



Quantitative . Intelligent . Bespoke

URL: <https://www.taurowealth.com>

Email: harsh@taurowealth.com

Location: Bangalore

Phone: +91 98338 58432

STATE OF THE MARKET

Just 10 stocks are holding the fort while the rest have **lost ₹ 23 lakh crore** in a year

Only one-third of all equity mutual fund schemes **outperformed** BSE200 since 2016

SIP investors are losing in 78 of 137 equity mutual fund schemes, with the **average loss of 1.5%** for two years

Nifty stocks	CMP (₹)	% Fall from 52-Week High	% Chg from 200 DMA
Tata Motors	174.60	-56.77	-27.86
Indiabulls Housing	672.90	-53.06	-35.75
Yes Bank	199.50	-50.62	-29.42
Vedanta	194.10	-44.06	-14.53
HPCL	231.15	-43.59	-12.49
Eicher Motors	18,919.15	-41.31	-27.89
Grasim Industries	725.00	-39.67	-24.00
Sun Pharma	417.95	-38.47	-21.62
Tata Steel	467.45	-37.50	-16.21
JSW Steel	268.90	-37.11	-18.97
Indian Oil Corp	134.55	-37.07	-11.36
Zee Entertainment	388.85	-36.30	-22.42
Maruti Suzuki	6,548.25	-34.05	-20.54
ONGC	139.70	-32.84	-14.14
Bharti Airtel	303.70	-32.68	-12.99
Hero MotoCorp	2611.00	-32.39	-19.55
M&M	678.65	-31.66	-19.20
BPCL	342.70	-30.68	-5.01
Coal India	225.20	-28.95	-15.68
Bajaj Auto	2,499.70	-28.02	-9.47
Indusind Bank	1,476.10	-27.57	-16.21
Cipla	505.80	-25.45	-13.54
UltraTech Cement	3,442.20	-23.40	-12.33
Hindalco Industries	205.80	-23.15	-9.39
Adani Ports	338.15	-23.15	-8.40
NTPC	138.70	-22.94	-12.35

Source: ETIG database/Equinomics

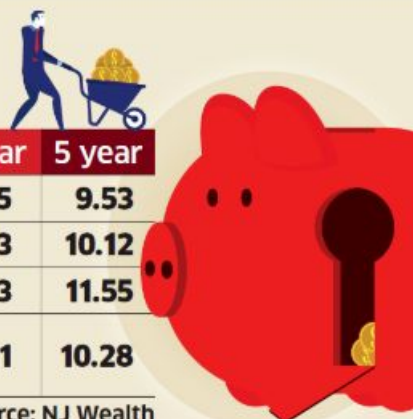
Returns Count

Average SIP returns as on Jan 31, 2019

Category	1 year	2 year	3 year	5 year
Large cap	-3.05	1.53	6.65	9.53
Blend / Multicap	-8	-1.26	5.53	10.12
Mid/Small cap	-14.94	-6.07	2.73	11.55
All Diversified Equity MF	-7.98	-1.46	5.21	10.28

Returns % CAGR

Source: NJ Wealth



WHAT'S MISSING

Sound financial advice is
inaccessible to most investors, or
worse, **inappropriate** & impaired
due to **conflicts of interest**



**ONE SIZE
DOES NOT
FIT ALL**

The **same investment products** are
sold to a 25-year old **bachelor**, a
40-year old **executive** and a 60-year
old **retiree**!

