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What happened to Deutsche Bank?

By Michael Li and Samuel Benedict

On Sunday July 7th, Deutsche Bank announced that it would cut a fifth of its work force and slash operations in New York and London. This was a part of Deutsche Bank's $8.3 billion transformation plan which was an attempt to address the bank's high operating costs in relation to revenue. The bank said it would reduce its cost-income ratio, a measure of efficiency, to 70% by 2022 compared with 93% percent in the first quarter of 2019. The lower the number, the more efficient a bank is considered to be [1].

Why is Deutsche bank struggling?

Two decades ago, Deutsche Bank dreamed of competing with Goldman Sachs and Morgan Stanley in mainstream Wall Street business lines such as investment banking.

Ever since it acquired Bankers Trust in 1999, Deutsche Bank has been trying to prove that global finance was not the exclusive territory of the American megabanks. In an attempt to establish this, they made risky bets like issuing hundreds of billions of dollars in high-risk derivatives and lending money to Donald J. Trump's organization when no other bank would.

The financial crisis of 2008 exposed a history of criminal wrongdoing, including rigging interest rates, laundering money and violating United States sanctions against countries like Iran. The scandals eroded Deutsche Bank's reputation and led to billions of dollars in fines. Anxious to avoid any more financial crises, regulators forced Deutsche Bank to take fewer risks.

A sluggish European economy, post-financial crisis fines, costly new regulations and a reluctance to change have caused the bank to struggle over the past decade. The market value of JPMorgan Chase (JPM), once considered a potential takeover target for Deutsche Bank, is now more than 20 times that of the German lender. Once the largest bank in Europe as measured by assets, Deutsche bank's stature along with share prices have declined, falling about 95 percent from its peak in 2007 to a record low in June. Despite the possibility of acquiring the bank at an all time low, there have been no known takeover offers.

"We tried to compete in nearly every corner of the banking market at the same time," said Chirstian Sewing, the CEO of Deutsche Bank. "We simply spread ourselves too thin." [2] The company is now trying to return to its commercial banking roots with its seventh major restructuring attempt since the financial crisis.

What happened in the past month?

Deutsche Bank has accumulated bad performances from its investment banking sectors. In recent years, they faced challenges in trading businesses and deal advisings from Wall Street's big banks. Their investment banking revenues in the second quarter of 2019 dropped 18% from the previous year, while their smaller asset management unit also experienced a downfall of 6%. Thus, Deutsche Bank is planning to make huge cutbacks in its investment banking sector to restructure and transform the bank to be more focused on profitable sectors [3].

To restructure their company, Deutsche Bank is set to cut off around 18,000 employees, as announced on July 7, 2019. They also plan to exit the equities trading business and transfer investment assets by creating spin-offs such as the Capital Release Unit which would be used to house their derivative contracts and other unwanted financial instruments worth €74 billion, constituting 21% of Deutsche Bank's balance sheet. This is commonly referred to as "bad-bank", which is a place where a struggling financial institution can put their assets to be sold or wound down. In this case, it is made up of risky and illiquid derivatives. Placing their non-core assets in a separate division will help make Deutsche Bank's restructuring more transparent and efficient, allowing investors to track the progress of a lender's overhaul better and hold management accountable. Also, shedding assets in the bad bank will free up some capital which can be used to reinforce Deutsche Bank's financial strength or redeploying it to more profitable businesses [4].

More recently, on July 24, 2019, Deutsche Bank reported a €3.15 billion net loss in the second quarter of 2019, making it their worst quarter over the past four years. The huge loss was driven by €3.4 billion in costs that are related to the massive job cuts and restructuring plan [5]. Excluding the massive cost, their second-quarter revenue was also below analyst estimates, with only €231 million recorded compared to the €373 million expected. Furthermore, future restructuring charges are expected to dent their 2019 second-half earnings and they are expected to report a full-year loss. Following immediately, Deutsche Bank's shares fell by 2.3% to €6.97 per share [6].

