so 10-20 years down the line. Let us analyze this a little further. A 7-9% annuity rate may appear to be good, but if you realise that the amount provided is FIXED for the term of annuity, then that means at an inflation rate of 7-10%, this FIXED amount will start to look small within 5-10 years. And I am not even speaking about 20-30 years down the line. The purchasing power will diminish rapidly later on and this supposedly decent amount will look like a small amount later on.

A Look at Charges:

1. Premium Allocation Charges. 2.5%. So out of every 100, 2.5 will be cut and never invested at all. Why? Do not know. Compare this to normal mutual funds – zero. Of course, this charge will continue for 1-10 years, and 11th year onwards, they will give me 102.5% of my premium. Which means they will add an extra 2.5% and invest that amount. Good. But a 2.5% cut in first year does not match with a 2.5% addition in later years. Then some plans are said to be for 10 years only. Even the top up premiums get a 1% deduction. Absolutely horrible.
2. Policy Admin Charges. 0.4% per month of Premium. So that means, about 5% (12x0.4=4.8) of the premium will be deducted in administering my policy over and above the normal fund charges.
3. Mortality Charges- If the fund value is less than the alternative mortality benefit (premiums @ 6% value), then a corresponding amount of life cover will be given and the appropriate mortality charges will be deducted.
4. Investment Guarantee Charge- An additional 0.4% per annum for guarantee. This is the charge for providing a guarantee of 101%. In all, a very bad charge.

Some of the charges are subject to alteration too with prior approval of IRDA.

Service Tax is another charge which is applicable to all charges (it really is a charge by the government, and not really the insurer's fault).

Take Away Points:

1. A pension plan is a complicated product with lot of ifs and buts during the buying period. And mostly lot of disappointments for later years.
2. Only 1/3 is taxfree in hand at the time of maturity.
3. Rest has to be used to buy an annuity. (Alternative is create a corpus other than a pension plan, and then use it to buy the annuity, if you really find the annuity options good at the time of purchase.
4. There are a lot of bad charges, which really do not give any decent advantages.
5. In this particular plan, since there are no alternative funds, one does not even get the "supposed benefit" of switching from equity to debt. (I must say, even that benefit is really very difficult to make use of. Invariably, you will tend to shift from equity to debt at low levels and vice versa).
6. Any guarantee will be charged. Any risk will be charged. Nothing is free. One needs to understand whether that guarantee / risk deferment is really worth the money or not.

Two advantages:

1. It is probably good for people who do not understand the basics of investing and want an emotional need to be satisfied by having a pension plan in their “portfolio”. And who have so much money, that even if their money is kept as cash, it can serve them easily.
2. This plan is still better than the completely opaque non-Ulip retirement plans.

I have specifically taken up the HDFC Life Pension Super Plus plan in this case. But, the basics of analysis will be same all across.

Addendum: Annuity is a plan, usually by insurance companies, in which you pay a single premium and then the company in turn pays monthly/yearly amounts to you for the rest of your life (single life annuity), or your life as well your spouse's life term (joint life annuity). This amount is mostly based on the long term interest rates & life expectancy of you (and your spouse). So if you are already very old, you will get more income, while if the long term interest rates are low, you will get less.

There is an option of increasing amounts (usually 1-3% per year).

There are some other options like cash refund (option to buy back), a fixed term of payments (like 10 years or so), etc.

check out LIC's plan ↗ for more ideas.

More details for understanding. http://money.cnn.com/retirement/guide/annuities_basics.moneymag/index.htm ↗

Studies of Long Term Portfolios and Retirement Withdrawal Rate Suggestions

When you retire with a large corpus, how do you go about withdrawing from that at a steady rate to sustain your lifestyle, while also letting the corpus grow? Here's what academia has to say on this.

This analysis gives you a basic idea about the historical and current perspectives of institutions which manage money on a large scale. And because the world economy is increasingly getting unified (as compared to past), these ideas will be applicable on a principle basis. Hence, this idea is important as far as the basic strategy is concerned.

However, how it applies tactically in individual cases and in an Indian context will be different.

eg. many people think that since we can get 8-9% tax-free and guaranteed on govt securities (govt backing is as close to guarantee as one can get), we need not think about all this 3.5-4.0% withdrawal rates. But they forget the basic difference between a nominal return of 8-9% versus a inflation-adjusted real return. After 10 years, the same 8-9% nominal return will not be sufficient AT ALL in most cases. A lot of pension plans also show you similar things and make the income *look big* but it is not so.

It really is a tough thing when you realise in these examples that even the best of the institutions with tremendous money power (and knowledge) cannot have a very high sustainable rate.

The various endowment reports studied:

I. Nobel Prize Committee Financial management Link ↗

The real return (above inflation) expected from the fund is 3.5% (while they plan to use 3.0% at least yearly). They have considered an allocation of 55% (+/- 10) to equities, 20% (+/-10) to fixed income and 25%(+/-10) to alternative investments (including hedge funds and real estate).

II. Yale Endowment Portfolio Management Link ↗

They expect a real return of 4.5%. The main difference from above is that they indulge in lot of alterative assets and active management strategies (with alpha). A good case in point was in 2008 period, when they went too far in their strategy and were having a negative 1.5-2% in cash, and suddenly during the crisis, they were in a severe bind. So now they have corrected that part and keep a decent amount of cash with them.

III. Norwegian govt sovereign fund Analysis Link ↗ They expect a return of 4% and unlike the endowment funds, they do not put anything into alternative asset classes. They follow simple 60:40 rule with regular rebalancing and following cost-effective strategies (read passive investing).

Many of the online calculators have used 4% as a reasonable withdrawal rate for 30 year periods using Monte-carlo calculators. However, based on various rolling data periods of actual market returns for US equity markets, a 4% withdrawal rate will not sustain for 30 year periods in 30-40% cases (whatever be the asset allocation). At 5% withdrawal rate, the failure rate over 30 year periods increases to 40-55%. While at 3.5%, it falls to <10% unless one is in 100% bonds or 100% equities.

Why Monte-carlo is not the right thing? because the random number generation in those simulations is normal distribution curve related (while the actual returns are never like those).

Why US equity market data? Since that data is long and reasonably good and since it is the most important economy in the increasingly globalised world, it mirrors capital markets to a large extent.

Do-It-Yourself Retirement Plan

A basic DIY retirement plan that's easy to execute and works for you

Using concepts outlined in following links

A simple Financial Planning Roadmap

Basics of Investment Strategy Plan

Basket 1. First ascertain, how much money you need in next 2 years (2 years expense including discretionary and non-discretionary). Put this amount partly in Bank account (obviously with an ATM/debit card), and rest in short-term / ultra-short term debt mutual funds.

Basket 2. Now ascertain an approximate amount of money needed in next 3-4 years (This is just an approximation again). Keep this amount into a dynamic bond or income fund.

Basket 3: The rest of the money, keep in different assets. For simplicity sake, use a 50:50 equity / debt allocation and keep money in a single debt income fund and a single well-managed conservative equity fund.

Methodology:

1. Use SWP (Systematic Withdrawal Plan) to withdraw the monthly requirement from the short-term fund (Basket 1).
2. Every year, recheck things on the same basis, namely, ascertain next 2 years, then additional next 3 years and then the Basket 3 allocation level. Use switch to remove money from baskets 2/3 into basket 1, as per the requirements.
3. If the allocation levels in basket 3 are way out of proportion, remove money from the higher allocation amount into the other baskets or into the other fund.

Eg 1, you started with 50 L in basket 3 and allocation 25L each in a debt and an equity fund. In next year, your amounts changed to 30L in equity (an increase of 20%), while the debt fund increased to 27L (8%). Plus, you have a deficit of 2L in baskets 1 and 2 according to your calculations. In that case, you should remove 2L from the equity fund into baskets 1 and 2 as per deficits.

Eg 2: If next year, the equity fund decreases by 20% to 20L, while the debt fund increases to 27L, and you require 2L again. In that case, you remove 2L from debt fund, and you transfer 2-3 L from debt fund to equity fund to re-balance the 50:50.

Why not a Pension Fund?

1. Because of numerous charges, which are not beneficial. Check Section 2. After all, you just need to invest into a debt or an equity fund, which are easily available elsewhere.
2. The lock-in of pension funds does not add into the overall return. On the contrary, the loss of liquidity in such plans is a double whammy. You lose liquidity as well as returns.
3. At the end of these plans, you have to buy annuity from the insurance providers, otherwise, you risk paying a lot of taxes (At present, 33% is tax-free as cash to you, but the rest is not tax-free unless you buy an annuity).

Why not opt for an Annuity?

Annuity is basically a way of converting a corpus of money into regular income for the retirement years. There are different types of annuities available, though, the variations are very less compared to those available in the west.

Additional Points:

1. Annuities are taxable. They are treated as income and accordingly, applicable taxes as per the amount.

2. Presently, they invest mostly in debt products (probably, since the structure of most of these products is not transparent). The rates are anywhere from 5-9.5% depending upon various options like return of premium, joint life plans, etc.
3. Biggest problem is 'the annuity amount is fixed'. So, x amount maybe good for next 1-2 years, but after 5 years, the same x amount will be inadequate, assuming you want to maintain the same lifestyle.

More reading and analysis here ↗

Another method by the Same guy here ↗

Additional advantages of DIY Pension Plan?

1. The use of SWP in a debt plan is treated in a better manner than other options (including senior citizen FDs).
2. The presence of Equities should help in having above inflation returns over a longer time frame.
3. The entire corpus remains in your name, and it can be transferred to whoever you want (children, grandchildren, etc). And not to the insurance company.
4. Keeps the liquidity and flexibility of your own money in your hands. In case of emergency, you can use your money.

What are the Disadvantages of a DIY Pension Plan?

1. It makes you responsible to maintain the entire stuff.
2. It is a bit more complicated to understand and do, particularly for elderly. So, mostly this will either require some assistance or a web-savvy elderly person.
3. If one starts looking at individual components of basket 2 and 3, then it can happen that in some years, the valuations of those individual funds can change drastically, mostly of the equity fund, and that can create emotional issues and lead to panic selling. Also, the individual funds may not be or remain 5 star funds in very month/ quarter or year. One just needs the funds to give you proper exposure to the desired asset class, with reasonable management fees, and with a decent performance (which may or may not be the best performance).

Personal Finance

WARNING: This section of the wiki needs an overhaul and the information presented in this section may not be up to date or reflect the current state of affairs. However, the concepts presented in this section should still hold true and valuable.

If you're interested in making this section better, send us a message on our Discord server.

Marriage and Finances

Financial Considerations/Compatibility before Marrying ↗

See this section on /personalfinance ↗.

What if would-be is a spendthrift? Some ideas ↗. For the 'interview' mentioned in the article, also see this example questions to consider ↗. Another article ↗ on financial issues and marriage.

Additionally, this ↗ article on things to discuss, and this ↗ article on deal-breakers.

Behavioral Biases

Links to Reddit Posts and Articles/Books

WARNING: This section of the wiki needs an overhaul and the information presented in this section may not be up to date or reflect the current state of affairs. However, the concepts presented in this section should still hold true and valuable.