HARSH VARDHAN SINGH, CO-FOUNDER

- Graduated in Aerospace engineering from IIT Kanpur in 2004.
- Worked for 2 years at Deutsche Bank's Global Markets Equities division, structuring and developing thematic investment strategies for institutional clients in US/EU markets; Headed Equity derivatives structuring and trading at Deutsche Bank India for 5 years
- Managing the financial modelling and business side of Tauro Wealth

ANAND VIVEK SRIVASTAVA, CO-FOUNDER

- Graduated in Computer science engineering from IIT Kanpur in 2006.
- Worked on large complex systems (synthesis compiler) at Mentor Graphics for 3 years; Spent 3 years at Guavus Network Systems with a ~10 person dev team, authoring and owning multiple highly scalable, performant and reliable systems (near real-time Big Data analytics); Provided technical leadership at Microsoft's Display Advertising division for 3 years, contributing to full SDLC
- Managing the technology development of the Tauro Wealth platform

THE TAURO SOLUTION



Portfolio Management Service

Algorithm-driven PMS with risk-adjusted portfolio creation and monitoring;
customized for individual clients

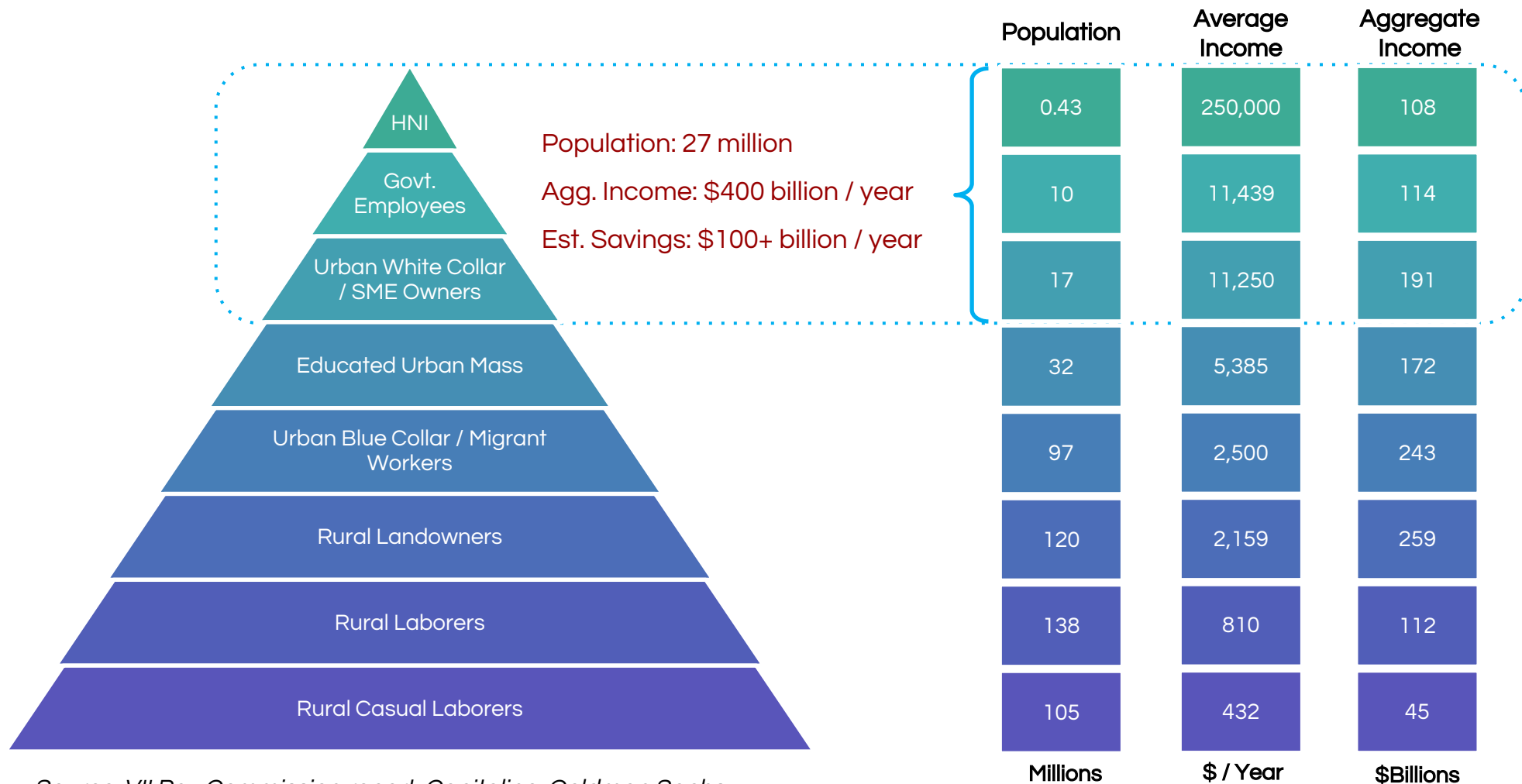
Thematic Investments

Thematic & idea-based stock portfolios created using ML algorithms with
cognitive features for enhanced performance

Trading Ideas

Short/medium term trading ideas using ML-driven **technical** stock selection
algorithms

TARGET MARKET



Source: VII Pay Commission report, Capitaline, Goldman Sachs
Global Investment Research

MARKET ACCESS



B2B

B2C



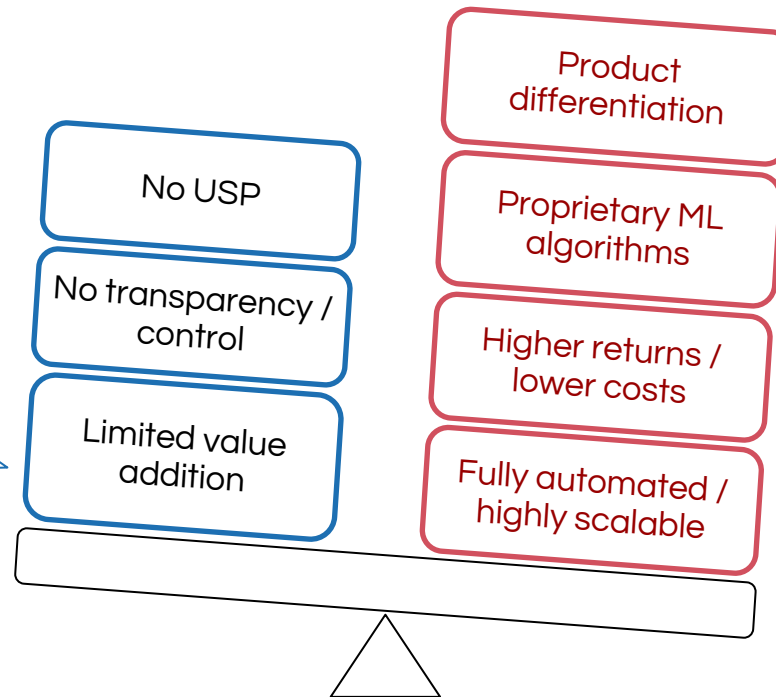
BUILDING A MOAT

Scripbox / Smallcase / ORO Wealth /...

VS.