Since the commercial airline industry is largely an oligopoly and planes are often backlogged for up to 5 years, it is difficult to see drastic changes in terms of cancellations. While cancellations may impact the company on a YoY basis, the longer-term impact on Boeing's backlog is still unclear. Furthermore, Boeing still maintains other popular planes like the Boeing 787, along with other industries in their portfolio like defence airplanes and other heavy manufactured parts. Hence, despite the recent hard times, some experts predict that this is an excellent opportunity to buy low in anticipation of stock prices reverting to the mean [7].

Since their restructuring plan, hedge funds have been withdrawing their assets from Deutsche Bank by about $1 billion per day. This becomes a golden opportunity for other banks in luring hedge funds to pull out from Deutsche Bank and invest with them instead. Barclays, for example, had persuaded hedge fund clients with $20 billion in balances at Deutsche Bank to come aboard, while other top investment banks such as JP Morgan and Goldman Sachs also try to poach clients out of Deutsche Bank [7]. Deutsche Bank is reported to be discussing a deal with BNP Paribas on transferring their $168 billion of balances linked to Deutsche Bank's hedge fund clients, along with their people and technology that serve them. If the deal is a success, this will potentially change the competitive landscape for hedge fund broking. Under Jean-Laurent Bonnafe as the CEO of BNP Paribas, the Paris-based bank plans to expand further into the hedge fund industry and the deal may transform BNP from a small player into one of Europe's biggest in the prime-brokerage industry [8].

The future of Deutsche Bank

If their plans work, the new Deutsche Bank will be much more focused on the expanding the business of serving corporate clients. The elimination of about 18,000 jobs, and largely abandoning efforts to compete with U.S. investment banks, particularly in equities trading, were undoubtedly difficult decisions for the company. The new course of action is far more promising than the one CEO Sewing was previously considering: merging Deutsche with crosstown competitor Commerzbank AG which would have created a bigger entity with potentially bigger problems.

The new plan improves systemic safety in two ways. First, it will leave Deutsche Bank's balance sheet more than 200 billion euros smaller — a good thing, bearing in mind that Europe is still overbanked and needs to redistribute its banking capacity to better reflect demand. Second, the plan will help Deutsche handle future shocks. By 2022, the bank aims to have about 5 euros in loss-absorbing capital for each 100 euros in assets — a leverage ratio of 5%, up from 3.9% at the end of March. This will make the hitherto undercapitalized bank less of a weak link in the European financial system. [9]

[1]https://www.nytimes.com/2019/07/24/business/deutsche-bank-earnings-loss.html
[2]https://www.cnn.com/2019/07/08/investing/germany-deutsche-bank-restructuring/index.html
[3]https://uk.reuters.com/article/uk-deutsche-bank-agm/deutsche-bank-ceo-pledges-tough-investment-bank-cuts-as-shares-hit-low-idUKKCN1ST0EH
[4]https://www.washingtonpost.com/business/whats-a-bad-bank-and-how-can-it-help-deutsche-bank/2019/07/07/9242d02c-a0f2-11e9-a767-d7ab84aef3e9_story.html?utm_term=.fd06cee38dbd
[5]https://www.marketwatch.com/story/deutsche-bank-reports-35-billion-quarterly-loss-2019-07-24
[6]https://www.theguardian.com/business/2019/jul/24/deutsche-bank-posts-worst-quarterly-loss-in-four-years
[7]https://www.cnbc.com/2019/07/25/barclays-nabbed-20-billion-in-hedge-fund-balances-from-deutsche-bank.html
[8]https://www.bloomberg.com/news/articles/2019-07-16/deutsche-bank-bnp-face-reality-of-168-billion-hedge-fund-deal
[9]https://www.bloomberg.com/opinion/articles/2019-07-10/the-new-deutsche-bank-might-actually-be-better

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The effect of a strong USD on earnings

By Shanda Feng

Recently, the value of the USD has been increasing relative to other international currencies. As many companies gear up to present their second quarter earnings, it begs the question on how a strong USD has impacted their profit and growth. This matter has been made even more pressing as the recent GDP report outperformed expectations and further strengthened the USD [1]. However, before delving into earning reports, it is essential to understand how to compare the value of two currencies not just by their exchange rate.