If you're interested in making this section better, send us a message on our Discord server.

Behavioral Biases

Framing ↗
The Keynesian Beauty Game ↗
Loss Aversion ↗
Loss Aversion - 2 and the Value Function ↗

Recommended Read - Peter Bernstein Interview ↗
The Holy Grail of Investing post ↗

Specific Behavioral Finance / Economics Books

1. Thinking Fast and Slow - Daniel Kahneman
2. Predictably Irrational - Dan Ariely
3. Behavioral Investing - James Montier
4. Nudge - Richard Thaler
5. Austrian Economics tries to explain the reasons, non-mathematical, behind Behavioral Economics. A free pdf ↗ of Man, Economics and State, with Power and Market by Murray Rothbard.

ELI5 Series

WARNING: This section of the wiki needs an overhaul and the information presented in this section may not be up to date or reflect the current state of affairs. However, the concepts presented in this section should still hold true and valuable.

If you're interested in making this section better, send us a message on our Discord server.

Time Value of Money

Time value of money implies that rupees paid or received in the future are different from the rupees paid or received today.

This is one of the most important concepts in finance. It implies that rupees paid or received *in the future* are different from the rupees paid or received *today*. It is easier to understand that ₹1000 in your wallet today is worth more than ₹1000 in your wallet 5 years in the future. This is because you can invest that ₹1000 in your savings account and earn interest for 5 years and get more than ₹1000 5 years later.

There are 2 types of calculations which answer 2 different questions:

1. What will be the value of an investment (or a series of investments) after a certain period of time? This question asks about the *Future Value*. Basically how much will be the *Future* value of the investment. Eg. You have ₹1000 rupees today, so the Future Value will give you the value of 1000 rupees after a certain amount of time (=future).
2. What will be the investment (or a series of investments) needed today (present) which would provide a target amount at a future date? This question asks for the *Present Value*. Eg, if I want ₹1000 after 5 years, what would be the amount (called Present Value) which I would need to put in today.

Two types of Interest Calculations:

1. Simple Interest – SI = P x R x T, where P= principal, R= rate of interest and T= time in years. So, if the bank account gives you 4% (=R) and you put ₹1000 (=P) for 5 years (=T), the interest would be (1000) x (4/100) x (5) = 200. And you will get 1000 (the principal) and 200 (the interest) after 5 years = 1200.
2. Compound Interest – in this each year's interest also starts to get interest like the principal (if compounding is yearly).

Year	Principal	Rate of Interest	Interest at Year End	Total Value at Year end
1	1000	4	40	1040
2	1040	4	41.6	1081.6
3	1081.6	4	43.264	1124.86
4	1124.86	4	44.99	1169.86
5	1169.86	4	46.79	1216.65

Due to the effect of compounding, one would get ₹16.6576 more than what one would have got with simple interest. This looks small, but compounding has great effects over long periods of time.

Eg. For a period of 35 years, an 8% simple interest on ₹1000 would give you a total of ₹3,800 (1000 principal and 2800 as interest). With compounding, you would get ₹14,785 (1000 principal and 13785 as interest). A 5x difference.

Future Value of a Single Investment

FV = (Present Value of Money) x (1 + Rate of Interest) ^ (number of years). For our example of 1000 kept at 4% for 5 years, the calculation would be: FV = (1000) x (1 + 0.04)^(5) Or, FV = (1000) x (1.04)(1.04)(1.04)(1.04)(1.04) Or, FV = 1216.

Future Value of a Constant Series of Investments The excel formula of FV is there for this calculation. A decent web Link ↗.

Eg 1: if you put ₹10,000 per year @ 8% interest rate compounded yearly for 35 years, how much would you get? Ans. ₹ 18,61,021.

Present Value of a Single Amount If you want to have ₹1000 after 5 years, how much money do you need to put aside today if you can earn 4%. This is the reverse of the calculation of FV. PV = FV *divided by* (1 + interest rate) ^ (number of years) PV = 1000 / (1+0.04)^5 = 821. This means that the value of ₹ 821 today is the same as ₹ 1000 after 5 years, if we can earn a 4% return on our money.

Present Value of a Series of Investments

The excel function PV would be helpful in this. A weblink

Important Points to Remember:

• The value of money changes with time because it can be invested and earn an interest.

• The longer the time frame, greater would be the difference between the present value and the future value.

Inflation

Basics

Inflation is the rate of rise in the general level of prices. It is measured by the changing cost over time of a "basket of goods and services" for a typical household. In other words, the rate of rise is calculated for multiple things and services and an average value is provided. Important phrases:

1. Rate of rise- it is a rate of rise (like in physics, it is rate of change of velocity aka acceleration). So, even if inflation rate is getting down (like in the past few months), the rise may still be there. Only when the inflation is 0% or negative will the actual prices be stable or go downwards.
2. Basket of Goods – The price of some goods may rise while those of others may fall, so an average *weighted* value of increase (or decrease) is calculated officially.
3. Typical household – Presently, there is a typical rural and a typical urban household which have different weightages to individual components.

The weightages in CPI are as follows:

Sub Group (New CPI)	Rural	Urban	All India
Food, beverages and tobacco	59.31	37.15	49.71
Fuel and Light	10.42	8.40	9.49
Clothing, bedding and footwear	5.36	3.91	4.73
Housing	0.00	22.53	9.77
Miscellaneous	24.91	28.00	26.31

Types of Inflation Indexes:

1. Wholesale Price Index (WPI) - this is the index of the prices of a basket of goods and services at the **wholesale** level. For practical purposes, this is useless for us. Although, it can be considered as a leading indicator (=leading means it will move earlier than CPI).
2. Consumer Price Index (CPI) – this is the level at the end-consumer level. This has 3 subtypes- Rural (for the typical rural household), Urban (for the typical urban household) and Combined.

Implication of **Typical household:** Like any average across things with vast variance, a "typical household" would usually be very different from a particular household's experience. In case, your own expenses are 40% towards rent, 20% towards food, etc. instead of the 22% and 37% of the official typical urban household, your net total inflation would be different from the official CPI figures. By choosing to change the weightages, you can influence the inflation applicable to you.

Therefore, CPI has to be looked for the trends and an approximation of the inflation, rather than directly applicable to you. For accuracy, you would have to take into account your particular way of expenditure.

Wage Inflation: If you think that your salary (or income) should increase every year by 10%, then you can expect the overall inflation to be in that region too. While, if you see that the overall wage increase is pretty low or non-existent, the overall inflation would tend to be lower. Wage increase comes under the Services section as mentioned above. This is true for an average point of view. Some sectors may have higher wage inflation while others may have a lower one. *The important thing to remember would be that if your Wage increase is higher than your household's particular inflation figure then you are ahead.*

Implication for Investing

Inflation acts as a treadmill. If an investment is not running at the speed of the treadmill, it will start lagging. The larger the difference, more will be the lag. Another way to visualize Inflation is to think of it like a Negative Rate Bond and has to be applied to every type of investment / savings scheme. An 8% return with an inflation rate of 8% means that the investment is running exactly at the speed of the treadmill. So, you may be running fast but your overall movement to an outside viewer is Zero. Applying the negative bond way, the net **Real Return** is 8%-8%=0.

Real Return = Nominal Return *minus* Inflation, where Nominal return is what is told everywhere. And the real return is what is really applicable.

For very long periods of time, the following has been observed (it may or may not hold in the future though).

Asset	Real Return	Nominal Return with Inflation @ 8-9%	Nominal Return with Inflation @ 1-2%
Cash or Liquid Funds	0-0.5%	8-9%	1-2%
Long Term Bonds	1-2%	9-10%	2-3%
Equities	3-4%	11-13%	4-5%

In the short and medium terms, all these returns can be very irregular (better term is Volatile).

Inflation tends to inflate the nominal returns of most asset classes in the long time frames. In periods of high inflation, all the asset classes produce higher *nominal returns*. And in lower inflation, asset classes tend to produce lower *nominal returns*. You should always be concerned about the *real returns*.

Life Insurance

Step 1: Whether you need it or not?

Anyone whose death will cause financial trouble for near-and-dear ones should get a policy. In case, you find that you have enough Assets to cover up their needs, as per calculation in the next step, then also you don't need to have a policy.

Step 2: How much you need?

The Needs based approach:

1. Income Replacement Needs – What are the annual expenses of your family? Multiple by 20 (this would mean that they can get by a 5% yield).
2. Debt Repayment Needs – If you have home loan, car loan, credit card debt (=this is really dumb, if you have it), or any other kind of loan, add this amount.
3. Education Needs for Kids – School and College education amounts (take help of the Time value of money article ↗ to have an idea of the Present Value of that goal).
4. Any other major expenses like marriage of kids or even your spouse (why not!).

Add all of the above values. Subtract your present value of Assets from the above. The final amount left is what you should cover by using a life insurance policy.

STEP 3: Which one to buy?

Term Insurance. Online. Period.

If the policy has anything else in its name – reject. Only Online Term Insurance (Redditors should do that only). Buy Term and Invest the Rest.

STEP 4: Which company to use?

Presently, every major company has an online policy. If you like govt of India, you can go ahead with LIC. Otherwise, you can have ICICI, Aegon, HDFC, SBI, Kotak, etc. Compare the insurance premium and choose the reasonably cheap.

Important Points to Remember:

- Declare everything as per the form correctly. If they ask you "have you had any surgery in the last 5 years?" and if you had a surgery on 5.1 years ago, you should write No.
- Be honest in all the answers.
- If they ask for a medical examination, get it done.
- If after the medicals, they load up based on xyz reason, either pay up the higher premium or decrease the cover of this policy (you can take another policy later on).

More details are there in Wiki ↗, but mostly you would not need it.

This is a Must Read Post @ Subramoney ↗.

ELI5 guide to Selecting an Equity Mutual Fund

Step 1:

Identify the Category of fund needed.

The categories ↗ would fall into:

1. Large Cap fund
2. Flexicap fund (depending upon the manager's decision, this fund can become a large cap or a predominantly mid/small cap fund)
3. Mid and Small cap fund
4. ELSS

This step is decided by you, the investor. *And it is the most important step.*

Step 2:

Goto Morningstar.in Analyst Rating Reports section. Link ↗, and select your category of Step 1.

The Gold and Silver are the topmost qualities (and are equivalent). Bronze is slightly lesser (Use this, if there are no or only 1 gold/silver). Neutral is kind of *neutral.* Negative should be rejected.

As an example, I chose ELSS. I find out that there are 8 funds listed in there. There are 2 Silver and 1 Gold rated fund.

Step 3:

Open the individual funds in separate tabs, and in the **Risk & Rating tab** of the fund (the various other tabs in each fund are overview, portfolio, detailed portfolio, performance, history, factsheet, analyst research). Go down, skip everything, and look at the **Downside and Upside capture ratio.**

For the 3 funds selected above, the ratios are:

Fund	Downside Ratio	Upside Ratio
A	70-80	95-128
B	80-83	106-126
C	80-96	101-137

The lower the Downside Ratio, easier it would be to hold it for a longer period. So, in this series, A is better than B, which is better than C.