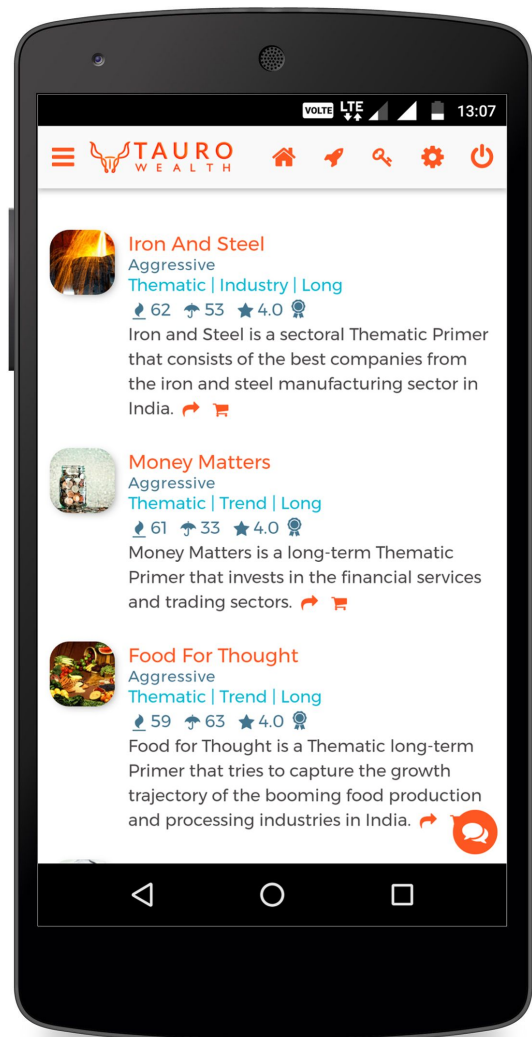
Tauro Wealth

- Adding a technology layer over existing investment products
- Limited value addition doesn't justify their fees
- Easily replicable offerings & business models that don't inculcate customer loyalty



- Unique financial products powered by strong technology
- Cutting-edge ML-based proprietary algorithms used to achieve consistent performance
- Significantly lower costs while improving product & service quality
- Tailored & custom-fit for each individual customer

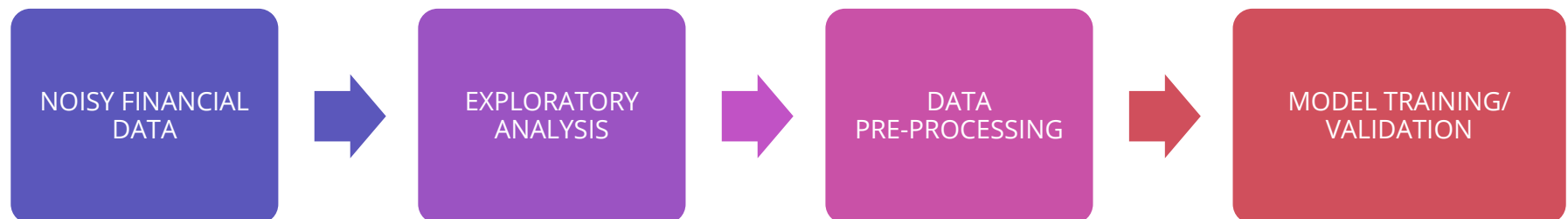
WHAT IS A PRIMER?