The Big Mac Index

The Economist's Big Mac Index is essentially a score of a currency's purchasing power parity relative to the USD, or in other words, how much a Big Mac is worth in each currency. As of now, a Big Mac is 19% cheaper in the Eurozone compared to 17% 6 months ago, the Russain ruble is undervalued by 65% and the Swiss franc is one of the only currencies overvalued against the USD by 14% [2]. In general, the International Monetary Fund(IMF) states that the US currency is overvalued by 6-12% based on near-term economic conditions and as a result, there is a growing investor interest in safe haven assets such as government bonds, gold, etc.

Driving factors of a strong USD

While it is evident the USD has been increasing in value, the reasons behind the rising exchange rate may not be as obvious. The general idea behind a strong currency is tied with a strong economy. This attracts greater investment due to perceived safety and stable ROI, which in turn, creates a strong capital account and increases the demand for dollars. As reported, retail sales rose by 0.4% above market expectations of 0.1% in June, which further propelled the strong USD [3]. US exports, US government bonds or corporation stocks, selling foreign currency to purchase USD are all examples of transactions that create higher demand for USD, causing a rise in its value.

Effects on corporations

While a strong USD gives American consumers an advantage when purchasing foreign goods, it raises several issues for domestic companies that somewhat rely on overseas operations. More than half of the S&P 500 companies that have reported their second quarter earnings since July 15, 2019 believe that the strong USD hampered their business. This has been made worse with the ongoing US-China trade war. Levy Strauss (LEVI), a consumer retailer had better than expected second-quarter earnings but instead had a lower net income because of a strong USD. In addition, Helen of Troy (HELE), a consumer products and appliance maker saw online sales growth offset by lower international sales of $2.5 million [4].

Moreover, 77% of 113 companies that have issued EPS guidance have warned that their numbers are worse than Wall Street analyst estimates. Earnings for S&P 500 are also projected to decline 2.6% from the same period a year ago [5].

Risks of a strong USD

Despite the mostly positive reports on earnings so far, there are still risks to the overall US economy when considering a strong USD. For one, the US does not have the vast FX reserves that China and Japan have to safeguard trades. Moreover, the US has only intervened in FX markets a few times, most recently in 2011 after the yen soared following the earthquake in Japan by increasing the value of the USD. That being said, there were talks in July between President Trump and his economic advisors about intervening in foreign exchange markets to weaken the USD, but ultimately no action was taken. Lastly, the Fed trade-weighted measure of the USD is close to the strongest since 2002, further emphasizing the challenges of American exports overseas.

How to counter against currency losses

In order to protect earnings from a strong USD, there are many steps a business can undertake. Payments in USD, higher prices and prompt payment to avoid significant changes in exchange rates over time are some examples. Companies can also hedge against a detrimental exchange rate through spot contracts that set a fixed exchange rate for the future, currency swaps, or any other relevant derivative tools.

Changes in US Dollar Policy

This year, Trump has repeatedly tried to lower the value of the USD to aid trade exports in light of the 2020 federal election. On June 18, the European Central Bank stated that it may lower interest rates for the Eurozone and as a result, the Euro depreciated against the USD. In response, Trump claims the strong USD in FX markets is caused by other nations devaluing their currencies, inflating the American trade deficit. However, Larry Kudlow, Trump's chief economic advisor and Steven Mnuchin, the treasury secretary both disapprove of government involvement in deciding the USD value.

Even though the White House continues to pressure the Federal Reserve to cut borrowing costs so investors look elsewhere for higher interest rates, reducing the USD value in the process, it is unlikely to be successful. This is because the interest rate is set based on inflation, employment and other economic conditions and not the strength of the dollar. Furthermore, in the beginning of July jobs report showed strong employment rates and the GDP was higher than forecasted [8].