If the Downside ratio is nearly equal, look for one with higher Upside Ratio.

Step 4:

Open the Analyst Research tab again, and look at the **Parent Company point** in the sidebar. You should be looking for the *Best Asset managers* tag. In this case, all 3 have that tag, so the final ranking would be A>B>C.

If suppose, A has good / average asset managers tag, while B, C have best tag, then B>C>A.

More points:

1. No need to look at the Stars (they are not important). Reasons HERE ↗.
2. Whenever you need to check the status of your funds, recheck this way.
3. You can *actually* read the research report to have more details. There are historical reports too in the Archive tab, if you want to go through the past reports.
4. If you don't like Morningstar, and want to do all this yourself, check out the Expanded Guidelines ↗.
5. An earlier Short Guide ↗.
6. FAQs for Mutual Funds here ↗
7. This guide does not let me give me the fund which my friends / agents have told me and has given 80%/120% return in 1 year. Have a look at this series ↗.

How do I start investing in mutual funds [ELI5 series]

So, you have thought about investing in mutual funds but don't know how to start. Congratulations, because getting started up is the hardest part ↗.

For investing in mutual funds, you will have the following options:

A. Invest through an agent. They can be individuals, someone living close to you, OR they can be big institutions like banks or Fundsindia.

- The advantage is that they will do everything from their own side and you will just have to sign few papers and that is it.
- Disadvantage is that you will be investing into regular plans of the mutual funds and lose out on the cost benefit of the direct funds. The regular funds pay back some fees directly to the agent.

Steps: Call your agent and sign the forms.

B. Invest directly with the AMC.

- Advantage is cost advantage.
- Disadvantage is that it can be a bit tedious. I mean just look at those steps.

Step 1:

If you are first time investor then you will have to fill up **two forms** and **a cheque**. I will advise you to select a single fund to start up the process and then add more funds as per your needs. So, start with a basic equity fund and with 5k amount (the minimum needed to start up) and then start your SIPs later on.

If you are ok, then you can start up the SIP from the word go too. That will add up one more form (I mean 3 forms).

Form 1: KYC form -

1. You will need an identity proof - use PAN card - self attested.
2. You will need an address proof - use any of the available one.
3. Get the intermediary seal-stamp from your banker/RM/Personal Manager. No need for any agent (although they are allowed to do so). On the form as well as the address proof.
4. You will need to do an IPV (=in person verification) at the AMC/CAMS/Karvy centre, so you cannot send by post.

   Any future change in KYC details will have to be done with IPV mostly.

   The bank details will be set according to the first form you fill. If you need to change / add another bank account, you will have to send by post, a cancelled cheque and the relevant form.

   Call the AMC's toll-free number and clear your doubts, if any.

Form 2: Common Application Form for Equity funds – you can get a copy from the local centre or you can download and print the relevant pages (not the whole thing).

STEP 2:

Get the forms and a cheque to the local AMC office / Karvy / CAMS centre and submit. Don't forget to tick mark the online access section and give your email id and mobile number. Do call up their toll-free number to confirm the documents needed before going there. I have never been able to get things done in a single go – try to break that record.

STEP 3:

Once your account has started up and you have been allocated the units of your mutual fund, start the online access. In most cases, they will send a physical PIN/HPIN/Password in post, which may take 7-10 days, but once you have got that, investing will become very easy.

Once you are an existing investor in any mutual fund company, you can start a new fund just by filling up the form with a cheque. No need to do KYC again (till SEBI re-requires it – they are pathetic sometimes.)

For Franklin Templeton AMC, you can have a look at this page ↗.

EDIT: A recent article from ValueResearchOnline on the same subject - https://www.valueresearchonline.com/story/h2_storyview.asp?str=28708 ↗

Things to Note:

- When one opens an account with an AMC, a **folio** is assigned to the customer.
- Often, direct and retail plans can be purchased through the same folio. So, you could, in theory, open an account + folio through an agent. At a later point in time,
  - when you are comfortable doing your own research in selecting the funds,
  - when you are knowledgable in reallocating your assets among funds,

  you could invest via the direct plans through the same folio. There are a few exceptions - sometimes you may need to open a new folio with the same AMC. Franklin Templeton India may require you to do this, if your bank account is not captured correctly in the folio; your agent/distributor may have used a separate account during registration for handling payments and redemptions.
- KYC is a one-time activity. Once you complete the rather laborious KYC process, your PAN number is registered in a central database at one of the KRAs (KYC Registration Agency). Opening an account in a different AMC does not require a repeat of the KYC process. You may be required to provide proof of KYC completion, so if you receive a KYC letter from any of the KRAs - NDML, CAMS, Karvy etc., ensure you store it safely.
- If you don't receive a physical copy of the KYC letter (especially if you applied through an agent and didn't receive one), you could ask the KRA for a digital copy. As far as I know, NDML provides one, if requested.
- The physical or digital copy of the KYC letter may not be required during subsequent account openings - some AMCs verify the KYC status during registration, with the KRAs. Some AMCs are now allowing for online registration of accounts with no submission of documents, provided you completed your KYC. But others may not be well integrated with the KRAs.

Mis-selling of Insurance Products

This is going to be long. But you asked for details. And you may not be the only one, and some may be newbies. This is meant for absolute laymen. Fire away questions if necessary.

When you start off investing, unless you already have knowledge about various instruments, you are likely to get fooled. And you are more likely to be fooled by the people who already have knowledge about your purchasing power i.e. your bank.

In India, banks are allowed to act as distributors for various investment products, including insurance schemes and mutual funds. There are cases where investors register a loss of principal when exiting insurance schemes. A similar loss of principal from mutual funds through the same modus operandi is less probable. You can argue that people can be suckered into buying equities when they are at a high, but still this cannot be compared in scale to insurance products masquerading as investments. After all, with insurance products, you get a free look-in period of 15 days to return the policy and get your money back. The performance of the product won't be visible to you, until much later. For an investment that is not liquid (holding period is often 3 - 5 years at a minimum), you end up in a situation where you are trapped with the product. You are then left with a few choices:

- discover how you got trapped, and whether you can complain to the company to recover your money. This was the subject of the article (more on this later).
- eat up the cost of surrendering the policy, and get back a smaller portion of your principal
- wait out the minimum period to surrender the policy at no cost.

Complaining doesn't work, since there are crafty ways to fool the gullible into purchasing such accounts leaving little or no trace behind that the buyer was suckered into it. Remember that most Indians don't have the required financial knowledge. The regulatory authority for these instruments is IRDA and not SEBI (unfortunately), even though investments are made by the insurance companies eventually in the capital markets regulated by the latter.

I'll cover the initiatives SEBI (and to a certain extent, the fund houses and AMFI) has brought forward in the recent past (5-10 years) to protect investor interests, because to understand how backward IRDA is, you need a reference point. SEBI has undertaken steps to ensure that the performance of the investments in the capital markets can be tracked in a transparent manner, and that distributors are not incentivized heavily to get investors to part with their money (except for closed ended MFs, but that too may change in the future). I'll call out certain features of MFs, some of which are notable in the Indian market because of SEBI -

- the schemes are color coded to distinguish the amount of risk involved,
- the brochures, KIM and SID contain sufficient information on where the investor's money goes.
- the performance of the fund can be tracked daily. Fund houses are required to update the NAVs by 10 AM the next working day.
- the holdings of funds are published in detail periodically (every month in some funds), so you know what the fund manager is doing with your money.
- front-loads are banned, so practically all your money gets invested upfront in the fund, except for the expense paid to the distributor, the fees to the fund management team, and brokerage charges
- the total expense ratios of funds are known are distributors are often required to disclose how much they collect in commissions when you invest in a fund.
- funds must have a benchmark against which their performance can be tracked. With the current tax regimes, funds have to perform every year; often investors prefer that the funds meet or exceed the returns from the benchmark. With the current exit loads of most MFs, exiting a poor scheme doesn't penalize the investor a lot in favor of the fund; you don't see exit loads like 10% or so.

Now, when it come to IRDA and insurance products sold as investments, the story is quite different. IRDA resides in an era where the investors are expected to read and understand every item printed in fineprint in the brochure. It is down to the investor prepare a mental model of the investment and commit to the investment for a duration lasting several years, failing which the investor should be penalized. The insurance industry is beyond reproach. When you are presented with investor-facing documents on ULIPs, endowment plans, traditional policies, you'll notice the lack of transparency in these instruments:

- comparing the performance of the insurance fund with a benchmark is downright difficult if not impossible. Usually the comparison is made between the benchmark and the money left for investment after deducting charges (aka a portion of your premium depending on how many years have passed). Coming back to MFs, you don't see funds even trying to pull this trick when it comes to disclosing fund performance.
- then there is the problem with the charges themselves. You have a premium allocation charge which is deducted upfront (a portion is allocated for distributor commissions), mortality charge and policy administration charges for insurance, and finally fund management charges for managing the investment. Let's not forget service tax and cess. All of these work to reduce the principal invested in the markets. And then the surrender charges which hangs like the Damocles sword on the investor, forcing him to either forfeit a portion of his principal or have his money locked up for a period of time.
- the projections on returns are made in a very simplistic model. Even though the underlying investments are made in capital markets, the projections themselves are drawn up assuming the markets will grow in a straight line graph (at 4% or 6%; the projections are capped at 10%). Ask yourself whether any financial instrument has behaved this way. Your first premium may give 5% in the first year (after deducting charges), your second premium may give -10% (after deducting charges), because the markets would have given 5% and -10% respectively.
- who manages the fund, the analysts involved in the fund and their track record and the investment philosophy of the fund.

Now, where does it start to go wrong for investors?

- Investors who start looking at new instruments after seeing miserable inflation-adjusted returns from the very simple savings bank accounts, FDs and RDs, are often pushed these instruments, on the premise that they are safe with no risk (hey, it's insurance).
- Most are scared of equities, because of advertising. Insurance ads paint themselves as guaranteeing safety (hey, it's insurance). SEBI forces TV ads to report that "Mutual funds are subject to market risk. Please read the offer document carefully" (often blurted in a manner to plant suspicion XD). IRDA doesn't require them to mention market risks (what luck). The stage is set to push insurance as investment.
- Distributors and agents can engage in variety of tricks in the selling phase. Products can be missold with agents/distributors stating that the investor can stay invested only for 5 years, when in fact the brochure itself mandates that payments be made for 10-20 years. The catch here is that the investor can surrender the product after 5 years, and thus can be misstated as "needing investment for only 5 years". There are several more tricks, but too long to list here. Basically, it is a free ride for anyone wanting upto 25% commission ^* ^(see ^reo_sam's ^comment ^below) on the first year's premium amount; the amounts reduce over subsequent years. There is a reason why they are loathe to sell pure insurance (term insurance) products to you - they don't get a lot of money out of it. When you pay a 1L premium, chances are 10-25k is paid to the distributor (the agent selling the plan to you employed by the distributor would get his cut). This is a very lucrative model. What could go wrong?
- Premium allocation charges are very high in the initial years, ensuring that a smaller portion of your principal is invested. They are not satisfied with the returns, and end up attempting to withdraw their money. But then, they would be hit by a surrender charge as well, ensuring that the IRR (internal rate of return) of the investment is negligible or negative. A negative IRR may force investors to stay invested longer instead of getting out faster. And the industry washes this off as standard practice to get investors to stay invested in the long run; you don't see this conducted on an industry wide basis for MFs. Throwing good money after bad is apparently great behavior to some, but they don't practise the same - how often do you see the insurance product manager investing in his fund. You'll however see MF managers and employees investing in the same schemes run by them or the same fund house.
- Recovering money locked in an investment is tough. The combination of surrender charges, and the onus of proving misselling that falls entirely on the investor means that he incurs a combination of principal loss and opportunity cost. This is why the article mentions that everything the agent or distributor says must be taken in writing (as proof). Otherwise the company can simply wash off its hands, until the matter goes to court.