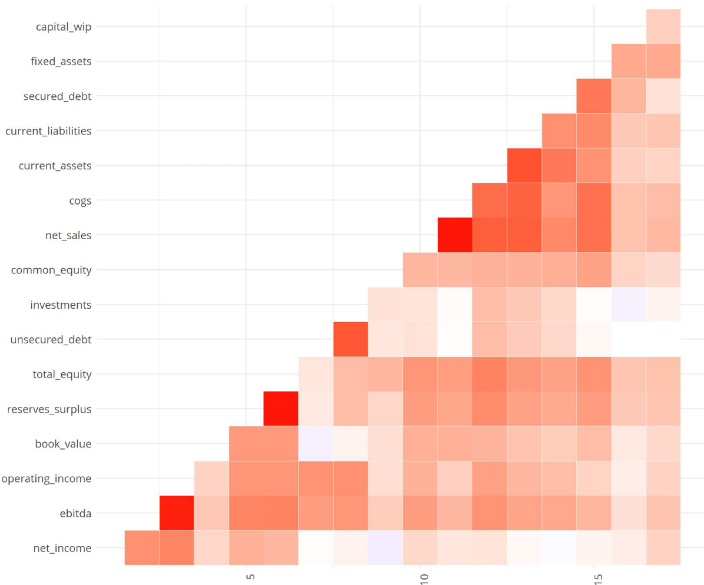
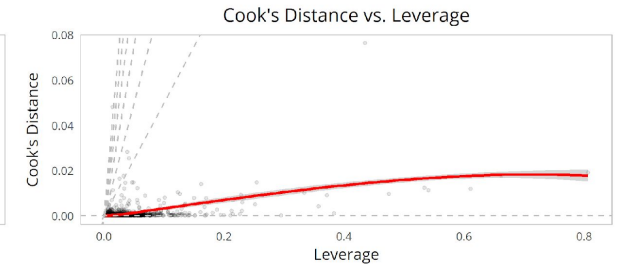
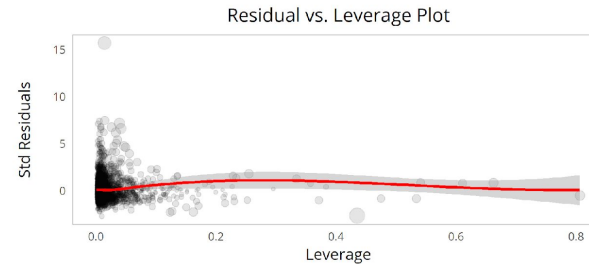
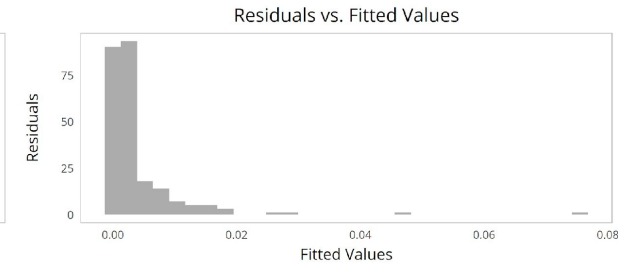
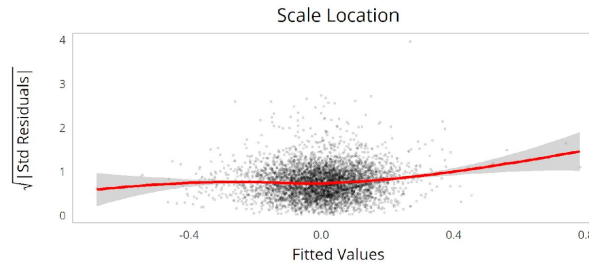
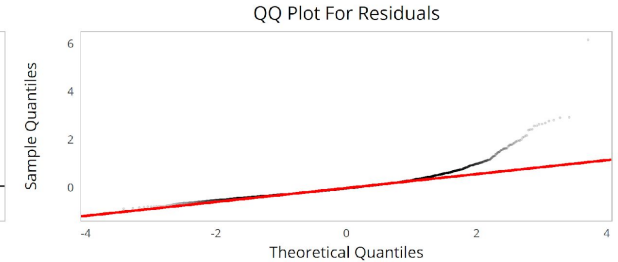
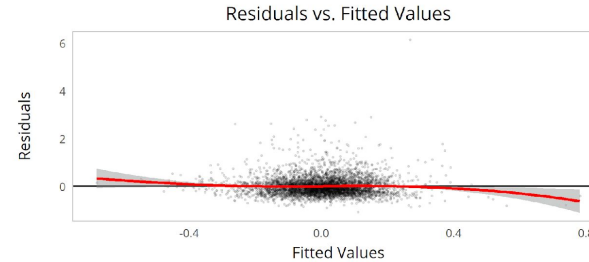
- A **Primer** is a theme, trend or **investment rationale** that forms the basis for creating a stock portfolio
- Once a theme is identified, a **filtered universe** of (~50 to 500) related stocks is shortlisted, based on size, sector, business, fundamentals, etc.
- Proprietary **algorithms** are used to create multiple variations (**Aggressive, Balanced, Conservative**) with the highest rated stocks being chosen, given liquidity, market cap & other risk parameters
- Portfolios are monitored continuously & **rebalanced** periodically, typically once every **six months**