While so far it appears that the strong USD does not have a significant downside effect to Q2 earnings, there are still many corporate earnings reports yet to be released before a more conclusive analysis can be completed.

[1] https://www.interest.co.nz/currencies/100915/us-dollar-rises-policy-guidance-share-buybacks-push-us-equities-record-highs-us-q2
[2] https://www.channel3000.com/news/big-mac-index-shows-us-dollar-too-strong/1094872120
[3] https://www.fxstreet.com/news/usd-chf-jumps-toward-09900-on-the-back-of-a-stronger-us-dollar-201907161559
[4] https://www.cnbc.com/2019/07/15/half-of-the-companies-that-have-reported-earnings-so-far-say-the-strong-dollar-is-hurting-them.html
[5] https://www.cnbc.com/2019/07/01/companies-are-warning-that-earnings-results-are-going-to-be-brutal.html
[6] https://www.bloomberg.com/news/articles/2019-07-08/wall-street-dons-tinfoil-hat-to-ponder-u-s-fx-intervention
[7] https://finance.yahoo.com/news/alphabets-healthcare-push-gains-steam-130701165.html
[8] https://www.bloomberg.com/news/articles/2019-07-10/trump-concern-over-dollar-s-strength-spills-into-fed-selection?utm_source=twitter&cmpid=socialflow-twitter-business&utm_content=business&utm_medium=social&utm_campaign=socialflow-organic
[9] https://www.cnbc.com/2019/07/10/trump-has-reportedly-tasked-aides-to-find-a-way-to-weaken-the-us-dollar.html

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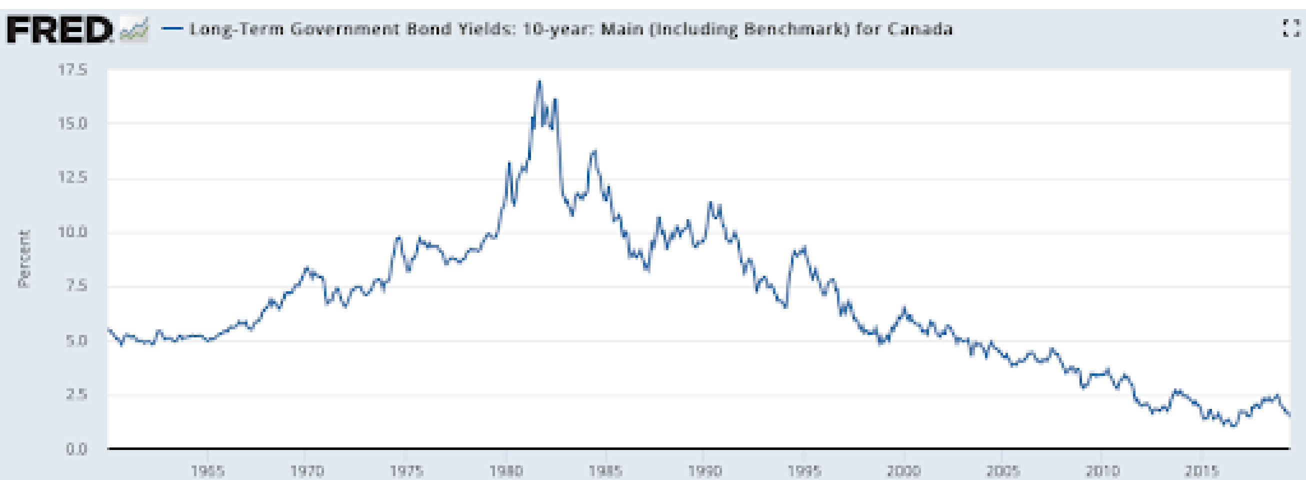
The low interest rate environment in Canada

By Jordan Ng and Jonathan Zaionz

Over the last few years, interest rates in Canada have been at historical lows. There are a couple of questions to be considered when examining this phenomenon. How do low rates affect the value of assets? Who gains and who loses from low rates?