Misselling in insurance is basically a case of complex products (insurance and investments packaged into one complex product), incentivized to be sold to investors who may not be able to distinguish it from the simple products that they are accustomed to, with insufficient opportunity to back out from the investment (high surrender charges and price shock in a period occurring much later in the product lifecycle).

Reddit Link: https://www.reddit.com/r/IndiaInvestments/comments/2z7al6/letter_to_a_customer_buyer_beware/cpgffza/ ↗

BEGINNER'S GUIDE TO INVESTING

Zero To Investing

The four part series of Zero To Investing for Beginners

The First Step - Emergency Fund

The First Step in the Zero To Investing Guide For Beginners

The Final Step - Mutual Funds

The Final Step in the Zero To Investing Guide For Beginners

Contributors Section

How Can I Start Contributing?

A step-by-step guide on how to contribute to the India Investments Wiki

Welcome 👋

If you're reading this, we can't thank you enough 😃

It's our pleasure to have someone as interested as you going through this. It's ok, it might seem overwhelming at first, but everyone has something to offer.

This section is for contributors who plan on taking part, in creating and maintaining our wiki & FAQ content. You can write content, review content created by others, or check for spelling or grammatical errors. No contribution is small. Every drop matters, that go on to form oceans.

If you wish to work on technical side of things (Discord / GitHub automation and other cool stuff), then this document is probably not for you.

Who are we? 🧠

Yes yes, you're thinking *well, duh, if I'm here I know who you are!*, but we do need to address the elephant in the room and set clear ground-rules.

We're a bunch of anonymous internet surfers who decided it's time retail investors have access to decent guide on all things investing. That's all.

Why anonymous? Because we (well, some of us) value our privacy, and don't have any plans of creating a cult of persona around ourselves.

We aren't registered with any regulatory body, like SEBI, or even AMFI. We don't represent any financial institution. In fact, you should assume, unless explicitly stated otherwise, none of us have any formal financial background.

Most of the time, we hang out in r/IndiaInvestments ↗, or its Discord server ↗.

If these all seem vague details, keep in mind that our hands aren't tied by business interests. This project is being built as a non-profit open-source project, because we feel that most for-profit businesses would intentionally omit information that could be important for making financial decisions.

Banks and insurance companies haven't exactly done a great job at educating the retailers in this process, and that's quite an understatement. Studies show that Indian households have collectively lost $28 billion ↗ (archive.org link ↗ | archive.is link ↗) simply by falling victim to financial mis-selling.

Think of this project as a way to bridge this *information asymmetry.*

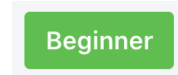
There might be other documentations and guides out there for some financial guidance; but to the best of our knowledge, nothing exists with such lofty goals!

How do I start? 🚀

Head Over To Our Public Task Board

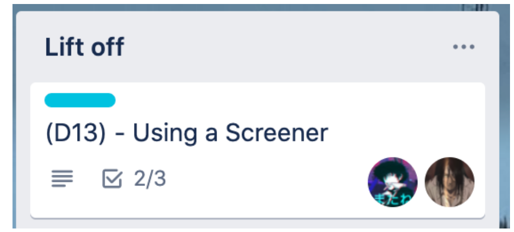
It's hosted here on Trello ↗

Here, you'd find some cards labeled as *beginners* (green tag) ↗. These are ripe for picking!



This is how a Beginner label looks on our Trello board.

Alternatively, find a column that has `Lift off` in its name. It's all the content that's been undergoing review right now.



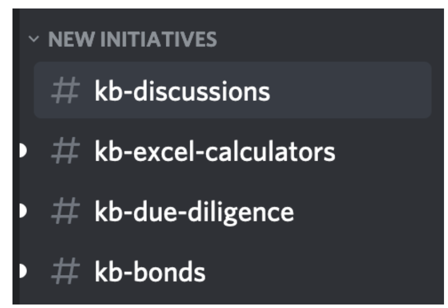
Lift-off column

If you've decided on how to contribute - reviewing existing content, or adding new content; head over to next section.

Find The Owner Of The Card

A card represents a unit of task. One of our core-team members would be tagged on that card, with display name / profile pic visible on it. This is the contact person for that card or the underlying task. If the card doesn't have any owner yet, no worries!

Head over to our Discord #kb-discussions ↗ channel, and share the card you wish to work on.



The kb-discussions channel is the one you need!

Someone there will guide you on what's required to complete that task, what has already been done etc. Once you've full context of all relevant work that has been done, or needs to be done, you'd be in a better position to contribute.

Using The Right Tools

If you plan on writing content, you can use any of the following tools for composing content:

- MS Word ↗
- Google Docs ↗
- Notion ↗

- GitBook ↗

If you're comfortable with Markdown and can handle more tech oriented tools, you can use

- HackMD ↗
- VSCode ↗ / Sublime Text ↗ / Atom ↗ editors with Markdown plugins
- Neovim ↗ / Emacs ↗ editors with Markdown plugins, if modal text editing is your thing or if using a text editor like an OS sounds appealing to you

Use any of the above tools, as per your convenience, to create and share an early draft with us. Use the Discord channel mentioned above for sharing this. The owner of the card / task would take care of entering it into our repository, and you'd receive public credit for this work.

It would help if you can create an account on GitHub ↗ and share your GitHub profile name with us (we highly recommend creating one, although it's not mandatory), so that we can give you recognition for your contributions to our wiki ↗.

Your first few contributions would have to be merged to our wiki following this process. When your content is being reviewed, you'd receive comments with suggestions for improvements, if any. If your contributions meet the bar, and you seem engaged enough, we'll send you an invite to join our team and work with us directly on writing the wiki.

Advanced Contributors ✨

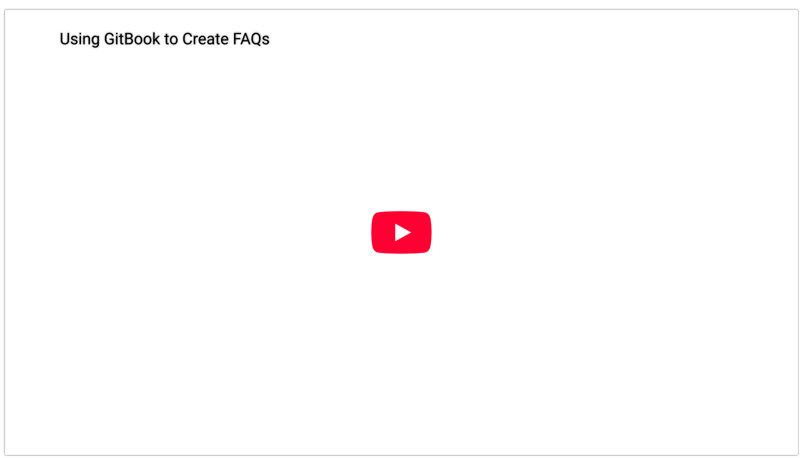
This section is not for every contributor. It's only for those whom we've invited to join our team.

We're Using GitBook

Once you get invited to join our team, it's expected that you'd put in some effort to understand how to use GitBook, what to do in it, and more importantly, what not to do!

GitBook has fantastic documentation ↗, that you can refer to, if you have any specific query along the lines of *how to do X in GitBook*.

We've made a small video that you can watch, to get a glimpse on how you can create and view content on our wiki, using GitBook.



Using Markdown and Git

You'll have to know how to use:

- Markdown markdown is probably the most widespread markup language used for writing documentation on the Internet and it's easy to learn ↗
- Git & GitHub you don't need to be proficient at using Git and GitHub, but it's appreciated if you know how to use them and do basic things like forking repositories and raising pull requests

Once you've gone through the above, you'd be ready to help other contributors, especially beginners, *shipping* their contributions 🎉 ↗🥳 ↗

Parting Thoughts 📚 ↗

Contributing to build a knowledge-base can be rewarding, often in unexpected ways. If nothing else, you get more clarity around your own understanding of some aspect of investing.

What is a Contributor License Agreement and why are we using it?

The reasons why we're using a contributor license agreement, prominent examples of contributor license agreements being used, and a human readable summary.

A **Contributor License Agreement** explains the terms under which intellectual property, in any form or manner, is contributed to a company or a project.

Why do we require a Contributor License Agreement?

As we started getting contributions from various members of the India Investments community, we realized that we needed a Contributor License Agreement (CLA) to clarify the ownership details of the contributions being made. We cannot afford to have ambiguities about the ownership of the content being incorporated in our wiki, both for the sake of the contributors, and our wiki itself.

The presence of a CLA eliminates any ambiguities or uncertainties about ownership and allows both users and contributors to confidently use our wiki.

Examples of a CLA Being Used

A CLA is often used by software companies or projects but can be used by any kind of project which accepts contributions from a community. Here are some prominent examples of a CLA being used.

- Google
- Microsoft
- Facebook
- HashiCorp
- Ubuntu (Canonical Ltd)

A Human Friendly Summary of our CLA

This is a human friendly summary of (and not a substitute for) the full CLA linked below. This section highlights only some of key terms of the CLA. It has no legal value and you should carefully review all the terms of the actual CLA.

- **grant of copyright license** - you give India Investments permission and a **non-exclusive** copyright to use your work in any form or manner. This means that you retain the ownership and copyright over your contributions but we, India Investments, also retain a non-exclusive ownership and copyright over your contribution. Both parties may use the contribution as they see fit without any restrictions or requirements.
- **legal entitlement of contributions** - you agree that you are legally entitled to grant us a copyright over your contributions
- **providing support** - you are not expected to provide support for your contributions except to the extent you desire. The support provided shall be free or none at all.

Here's the actual legal CLA.

Contributor License Agreement ›

Contributor License Agreement

Agreement between contributors to the wiki and how their content would be used by India Investments

In order to clarify the intellectual property license granted with Contributions from any person or entity, India Investments ("IndiaInvestments", "We" or "Us") must have a Contributor License Agreement ("CLA") on file that has been agreed upon by each Contributor, indicating agreement to the license terms below. This license does not change your rights to use your own Contributions for any other purpose.

You accept and agree to the following terms and conditions for Your past, present and future Contributions submitted to India Investments. Except for the license granted herein to India Investments and recipients of Documentation distributed by India Investments, You reserve all right, title, and interest in and to Your Contributions.