- Basic stock filtering on the basis of **liquidity, volatility, market cap**
- ~**50 fundamental** (annual/quarterly) and **technical** parameters used (such as income growth, ROE, debt-equity ratio, book value, price volatility, etc.)
- ~**15** key parameters used for **filtering**
- **Ensemble** of machine learning algorithms (GBMs, Random Forests, Neural Nets) to predict stock performance during the next period
- Portfolio variations created using a combination of fundamental & technical analysis, with **risk control parameters** to tailor them for different investor profiles
- **Tuning parameters** used to **adjust portfolio characteristics** depending on market & macro conditions

- Managing **noise** in **financial data** is a major challenge
- Exploratory **data analysis** and **pre-processing** are the most critical steps in the process
- Simplified the task of the ML predictor by redefining the outcome
- **Ensembles** used to boost accuracy of individual models
- Combined ML predictions with a **proprietary cognitive algorithm** to create portfolios
- **Back-testing** is one of the toughest challenges for financial ML models



EXPLORATORY DATA ANALYSIS



Exploratory plots, **correlation** and **variance analysis**, and **outlier detection** are a few of the tools used explore, analyse and clean the data; this is a crucial step in the model development process

- **Lookback bias** : Only the **data available at the time** of creation is used for historical testing; algorithms tested with **random portfolios** to remove bias due to theme selection
- **Overfitting** : All themes use the same stock-selection algorithm; **out-of-sample testing** for model selection; multiple test sets to validate performance in different **market cycles**; checks to avoid data leakage
- **Data cleaning / sanity** : Rigorous tests to ensure fundamental and technical data sanity during training, testing and live implementation
- **Macro conditions** : **Walk-forward testing** over historical data, **cross-validation** tests across critical time periods and testing on **synthetic data** to stress test models across varying macro conditions