Canadian Government Bonds, which are considered to be some of the most secure assets in the world, have had a trend of decreasing yields since the late 1980s. This is largely due to the Canadian monetary policy, as the Bank of Canada has followed suit with other global economies that have preferred a low-rate environment to spur economic growth.



10-year Government of Canada Bond yields are currently hovering around a low 2%. (Source: Federal Reserve of Economic Data)

Winners and Losers

It is clear that savers, especially people saving for retirement, are the losers in this low interest economy. Although fixed income securities provide steady growth, the compounding returns available are too low for most people to sustain long term goals such as retirement savings. Therefore, people tend to invest in higher growing but more volatile equity markets, exposing them to unwanted market risk. Seniors who outlive their assets are subject to longevity risk and are the most adversely affected.

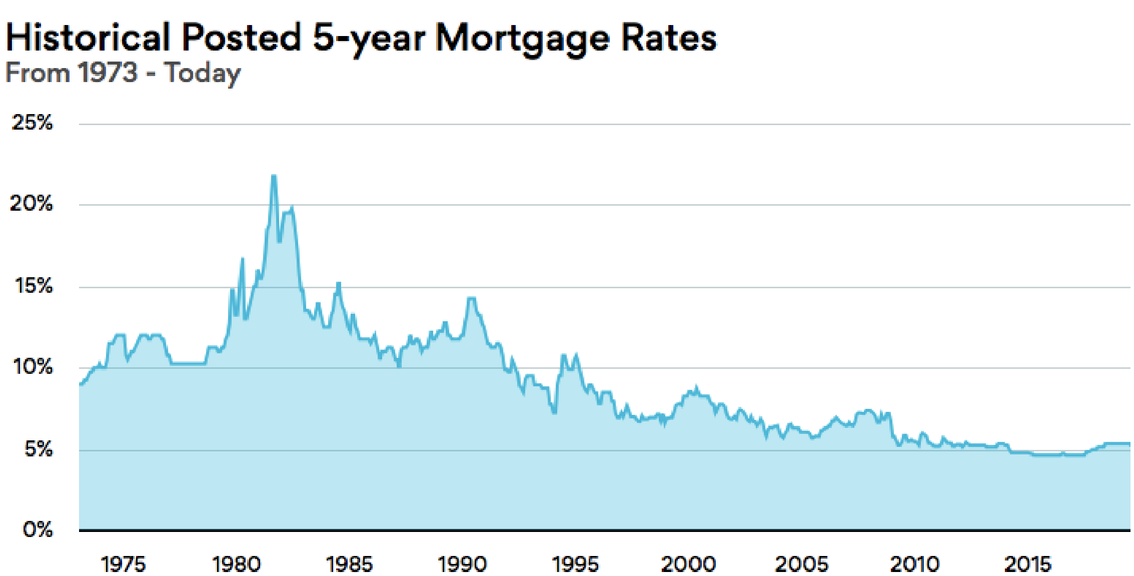
As people approach retirement, they traditionally become more risk averse and change their asset allocation accordingly. This means reducing exposure to equities and increasing exposure to safer assets like bonds and GICs. A 2018 RBC Retirement Portfolios Report states that upon transitioning into retirement, many clients tend to shift from a 70-30 fixed income to equity asset allocation to a 30-70 mix. Due to the low returns in fixed income securities, many seniors see equities as a more suitable investment and have taken on the market risk associated with this allocation.