1. Definitions

"You" means the individual Copyright owner or Legal Entity authorized by the copyright owner who Submits a Contribution to Us.

"Legal Entity" means an entity that is not a natural person. A Legal Entity making a Contribution and all other entities that control, are controlled by, or are under common control with that entity are considered to be a single Contributor. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"Contribution" means any original work of authorship, including any original modifications or additions to an existing work of authorship, Submitted by You to Us, in which You own the Copyright.

"Copyright" means all rights protecting works of authorship, including copyright, moral and neighboring rights, as appropriate, for the full term of their existence.

"Submit" means any act by which a Contribution is transferred to Us by You by means of tangible or intangible media, including but not limited to electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, Us, but excluding any transfer that is conspicuously marked or otherwise designated in writing by You as "Not a Contribution."

"Documentation" means the collection of Contributions hosted on platforms used by India Investments including, but not limited to, Reddit, Discord, Trello, HackMD, GitHub, and GitBook.

2. Grant of Copyright License.

Subject to the terms and conditions of this Agreement, You hereby grant to India Investments a worldwide, royalty-free, **NON-exclusive**, perpetual and irrevocable license, with the right to transfer an unlimited number of non-exclusive licenses or to grant sublicenses to third parties, to use the Contribution by all means, including, but not limited to:

- change the license under which the Contribution was submitted to Us at any point in time without any notice whatsoever,
- publish the Contribution,
- modify the Contribution,
- prepare derivative works based upon or containing the Contribution and/or to combine the Contribution with Contributions,
- reproduce the Contribution in original or modified form,
- distribute, to make the Contribution available to the public, display and publicly perform the Contribution in original or modified form.

India Investments reserves the right to change the license of the Documentation, made up of Contributions, that it owns the copyright for at any point in time without any notice whatsoever.

3. Legal Entitlement to Contributions

You represent that you are legally entitled to grant the above license. If your employer(s) has rights to intellectual property that you create that includes your Contributions, you represent that you have received permission to make Contributions on behalf of that employer, that you will have received permission from your current and future employers for all future Contributions, that your applicable employer has waived such rights for all of your current and future Contributions to India Investments, or that your employer has executed a separate CLA with India Investments.

You represent that each of Your Contributions is Your original creation. You represent that Your Contribution submissions include complete details of any third-party license or other restriction (including, but not limited to, related patents and trademarks) of which you are personally aware and which are associated with any part of Your Contributions.

You agree that Your Contributions are given to Us without coercion or duress of any form or manner. You agree that You are of sane mind while Submitting Your Contributions to Us. The act of You Submitting Your Contributions to Us does NOT constitute any formal relationship of any form or manner.

Should You wish to submit work that is not Your original creation, You may submit it to India Investments separately from any Contribution, identifying the complete details of its source and of any license or other restriction (including, but not limited to, related patents, trademarks, and license agreements) of which you are personally aware, and conspicuously marking the work as "Submitted on behalf of a third-party: [named here]".

4. Providing Support for Your Contributions

You are not expected to provide support for Your Contributions, except to the extent You desire to provide support. You may provide support for free, or not at all. Unless required by applicable law or agreed to in writing, You provide Your Contributions on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON- INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE.

5. Disclaimer

THE CONTRIBUTION IS PROVIDED "AS IS". MORE PARTICULARLY, ALL EXPRESS OR IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF SATISFACTORY QUALITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT ARE EXPRESSLY DISCLAIMED BY YOU TO US AND BY US TO YOU. TO THE EXTENT THAT ANY SUCH WARRANTIES CANNOT BE DISCLAIMED, SUCH WARRANTY IS LIMITED IN DURATION AND EXTENT TO THE MINIMUM PERIOD AND EXTENT PERMITTED BY LAW.

6. Consequential damage waiver

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT WILL YOU OR WE BE LIABLE FOR ANY LOSS OF PROFITS, LOSS OF ANTICIPATED SAVINGS, LOSS OF DATA, INDIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL AND EXEMPLARY DAMAGES ARISING OUT OF THIS AGREEMENT REGARDLESS OF THE LEGAL OR EQUITABLE THEORY (CONTRACT, TORT OR OTHERWISE) UPON WHICH THE CLAIM IS BASED.

7. Approximation of disclaimer and damage waiver

IF THE DISCLAIMER AND DAMAGE WAIVER MENTIONED IN SECTION 4. AND SECTION 5. CANNOT BE GIVEN LEGAL EFFECT UNDER APPLICABLE LOCAL LAW, REVIEWING COURTS SHALL APPLY LOCAL LAW THAT MOST CLOSELY APPROXIMATES AN ABSOLUTE WAIVER OF ALL CIVIL OR CONTRACTUAL LIABILITY IN CONNECTION WITH THE CONTRIBUTION.

8. Term

8.1 This Agreement shall come into effect upon Your acceptance of the terms and conditions.

8.2 This Agreement shall apply for the term of the copyright licensed here.

8.3 In the event of a termination of this Agreement for any reason or due to any circumstances whatsoever, Sections 4, 5, 6, 7 and 8 shall survive such termination and shall remain in full force thereafter.

9. Miscellaneous

9.1 This Agreement and all disputes, claims, actions, suits or other proceedings arising out of this agreement or relating in any way to it shall be governed by the laws of India excluding its private international law provisions.

9.2 This Agreement sets out the entire agreement between You and Us for Your Contributions to Us and overrides all other agreements or understandings.

9.3 In case of Your death, this agreement shall continue with Your heirs. In case of more than one heir, all heirs must exercise their rights through a commonly authorized person.

9.4 If any provision of this Agreement is found void and unenforceable, such provision will be replaced to the extent possible with a provision that comes closest to the meaning of the original provision and that is enforceable. The terms and conditions set forth in this Agreement shall apply notwithstanding any failure of essential purpose of this Agreement or any limited remedy to the maximum extent possible under law.

9.5 You agree to notify Us of any facts or circumstances of which you become aware that would make this Agreement inaccurate in any respect.

How to link FAQ via bot in Discord

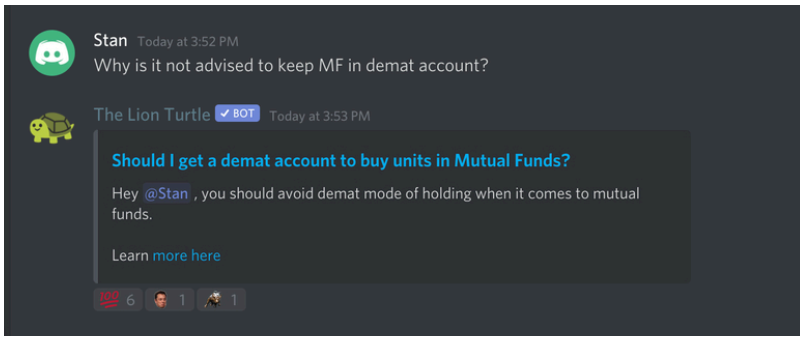
Step-by-step guide on how you can use bot to link to existing FAQ entries

Intro 🍁

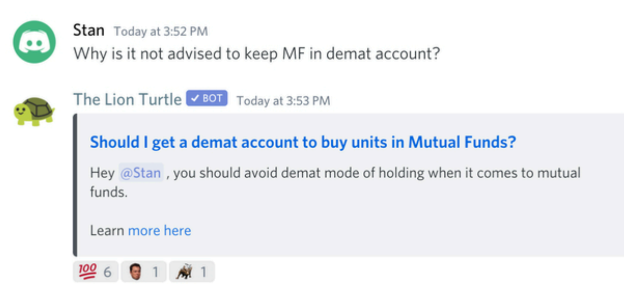
As a community of investors, we get queries from time to time, that are frequently asked. Often repeatedly.

We have FAQs on our wiki, for queries such as these, that addresses such queries. But having it in an archive is of no value, if it cannot be searched and linked, as and when needed.

We've a setup that solves this problem - any active member can invoke the bot with a specific tag, and the bot would take care of presenting right information to the user.



Sample invocation of bot against a common query - Dark mode



Sample invocation of bot against a common query - Light mode

We'll explore next how to invoke this bot

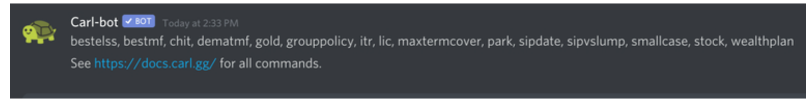
List of Tags 📚

We use Carl-bot's tag feature at present to achieve this.

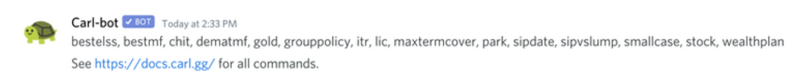
Every time a new FAQ entry is created, it gets a corresponding `tag` entry for Carl bot.

List of all available tag-based triggers can be found by typing `.taglist` in `#test` channel in our Discord.

Once this message is typed, Carl-bot would DM you the list of available tags.



Sample message sent by bot - Dark Mode



Sample message sent by bot - Light mode

Above image(s) are illustrative. Actual list can be different, and change from time to time. For latest updated list, you can use `.taglist` in `#test` channel.

Table of tags 🏓

Below are the exhaustive list of all tags, what kind of typical query / comment should someone ask to get that as response, and the expected response from bot .

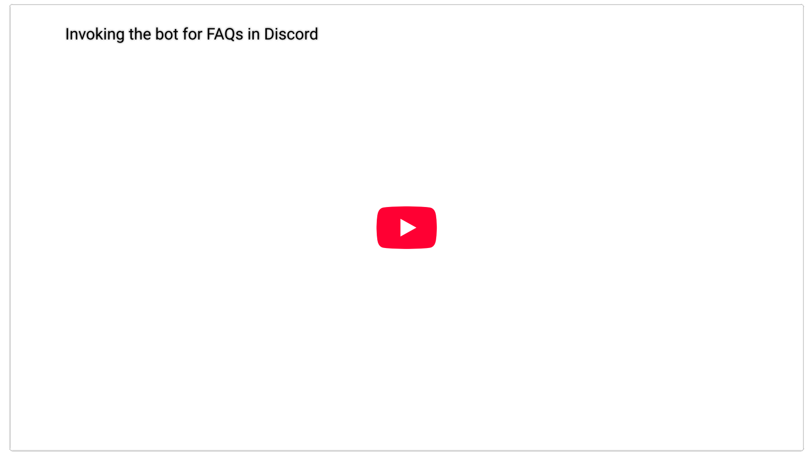
Trigger words	Typical comment	Expected response
`.disc`	*What should I know before I start reading the wiki?*	Hey `@user` , before you start reading our wiki, it's best you read through our disclaimers and disclosures. Just because we discuss a specific stock, or bond, or mutual fund, or even any investment apps in our wiki; doesn't mean we're recommending those. Read more here ↗
`.direct`	*Why should I invest in direct plans?*	Hey `@user` , Direct plans of mutual funds have no commission, and fees are lower compared to its Regular plan counterpart. Returns are higher with no extra risk. Read this for more details ↗
`.bestmf`	*Which is the best mutual fund?, What MF should I invest in?*	Hello `@user` , no one can predict how a mutual fund would perform in the long run. Data also shows consistently chasing best mutual funds result in behaviour gap. Pick one that you can stay with for long term. Learn more here ↗
`.sipdate`	*Which day of the month gives best returns for SIP?*	Unfortunately, there's no such thing, `@user` . It's rare for markets to move up / down so much in a single month, that a single SIP installment being on a different date would make a size-able difference in your long term. Read more here ↗
`.dematmf`	*How good is Coin for MFs?, Is there any downside in using Coin?*	`@user` , you should avoid Demat mode of holding when it comes to mutual funds. Learn more here ↗