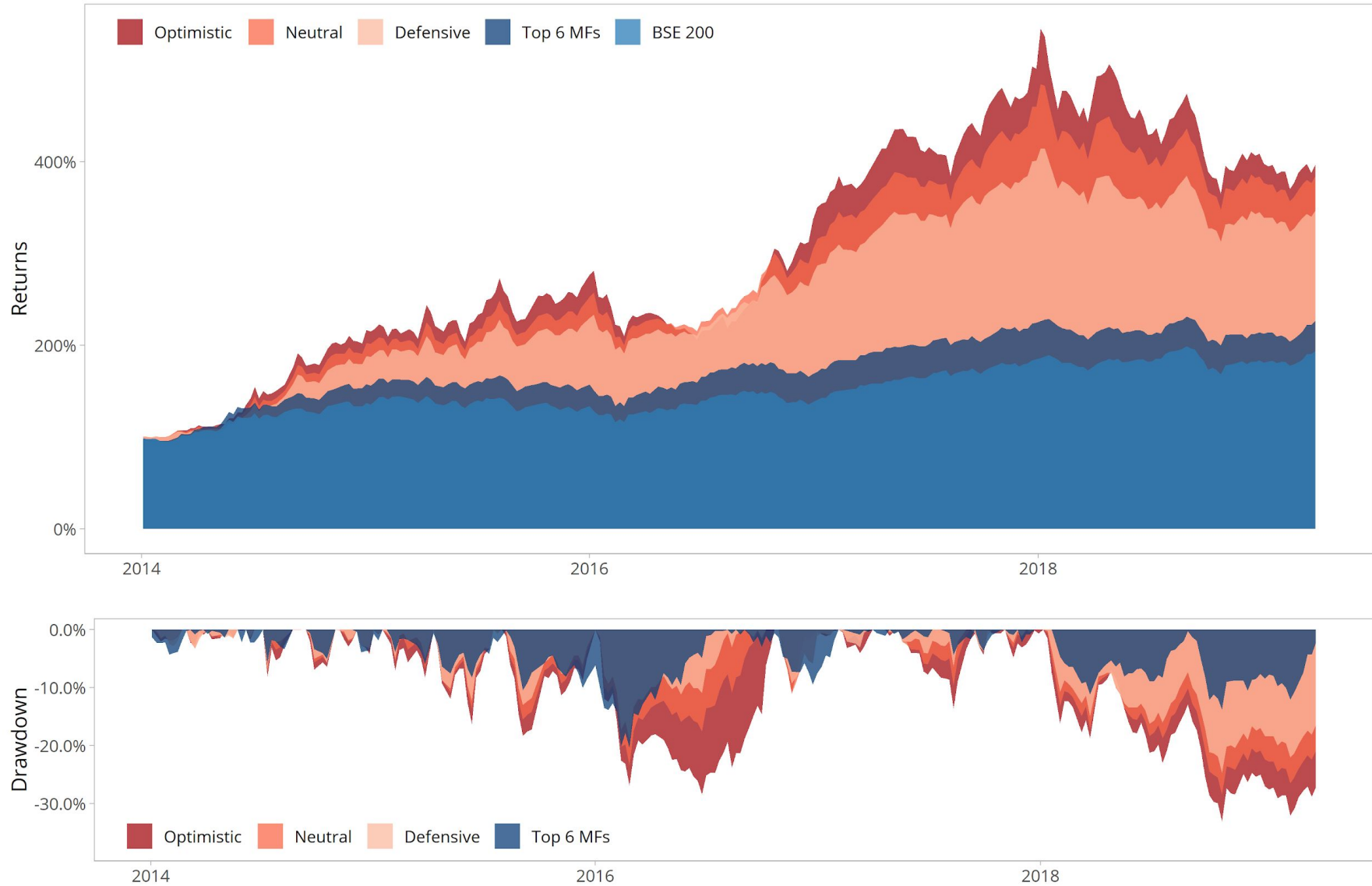
Portfolio Modelling Features

- **Tailored** specifically for each individual user based on risk profile & investment amount
- **ML-based algorithms** to compute stock scores the determine portfolio composition
- **Stock counts** and **weight limits** specifically computed per user based on risk profile & investment amount
- **Sector allocation** based on overall sector scores and **weight limits** for individual sectors to avoid concentration risk
- Configurable minimum **weight allocation** for **large caps**, determined by user risk profile
- Multiple algorithms available to **control sector allocation**

**Top 20 stocks by weight in the portfolio based on stock scores as on 30 June 2019*

Stock Name	Market Cap	Stock Price	Weight
Tata Consultancy Services Ltd	841,395	2,242	3.00%
Interglobe Aviation Ltd	60,598	1,575	3.00%
Titan Company Ltd	117,905	1,328	2.99%
Hindustan Unilever Ltd	385,320	1,780	2.87%
Bajaj Auto Ltd	82,319	2,845	2.63%
Infosys Ltd	315,432	734	2.26%
Bata India Ltd	18,618	1,449	2.18%
Team Lease Services Ltd	5,021	2,937	2.04%
Nestle India Ltd	114,294	11,854	2.02%
HCL Technologies Ltd	144,801	1,068	1.94%
Hawkins Cooker Ltd	1,568	2,965	1.94%
Marico Ltd	47,850	371	1.85%
Havells India Ltd	49,611	793	1.81%
L&T Technology Services Ltd	18,353	1,764	1.81%
Britannia Industries Ltd	66,099	2,750	1.78%
GlaxoSmithkline Healthcare Ltd	32,232	7,664	1.75%
Petronet LNG Ltd	37,079	247	1.73%
Hindustan Petroleum Corporation Ltd	44,123	290	1.67%
VST Industries Ltd	5,307	3,437	1.64%