Impacts on the housing market

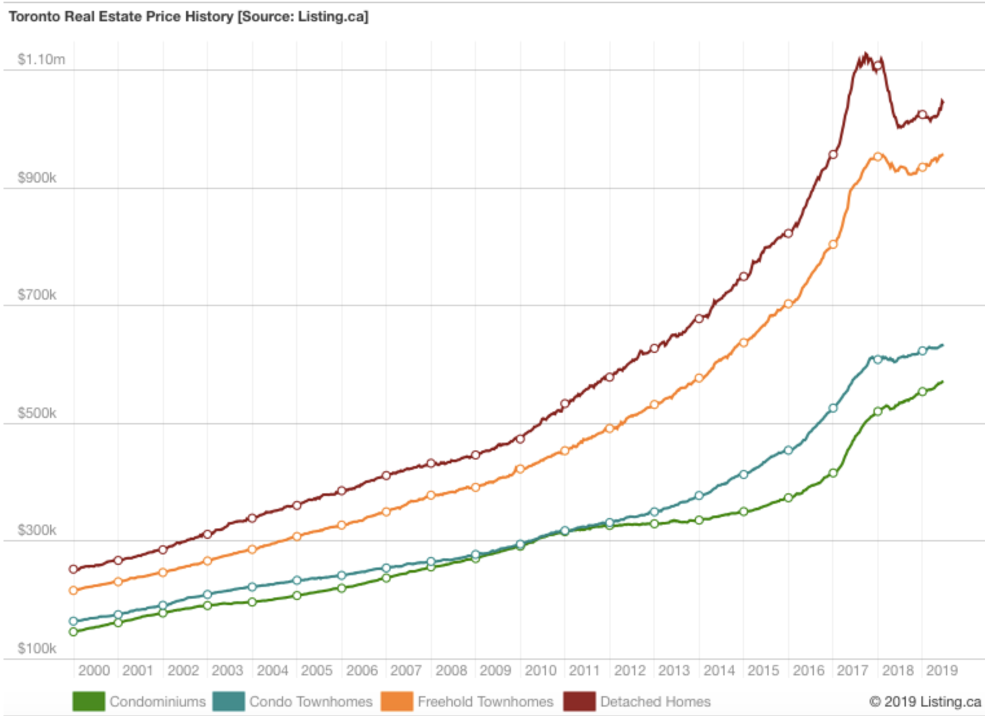
It is typically thought that those who incur debt like mortgages or student loans benefit in a low interest rate environment from lower interest payments. However, it could be argued that low interest rates may lead to assets being arbitrarily inflated. For example, housing prices in the Greater Toronto Area have increased significantly in the last twenty years due to asset inflation caused by low interest rates.

According to CBC, while the US housing market was hit hard by the 2008 subprime mortgage crisis, Canada remained relatively unscathed. Low interest rates set by the U.S. Federal Reserve were needed for stimulation in the US as Canada followed. However, this was not necessary in an already-hot housing market in Canada. This has placed unnecessary confidence in the hands of Canadian homeowners and home sellers ever since.

Given this information, house sellers knew that they could hike up house prices as mortgage payments would still be relatively low. However, in the long run, people may end up paying even more in interest due to these inflated prices.



The graph shows that the 5-year mortgage rates in Canada have been historically low as early as 2010. (Source: Ratehub.ca)



Within the same time span of 2010 and onwards, housing prices have been on the rise reaching record highs in 2017. This arbitrary inflation has caused the current housing bubble. (Source: Real Estate Bay Realty Inc, Brokerage)

The table below compares average housing prices for detached homes in the GTA and interest rates with absolute interest paid. The assumption is that the 5-year fixed prevails over the 25 year amortization period, with monthly payments made. Canadian mortgages are compounded twice annually. Despite mortgage rates trending downward, the average cost and total interest paid over the life of a mortgage have both increased.

Year (January 1st)	Mortgage Rate (%)	Average Cost ($)	Total Interest Paid ($) (over full length of the mortgage)
2005	6.05	360,117	334,314
2010	5.49	472,789	392,144
2015	4.79	749,837	531,727
2019	5.34	1,024,821	823,269

(Numbers derived from ratehub.ca)

Effects on Financial Institutions and the Canadian Government

The effects that low interest rates have on other entities, such as government, banks, pension funds and insurance companies, are quite complex. In a lower interest rate environment, consumers and corporations will borrow more from the banks since financing is cheaper. An increase in borrowing adds total loans to bank balance sheets. However, in a low interest rate environment, this provides for a low net interest margin. Net interest margin is the difference between the interest rate at which the bank lends out money, and the rate at which they pay their depositors. Banks have weathered the low-interest environment well since the 2008 financial crisis and have been adjusting pricing accordingly.