`.chit`	*Should I invest in a chit fund?, What kind of returns can I expect from a chit?*	Hey `@user`, we have some discussions on chit funds here ↗. If you have more queries about chit funds, you can ask in #general-talk after reading this :)
`.bestelss`	*Which ELSS fund should I invest in?*	Hello `@user`, ELSS investment is already capped at 1.5L per year. And if the investment principal is small, the return difference wouldn't be large. Just pick one, you're as likely to be wrong as you could be lucky. Read more here ↗
`.lic`	*Should I invest in this LIC policy?*	`@user`, avoid. LIC and the agent would take most of it. You'd be left with peanuts. It's one of the most opaque forms of investment, and there's no guarantee. Govt. backs LIC, not your financial future. Learn more here ↗
`.wealthplan`	*My bank is offering me this lucrative plan, should I invest?*	`@user`, we would suggest you avoid such plans. Insurance companies and bank RMs would make gains, but you could do much better not mixing insurance with investments. Insurance cover is inadequate, returns from ULIPs are lower than bank deposits. Read more here ↗
`.gold`	*Good time to buy gold?*	Hey `@user`, if you're wondering whether it's time to buy Gold, you might want to check this out ↗
`.smallcase`	*Is smallcase a good investment?*	Hey `@user`, while smallcase has tools which can aid in managing a stock portfolio better than most brokerage options, do your own due diligence before you invest in a smallcase because the CAGR looks great. Read more here ↗
`.itr`	*I don't have any tax to pay this year, do I still have to file ITR?*	Hey `@user`, we recommend filing an ITR anyway. Read more here ↗
`.sipvslump`	*Which one is better - SIP or Lumpsum?*	`@user`, if you're investing for the long term, time in the market beats timing the market. Invest the entire amount all at once, irrespective of market levels. Invest regularly if don't have lumpsum. Learn more here ↗
`.park`	*Where can I park money for a few days?*	Hey `@user`, read about different ways to park money for shorter duration here ↗
`.stock`	*Why am I not able to send messages to #stock-fundamentals*	Hey `@user`, if you're wondering why you're not able to send messages to #stock-fundamentals channel, please read this first ↗
`.maxtermcover`	*Up to what age should I take term cover?*	`@user`, short answer is - till the age someone is financially dependent on your income. Ideally, it should be 60-65. Read more here ↗
`.grouppolicy`	*Should I have my own health insurance, even if employer provides one?*	`@user` - yes, you should have your own. Employer-provided group policy might have lower cover, or co-pay, or a cap on room-rent. You should get one on your own, to decouple your insurance from your employer. Learn more here ↗
		Hey `@user`, as long as the platform allows buying direct plan in growth schemes (for

`.mfapp`	*Should I use app X or Y for MF investing? Is this hot app Z good?*	free of cost), pick one you're comfortable with. Your specific choice of app won't affect your returns. We have covered pros & cons of popular apps here ↗
`.stockapp`	*Should I use Zerodha or Upstox?*	Hey `@user`, use a discount broker like Zerodha. If you need more detailed comparison on popular discount brokers, especially how they stack up against each other on fees and transfer charges, check this out ↗
`.uswhy`	*Should I invest in US markets? I'm already investing in mutual funds in India*	Hey `@user`, US equities give diversification and exposure to global growth in the most stable currency. You should invest in US equities, if you can find a cost-effective way to do it. Read more here ↗
	How should I invest in the US markets?	Hey `@user`, invest in a cost-effective manner. For smaller corpus, it makes sense to invest via India-domiciled mutual funds

For example, if someone asks (let's say, user name is `@beginnerinvestor`) *hey guys, should I buy this LIC policy?*, you can respond with `.lic @beginnerinvestor`.

Bot would delete your message, and add its own message, tagging `@beginnerinvestor`



Invoking bot for FAQs in Discord - Light Mode

Prerequisites ✋

We expect you to familiarize yourself with all the FAQs, before starting with this.

You can go through our FAQs using below link

FAQs

If you're using the bot to invoke the FAQ, it's expected that you've yourself at the very least gone through that FAQ first.

Style Guides

Content guideline for contributors to IndiaInvestments wiki

General Style Guide

A common guideline on how to contribute content to wiki.

Intro 👋

This document should serve as a standard guideline on how to write for r/IndiaInvestments ↗ wiki.

There's no *one true* way of writing it. But when working on a collaborative project such as this, we all should agree with certain ground rules, to have uniform content throughout our knowledge base.

It also helps reviewers, reducing cognitive load on what to watch out for.

Following points are meant as a way to help you form an article from scratch. We can then tweak it later, based on review feedback.

Tone 🎵

It should have a balanced tone. No need to be overly aggressive / abusive / cocky / snarky. Simultaneously, avoid being overly cute or too nice. Basically, avoid emotional hot-takes, or controversial flame-baits.

Standard text, with somewhat firmness is well suited. Write less. Break complex sentences down to simpler ones. Use periods more than conjunctions.

Avoid phrases like *in my humble opinion* (you're writing it, of course it's in your opinion. Duh!), or *correct me if I'm wrong*, or *I'm no lawyer*. Similarly, avoid raining emojis.

Furnish information that you can, and avoid taking the note in a direction that you're not comfortable with.

In particular, avoid passive mode wherever possible. Sure, it's not always avoidable - sometimes a sentence may even have no other choice but to omit the subject.

But for most scenarios, active voice is better suited.

Wall of text 🧱

Reading a *large wall of text* can be unsettling, and boring.

Strive to not have paragraphs **more than 1-2 sentences long**. If you're writing a paragraph that's more than three sentences long, you're doing something wrong.

We're not looking for dense academic dissertations.

Acronyms and Short-form Abbreviations 🔹

We'd often be referring to terms that are used in short-form or as acronyms.

If you introduce a new acronym in a chapter that's not covered before, feel free to expand on that in a sentence. At the very least, provide the full-form once (and only once), before using the acronym everywhere else.

This is one example of how **not** to do acronyms in the wiki:

CDSL is one of the depositories that would send you a CAS every month

CDSL, CAS - these two terms would alienate the reader. Because they might not know what these are, if you've not introduced these in context.

We fall back to our guiding principle - you shouldn't make assumptions about what the reader already knows. Instead, accept it upfront that they probably don't know, err on the side of repetition.

This is a better way of writing the same sentence from above:

*CDSL (**C**entral **D**epository **S**ervices **L**imited) is one of the depositories that would send you a CAS (**C**onsolidated **A**ccount **S**tatement) every month.*

Once you introduce an acronym or abbreviation with its full-form, you can use the acronym in that document / page etc.; without having to repeat the full-form again.

Above is one example. One could have the acronym in the parenthesis instead, and full-form preceding that.

***C**entral **D**epository **S**ervices **L**imited (CDSL) is one of the depositories that would send you a **C**onsolidated **A**ccount **S**tatement (CAS) every month.*

But it should be present. At least once, and exactly once.

Do not provide full-form of obvious and well-known acronyms, only the ones that are specific to investing / finance / economics domain.

For example, there's no need to write it like this:

*US (**U**nited **S**tates) equities are less correlated with Indian equities, than Indian equity mutual funds.*

It isn't unreasonable to expect that a reader would be familiar with the acronym `US`.

Be unbiased ☯️

A good rule of thumb is to ask yourself this: *if someone reads this 5 years from now, how much change would this text need to remain relevant?*

Focus on producing *evergreen* content.

For example, you might be tempted to write *Product X is not right for you, it doesn't even have feature Y.*

Except, five years from now, it might. Or, maybe this feature Y won't even be needed five years down the line.

A better sentence would be *At the time of writing this, product X doesn't support Y. You may consider it if that changes.*

Avoid opinions. It's okay to say *historically equity has beaten inflation over the long term, at least in the last 40 years.*

But it's not okay to phrase it as *equity is the only asset that'd perform better than inflation.*

No one can predict that.

Linking to external resources 🌏

In course of creating a content, you'd be tempted to link to an external resource - some blog post, news articles, videos, other community posts from Reddit / Valuepickr / TradingQnA etc.

Don't.

At least not directly to that resource.

Links can be taken down / removed / made inaccessible. As much as possible, from the beginning, we've taken steps to not let that happen.

Ideally, we'd want to link to Internet Archive's archived version of that link. Wikipedia was able to restore nearly 9 million dead links with this ↗. Google web-cache can also be used.

Here's how a sample link to CNN's coverage of Buffet's Annual Shareholder letter of 2021 might look like:

Real Link ↗ | archive.org link ↗ | archive.is link ↗.

Take this tweet from NSE India official twitter handle: https://twitter.com/NSEIndia/status/1366251518999977984 ↗. This is a status update communication regarding system downtime at NSE.

We can reasonably expect for this link to stay up. However, just to be safe, add these links as well.

Link to actual tweet ↗ | archive.org link ↗ | archive.is link ↗

You could use Internet Archive's Wayback machine to search for a latest archived version yourself.

Alternatively, you could use these extensions / plugins in your browsers, to get the archived versions:

- Firefox Web Archive ↗
- Chrome Web Archives ↗

Reddit links ⚓

When it comes to Reddit links, especially links to a comment or post; we've decided to provide four links, instead of three.

Reddit is a social platform, with multiple clients and readers out there, which aid users across the world consume its content. Aside from the *new.reddit* and *old.reddit* web platforms; Reddit also have plethora of mobile clients - Joey, Apollo, and many others; aside from the official Reddit app.

To allow users to continue consuming the content from Reddit on their choice of client / reader service, we need to provide these three or four links:

www.reddit link ↗ | old.reddit link ↗ | archive.is link ↗

The first link with `www` subdomain, allows readers to open it in their favorite Reddit clients. Second link allows good number of *Redditors*, who still prefer the older UI (because it renders all comments in a simple HTML, and not just top comments in a thread), easily consume the content.

Miscellaneous 🦋

- Avoid referring to yourself in first person. *I, me, we, present author* etc. pronouns / phrases are best avoided.
- Keep asking yourself *who's the intended reader for this?* For instance, if you're writing chapter 5 of a series, then you can reasonably assume the reader would be well-versed in content entries from previous four chapters of the same series. No need to repeat any concept already covered in first four chapters preceding

that. However, if the content is not something a reader is supposed to know, it's best if you explain in 2-3 sentences. Make the content as *beginner friendly* as possible, without compromising quality. To that end, use examples to illustrate a concept. Or, use diagrams (tools like Excalidraw can help with this), or tables, or even images or videos. Beginner friendly coverage of concepts are comprehensive. If you write a specific concept once, so anyone who didn't understand that before can now grasp it reading that content - it benefits every other contributor out there. Because they can simply refer to that in their writing, without having to covering same concept.
- No plagiarism

  If you have read an online article or blog post whose content you wish to use, read & understand it first; then write in your own language. Also credit the original source.

  You can quote a source, as long as you cite it properly.

  But copy-pasting verbatim from a source and trying to pass it off as your own work would invite troubles for you. We do this check before inserting every piece of content into the wiki. And it's surprisingly easy to discover when someone copies even a single paragraph from external sources.
- After writing an entry, **read it yourself**, before you ask others to review it.

  That alone would help you catch common errors or issues with it, before others even need to review it.

Wrapping Up

Most of us are pretty average at most things we do. Even if you're exceptional at one thing, chances are that you're average, or below average, at most other things. That's just the nature of life. To become truly great at something, you have to dedicate tons of time and energy to it.

We all have limited time and energy, and most of us choose to devote it to our fields of choice. It is then perfectly understandable a lot of us, most of us, are not good at parts of content writing, like phrasing and structuring sentences, even if we have valuable content to share with others.

When we offer help with these parts, trust us when we say it's not because our intents are to put someone down, or *establish a sense of superiority complex*, it is pure and simple help, because it would be very presumptuous of us to assume all content contributors are good at content writing.

However, this is being built as a free open-source project. If you don't agree with our choices; you can fork the project on GitHub, and maintain your own version of the wiki.

In the next few sections, we cover dedicated guides as to specific series or sections of the wiki.

FAQ Style Guide

Guidelines for how to write content for FAQ section

What is FAQ?

Our FAQ sections exist, to address common queries often asked by investors. These queries are so common, that instead of covering these as part of their dedicated series; we chose to group them under a dedicated series of its own.

These are available in our Discord `#faqs` channel. And on top of that, it'd be available as a bot command - when someone asks a common query whose answer is already in our wiki, another community member can have a bot fetch that for the member right away.

Given how ingrained FAQs are, there are clear needs for FAQs to be well-structured.

Guidelines

Start by reading the general content guidelines. FAQ entries must follow all guidelines present in this following write up

General Style Guide

In addition to these, we've a few specific guidelines for FAQs.

- Keep the query in mind, when writing the entry

  Any off-topic content, that does anything but directly answer the query, doesn't belong in that FAQ.

  Say, the FAQ is *How do I invest in US markets? Should I use a US broker, or India-domiciled mutual fund that invests in US markets? Which one's better option?*

  The answer to this query should focus on cost aspects of various options around investing in US markets.

  Any discussion about investing in US markets, correlation with world markets, allocation in world indices etc. are off-topic, and doesn't belong in the FAQ itself.

  Any single line that doesn't help a typical investor understand the problem / solution better, is not something that belongs in that FAQ. It might belong in a different series or article of its own, but not in that FAQ.
- Do not accept the premise of the question, if you don't think it's correct. A query can be *loaded* with assumption, that's not past debate. It's not correct just because it's commonly / frequently asked. It's your job to point that out, help the reader with pointers on what the real underlying query is. If the question is *What's the best time to buy an LIC policy*, the answer must point out that user should avoid buying LIC policies or ULIPs, and give reasoning as to why.
- Don't write detailed take, like a research paper or a due diligence.

  Some reasoning is ok, but FAQ is not a chapter in wiki. Brevity is desired.

  Eventually, we'd have enough content in both wiki and FAQ, that we'd be able to refer FAQ readers to relevant wiki articles. This also creates a better experience through self-segmenting users.

  User with shorter attention span would want to get the answer up front. The link to more resources, would only take users there, who've the time and interest to pursue that further. We should help both segments of users, to the best of our abilities.
- Provide a crisp summary for the FAQ, in 1-2 sentences. This shows up in thumbnail when shared as link. Someone who's not willing to visit a webpage, and happy to see a thumbnail in Discord / Slack / Whatsapp / Twitter etc., should be able to get a 1-2 sentence answer to their query.

How To Style Guide

A style guide for How To section of our wiki

Intro 👋

We'll soon have lot of process-oriented, step-by-step guides on various common tasks an investor needs to execute from time-to-time. These would form our How To section.

As a result, we'd have a ton of content that people can quickly refer to, as a sort of checklist.

But this has some challenges as well. Step-by-step guides can frequently become outdated, if the underlying product or platform changes in look-and-feel, functionality etc.

It could also be outdated simply because that process itself isn't needed any more, or has been deprecated. This is why we need some *risk management* around this.

This document is for you, if you're planning to warm-up with some contribution in the How-to section - either by writing, or by reviewing / guiding others.

Guidelines

Start with our general content guidelines, which also apply to *How to* section

General Style Guide

Other than these, refer to following guidelines

- Optimize for anxiety and rush Someone might be reading a how-to guide, and be in a hurry to execute those steps. Respect their time. The document should clearly point out, and highlight through formatting (use emojis like ✅ or ×); what should and should not be done. Point out known common issues. Don't leave out trivial details. Assume your how-to guide to be a run-book or field manual. Avoid *description*, focus on *narration*. A bullet-point ordered list is better, than a few paragraphs, in most cases. If you need to give detailed reasoning for a step, provide it in a way that if needed, user can easily skip that and move to next step.
- When writing about a product specific *how to*, it's best to directly link to *how-to* provided by the product itself. An entry for *How to open a Zerodha account* should have reference to Zerodha's own documentation and support articles on this. Add text beyond that, only if that adds value (maybe it points out common issues, or pitfalls) that's not already covered by those documentations.
- It's best if you clearly and explicitly mention pre-requisites for each how-to, and who all are not eligible / don't need to do this. An entry for *How to file ITR 1*, should clearly mention who are eligible for filing ITR 1, and how to confirm that.

Excel Series Style Guide

A set of guiding principles on how to write an entry for the excel series

Intro 👋

Excel series is about covering excel programming lingo in a way that's palatable for most people who're starting out with investments.

Learning enough excel to be dangerous is the goal for end user. We've to assume that user has no reason to know why they'd need excel; at least in the beginning.

They just need to be guided, step-by-step, so they feel comfortable using excel, for day to day finance-related queries.

Keep these in mind when building a chapter / section of excel.

Guidelines

Start with the general style guide section

General Style Guide ›

Other than these, you should keep these in mind

Focus on utility ⚙️

Every write-up for excel series needs to solve a problem for the end user.

This is not a series on what are the different features excel has. Unless an excel feature solves an immediate problem for a DIY investor, it doesn't need to be discussed.

Ideal way of setting up the series would be that every chapter introduces a new excel feature / functionality, or expands on a feature / function introduced earlier to solve a real problem for the user.

It'd be more prudent if you discuss how to use a particular function / formula in different ways, or what are the best practices and why, what are some issues with the function / formula a user might face.

User doesn't need to become an excel pro after going through this series.

But if they learn even 2-3 basic functionalities that they can comfortably use to get data-based responses on common tax, portfolio, insurance related queries - that's more than enough for us.

Beginner friendly 🍟

When introducing a new concept, be as beginner-friendly and detailed, as possible.

This is not to be taken as a signal for writing *low-quality* content. If anything, conveying new concepts to beginners, is quite tough. Your choice of language, examples, images, videos - all of these matter.

You've to also repeat new concepts over and over, in the next chapters, after you've introduced it. This creates a revision feedback loop, and helps user feel more comfortable through practice.

For example, one might introduce a tool / function / strategy in chapter 3. Then a new one in chapter 4.

A better approach would be to pick a problem statement for chapter 4, which also requires concept introduced in chapter 3.

Use examples to point out what you mean, especially edge cases and gotchas.

Benefit of beginner friendly content is that if you do it right; others can easily refer to it later. You won't have to repeat yourself. It's a perfect example of *automating the boring parts*.

Use of Native Elements & Media 🗄️

Excel sheets are inherently *tables*, with extra powers. Use tables (markdown, or platform provided) to showcase how the UI would look like at this stage, after performing some operation.

Do provide an image screenshot, if possible; but the native table element is also helpful.

Native elements like table help with not having to context switch from reading text to opening an image or playing a video. Especially for people reading on their phones.

If you're providing screenshots, please do so with **Roboto, 12px font**. And ideally, use both light theme and dark theme to take screenshots, of only the relevant part of the screen (both images are to be of same dimensions).

Screen-recording videos are welcome as well. But as earlier, provide in both light and dark themes.

Excel file 📁

You'd be tempted to, but the goal is to help user assimilate the lesson. That'd happen only if they consume the section while practicing.

Providing an excel tracker sheet upfront, would mean they'd just download and want to start using that. That goes against the learning goals.

We can attach the excel sheet(s) at the end of the chapter / series, just so that users can cross-check.

But let's avoid provide download-able materials to end-users. Structure content in a way that they don't have to download anything.

Stocks Style Guide

A style guide on how to contribute to the stocks section of our wiki

This article is meant to serve as a style guide on how to write content in the Stocks section.

This isn't a strict requirement but a general recommendation or advice about how to approach writing content which meets the level of quality we're looking for in the Stocks section.

This is in addition to our general style guide

General Style Guide >

Use Beginner Friendly Writing Style

Unless something has already been covered in one of the sections written before, please don't assume that the reader would know about it. This doesn't mean that content should be dumbed down, but it should be easy to approach such that understanding it doesn't feel uncomfortable.

This might be a bit hard to grasp but don't write as if you're a robot writing dry commentary or producing *TL;DR* styled content. Write as if you're thinking out loud in your own mind although avoid using first person references like *I, me, you* etc. Using *we, oneself, one can assume...* is preferable.

Use Examples

Use actual examples that readers can relate to. Talking about something and actually showing how it happens in real life are vastly different things. If talking about valuation, use an example that shows how to arrive at it.

If talking about a financial ratio, use images from an annual report and show the reader how to calculate that ratio. In other words, show the reader how & from where input values needed to calculate a ratio are derived from.

For example, while explaining how to calculate Working Capital of a company, insert a screenshot showing Current Assets and Current Liabilities of a company in its balance sheet.

Dive Deep Into Details When Necessary

If, and when, necessary, feel free to dive into details while keeping efficiency in mind. In such cases, try to understand the entire concept yourself, sketch out a summary or a bird's-eye view of the concept, and then write about it. If a wall of text has to be written, try to make it engaging and somewhat fun to read by adding relevant images, examples, and other interactive elements.

Use Consolidated Financial Statements

Unless there's a good reason to focus on standalone financial statements, use consolidated financial statements when presenting examples.