A 2014 article by the Fraser Institute stated that federal, provincial, and municipal Canadian governments have been enticed to borrow more money at lower rates. It was reported that the sum of all debt across all levels of government was $4.1 trillion, which averaged to around $243,000 per Canadian. Furthermore, lower interest rates have led to more government borrowing, which could eventually lead to higher consumer taxes to pay back these borrowings. The average consumer may therefore be a loser as a result of an extended period of low interest rates if taxes were to increase over time.

As of 2019, pension funds in Canada are presumed by many to be severely underfunded due to insufficient assets at the current state of interest rates. Similar to pension funds, insurance companies rely heavily on the ability to reinvest premiums paid by their customers in order to have adequate capital for payout on insurance claims. With lower interest rates, insurance companies are forced to charge higher premiums to their customers. With finite financial resources and higher insurance premiums, the average consumer could eventually become underinsured.

Given that the US Federal Reserve have just lowered interest rates by 25bps at the latest FOMC announcement on July 31st, it will be interesting to see how the Bank of Canada responds. With the looming trade war between the US and China providing rationale for the cut, it will be interesting to see how Canadian economic data presents itself and how the Bank of Canada could react.

https://toronto.listing.ca/real-estate-price-history.htm
https://www.ratehub.ca/5-year-fixed-mortgage-rate-history
https://www.fraserinstitute.org/article/243000-bill-courtesy-canadas-governments
https://business.financialpost.com/news/fp-street/high-discount-rates-could-leave-pension-funds-with-insufficient-assets-to-meet-obligations-c-d-howe
https://fred.stlouisfed.org/series/IRLTLT01CAM156N
https://www.thesimpledollar.com/how-heavily-should-seniors-be-invested-in-the-stock-market/
https://business.financialpost.com/news/fp-street/interest-rate-cuts-could-add-to-the-headwinds-already-facing-canadas-big-banks
https://www.cbc.ca/news/business/housing-mortgage-canada-1.5099900
http://funds.rbcgam.com/pdf/fund-profiles/rbf1501_e.pdf
https://www.theglobeandmail.com/investing/personal-finance/household-finances/article-the-era-of-higher-mortgage-rates-was-short-lived/

JULY 2019

Growth vs Value Investing

By John Li and Jack Yao

The main concept behind a growth investment strategy is investing in companies that offer strong earnings potential. This means that a growth investor is more attracted to companies with earnings that are expected to grow at an above-average rate compared to its industry peers. Hence, growth investors look for investments in rapidly expanding industries/markets, often where companies aggressively pursue new technologies and services. Often small and young, these companies tend to reinvest their profits into further expanding the business rather than paying it as dividends to shareholders. Thus, the main goal of growth investment strategies is to generate profits and through capital appreciation, following the idea of buying low and selling high.

On the other hand, value investors seek to invest in stocks that are seen as undervalued in the marketplace. A company is seen as undervalued if the market price for its stock is trading for less than their intrinsic or book value. Value investors believe that investor sentiment causes a market overreaction to news, moving share prices away from their intrinsic value. Essentially, investors using this strategy hope to catch this overreaction as an opportunity to buy stocks at a discount and eventually sell for profits when the markets properly recognize share value and cause the price to match its intrinsic value.

Choosing between strategies

In terms of risk and rewards, the growth strategy is all about going big or going home. The strategy focuses heavily on companies that can offer the greatest upside potential. However, with a potential for huge returns comes great risk for losses. This is even more apparent when focusing on younger, developing companies, as there is no guarantee of the aggressive reinvestments leading to successful expansion and profit. On the other hand, value investing strategies focus less on growth companies, in general, and more on undervalued companies that are well established with strong fundamentals and a proven business model. This often leads to investment into stocks that often have less potential for capital gain than growth stocks, but consistently make dividend payments. Value investors will buy and hold these stocks and typically benefit from these regular dividend payments until the market recognizes and re-adjusts the market value of the stock back to its intrinsic value.

How do investors value companies?

Given the importance of market valuations in value investing, it is crucial that one has a solid understanding of the fundamental value of companies. Basic metrics to consider when assessing intrinsic value typically involve the PE ratio, debt to equity ratio, EPS growth, safety margin, and PB ratio. Value investors are focused on assessing whether the company is undervalued, and thus they focus on metrics that can be compared across companies.On the other hand, when considering a growth strategy it is important to look for a company's historic and projected growth rates, price-to-sales ratios, churn rates and forward earning margin projections factoring in the general industry trends as well as internal management of the company. Investors like growth companies that are set to benefit from continued high revenue growth rates, margin expansion, and free cash flow growth.

Growth investing through history

Throughout history, there have been notable high growth companies in a variety of industries. Savvy growth investors who picked up these stocks at their infancy have made tremendous returns on investment.

Microsoft (1990s)

In the 1990s, Microsoft, dominating the computer software markets with Windows, saw its share price explode. Microsoft's shares appreciated from an IPO of $21/share in 1990 to about $140/share as of July 2019. Several factors contributed to Microsoft's rapid growth during this period, primarily its Windows and Office software, peaking with Windows 95 in 1995, as well as after the launch of the first-ever internet browser, Internet Explorer. All these factors led to Microsoft dominating the then infant yet fast growing computer software and internet industry.Microsoft still displays signs of a strong growth company to this day. The historical EPS growth rate for Microsoft is 13.2%. However, looking forward, the company's EPS is expected to grow 11.2% this year (2019), significantly overtaking the industry average of 6.9%.

Amazon (2010s)

Amazon emerged as one of the world's dominant online retailers in the 2010s. It has emerged into an e-commerce conglomerate, changing the way consumers shop. Amazon continues to invest heavily into the company's future through advanced automation and logistic systems, and expanding into every imaginable product, media and service industry. Amazon's stock has grown from $120 in about 2010 to a current market price of $1900, showing approximately 1500% growth. Amazon continues to display signs of being a strong growth company. With a historical EPS growth rate of 126.7%, YoY EPS growth of 32.1% is projected for 2019. Aside from Amazon's fast earnings growth, YoY cash flow growth is 85.2%, much higher than industry peers that are currently averaging at about 8%.

Value investing through history

Warren Buffett

The Oracle of Omaha, Warren Buffett, is perhaps the most well known value investor of all time. Along with his long-term investment partner Charlie Munger, he managed to grow Berkshire Hathaway, originally a small textile company, into one of the largest investment conglomerates in the world. In addition to fundamental value investing approaches in finding undervalued companies, Buffett invests in companies that he can understand and analyze. He considers the deep understanding of the business, from its model to its operations, as a prerequisite for a viable forecast of future performance.

BYD

Some of Buffett's greatest value investments have been in China. In 2008, Munger and Buffett invested in the Chinese car battery company BYD. They saw untapped value in the electric car market. BYD's solid fundamentals and the work ethics of its CEO Wang Chuan-Fu differentiated BYD to its peers. Originally bought for $230 million in 2008, the 10% stake held by Buffett has transformed to over $2 billion today.

Wells Fargo

Buffett's value investing approach is highlighted in one of his most notorious banking investments, Wells Fargo. Buffett announced his $290 million investment in Wells Fargo, when bank stocks were being hit hard by the savings and loan crisis. Buffett considered Wells Fargo to be a high quality bank with an undervalued stock among its close competitors, at the time declaring his belief that Wells Fargo would outperform other big bank stocks over the next decade. His position in Wells Fargo then worth $2.9 billion, is worth $275 billion today.

https://www.visualcapitalist.com/elite-growth-investors-pick-stocks/
https://www.merrilledge.com/article/growth-vs-value-investing-two-approaches-to-stocks
https://www.investopedia.com/investing/warren-buffetts-investing-style-reviewed/
https://www.investopedia.com/terms/v/valueinvesting.asp
https://www.investopedia.com/terms/g/growthinvesting.asp