When in doubt, ask

If you're writing content for a chapter and feel stuck in any part of the process, do let us know. We'd love to guide you on what needs to be covered, and how. We've a draft of talking points for each chapter of the series, and a rough idea on how they need

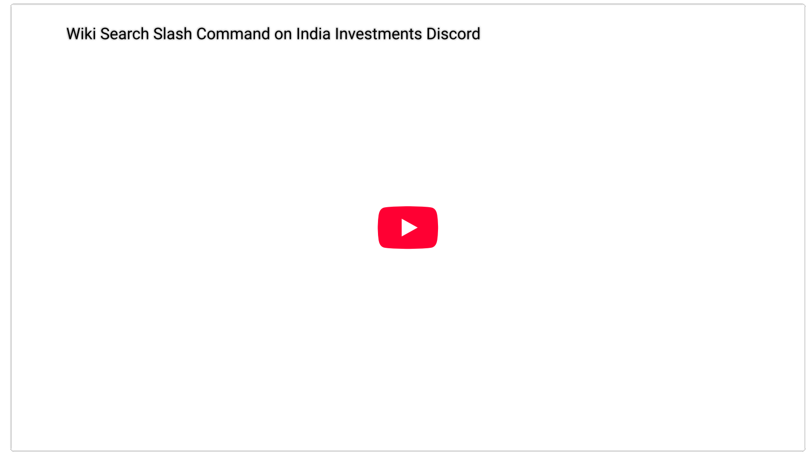
to be explained. Feel free to DM the core contribution team, or drop a message in #kb-due-diligence for any help regarding coverage, structuring, phrasing or any other issues you face while contributing.

Discord and Reddit

How to Search the Wiki From Discord

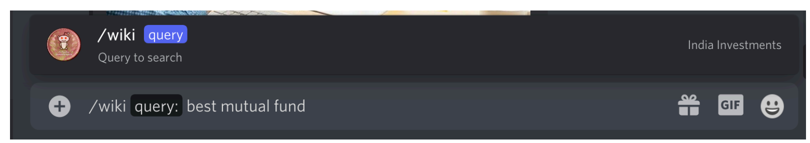
Search the wiki using slash command /wiki, offered by India Investments bot on Discord

You can search this wiki from our Discord itself, using India Investments bot's slash command.

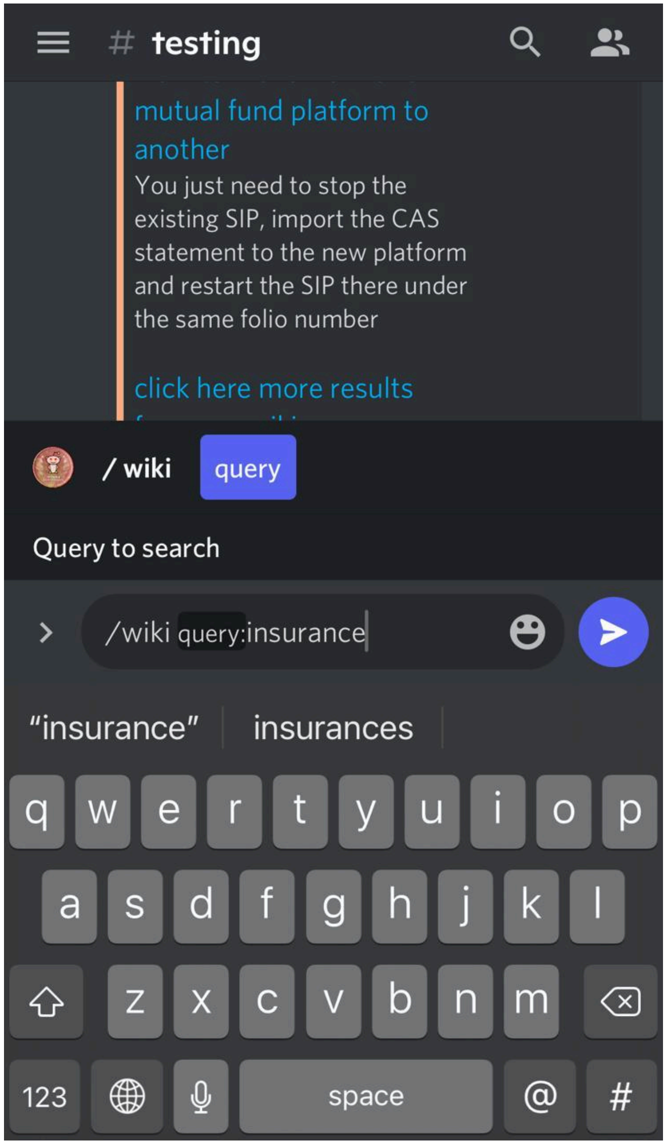


Steps

- On your Discord app, either on phone / tablet, or on web / desktop app; visit #testing channel on our Discord.
- Type `/` (front-slash), then start typing `wiki` It should auto-prompt the right slash command you've been looking for.
- Now enter your search query (2-3 words are more than enough) in the `query` field.
- Hit `return` or `Enter` in your keyboard.
- Wait for result(s) to arrive.
- Depending on your query, the bot might return one or more than one result. If that doesn't match your expectation, bot would also give you a link, that would directly take you to our wiki.



Discord Slash Command for Querying Wiki - Desktop

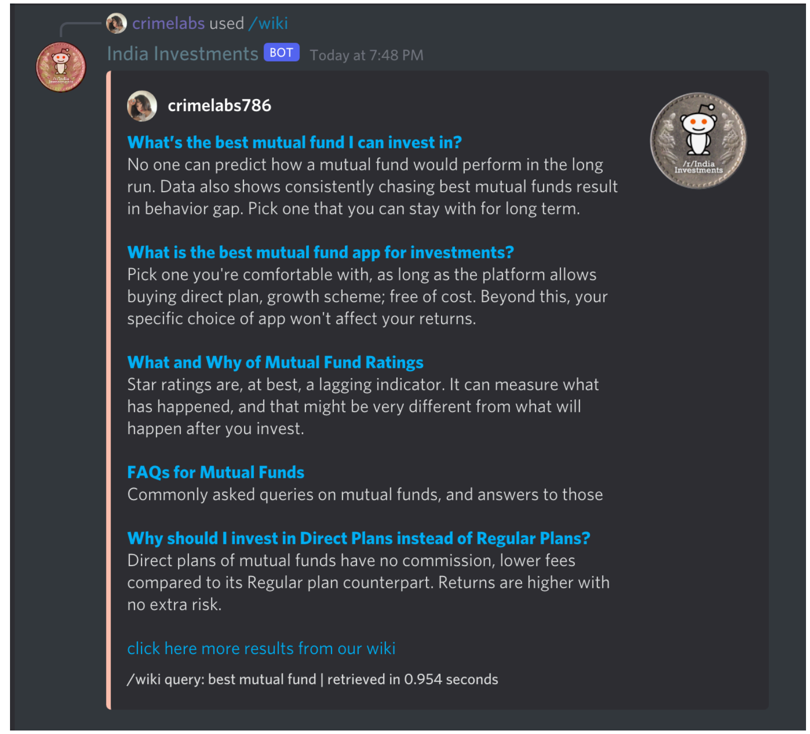


Discord Slash Command for Querying Wiki - Mobile

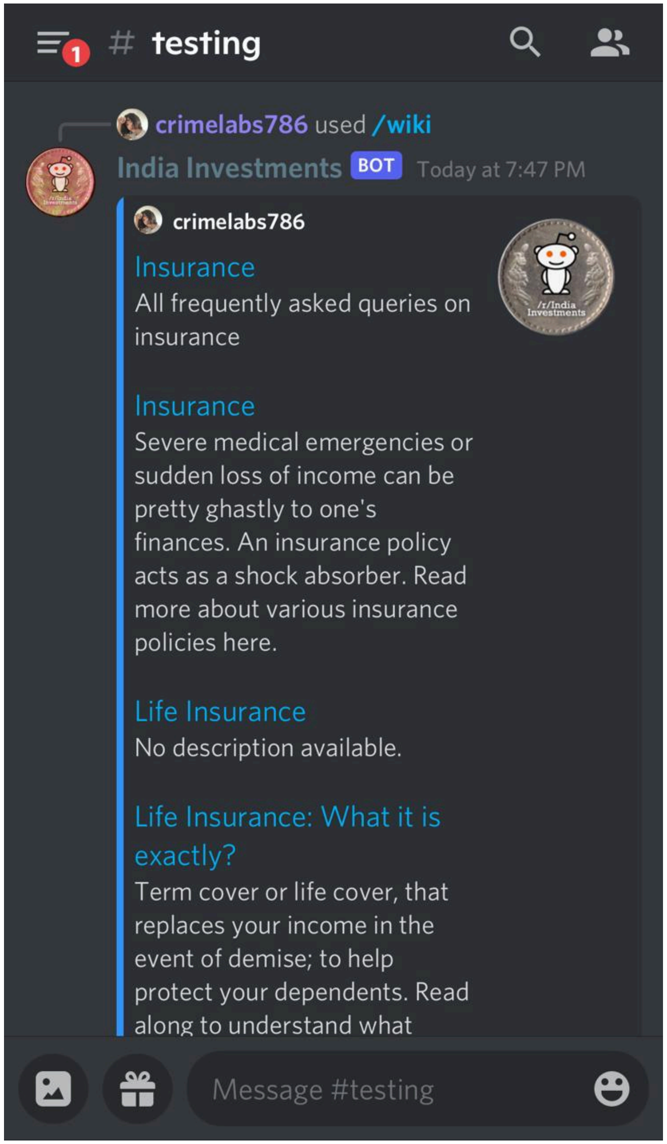
How it'd look

Depending on your query, bot might return more than one or only a single result.

Here's how it'd probably look (exact content would vary, depending on your query).



Discord Slash Command Search Result for Querying Wiki - Desktop



Discord Slash Command Search Result for Querying Wiki - Mobile

Wrapping Up

- We're hosting bot infrastructure on free hosting provided by Deno Deploy ↗. It has some limitations on number of queries and throughput. We ask that you use it judiciously for genuine need, and not spam the bot results in channel. It'd only make it harder for us to help others in our community.
- To understand how to use the bot, kindly use our testing channel. Just to be clear, the bot works in every channel. But testing in a dedicated channel means other conversations remain uninterrupted.

We hope you are able to use this bot, to solve a problem that you currently have.

For feedback on bot, please reach out to us on Discord ↗.

I'm unable to send messages to stocks-fundamentals channel on Discord. Why?

This is done to cull low-effort speculative queries on stocks. Share your thesis in the popular channels. You'd be able to earn the role to post in that channel.

> **NOTE**: As of 1st April, 2021; we've opened this channel up for everyone on our Discord. It's our belief that the community now has enough guard-rails and helpful materials to fall back on, should anyone need help with discussing how to pick stocks.
> However, depending upon the situation, we may restrict the channel again to selected members of our community.

This channel is meant for sharing fundamental analysis on a business that you're tracking. It has a higher bar for participation, as compared to other channels here.

We want to weed out low effort queries on specific stock - *should I buy ITC, should I sell Y now that it has given me 30% return* etc.

We expect that not everyone would be able to participate there. If you're not sure about how to go about that, read the pinned messages in that channel, to skill up. We are also working on our wiki that should give you right exposure to areas you need.

If you've a thesis for investing in a company, or not investing, for that matter - please share those in #general-talk or #ask-us-any-question first.

We evaluate these from time to time, and if your comments here on the server meet the bar, you'd be granted that role.

This is a privilege, and you've to earn it.

For more information on how to analyze businesses or sectors, check our this corner of our wiki