INVESTMENT RETURNS



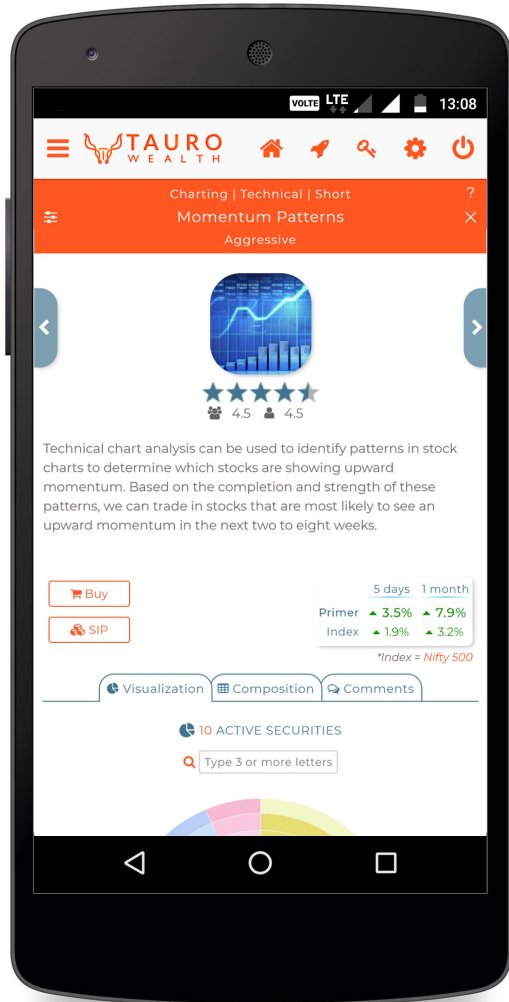
Tailored⁺ Tauro Portfolios (Jan 2014 – Mar 2019)

	Ann. Return	Beta	Sharpe Ratio	Max Drawdown	Excess Return / Drawdown**
Optimistic Investor	31.8%	1.02	1.20	-33.6%	1.25
Neutral Investor	30.0%	0.99	1.54	-28.7%	1.44
Defensive Investor	27.4%	0.90	1.63	-24.7%	1.52
Top 6 MFs	17.5%	1.03	1.21	-20.9%	0.95
BSE 200	13.8%	1.00	1.04	-21.1%	0.74

* Beta computed with respect to BSE 200

** Excess annualized return per unit of excess drawdown

⁺ Tailored risk-adjusted portfolio created for each category of investors



1. Short/medium term investment themes

- In addition to medium and long-term thematic portfolios, we can create **short-term portfolios** based on news, market events, corporate actions, etc.
- Rebalancing can be done on a **daily/weekly** basis

2. Stock-based trading ideas

- Our technical stock-selection algorithms can be used to generate **single stock & F&O ideas**
- ML algorithms give **entry/exit signals** along with **price targets**, stop losses & recommended **allocation**
- Algorithms use **price patterns** combined with **technical indicators** & crucial price level analysis

Sample medium-term technical stock picks

Stock Name	Entry Date	Entry Price	Holding Period	*Return
HEG Ltd	2018-05-21	₹3,307.05	51	18.15%
GAIL (India) Ltd	2018-06-04	₹334.78	95	12.69%
Bata India Ltd	2018-06-22	₹831.23	60	24.31%
Graphite India Ltd	2018-07-06	₹940.60	26	8.44%
Havells India Ltd	2018-07-26	₹614.68	34	16.21%
ACC Ltd	2018-07-27	₹1,534.53	89	-9.98%
Petronet LNG Ltd	2018-07-31	₹229.15	50	1.92%
Interglobe Aviation Ltd	2018-12-21	₹1,153.95	62	-3.57%
Titan Company Ltd	2019-01-24	₹968.70	131	29.06%
Infosys Ltd	2019-02-05	₹754.55	77	-3.52%
Tech Mahindra Ltd	2019-02-08	₹804.55	110	-8.17%
Just Dial Ltd	2019-03-07	₹533.58	11	23.50%
Ultratech Cement Ltd	2019-04-10	₹4,128.83	61	11.39%
ITC Ltd	2019-04-18	₹304.38	61	-9.54%

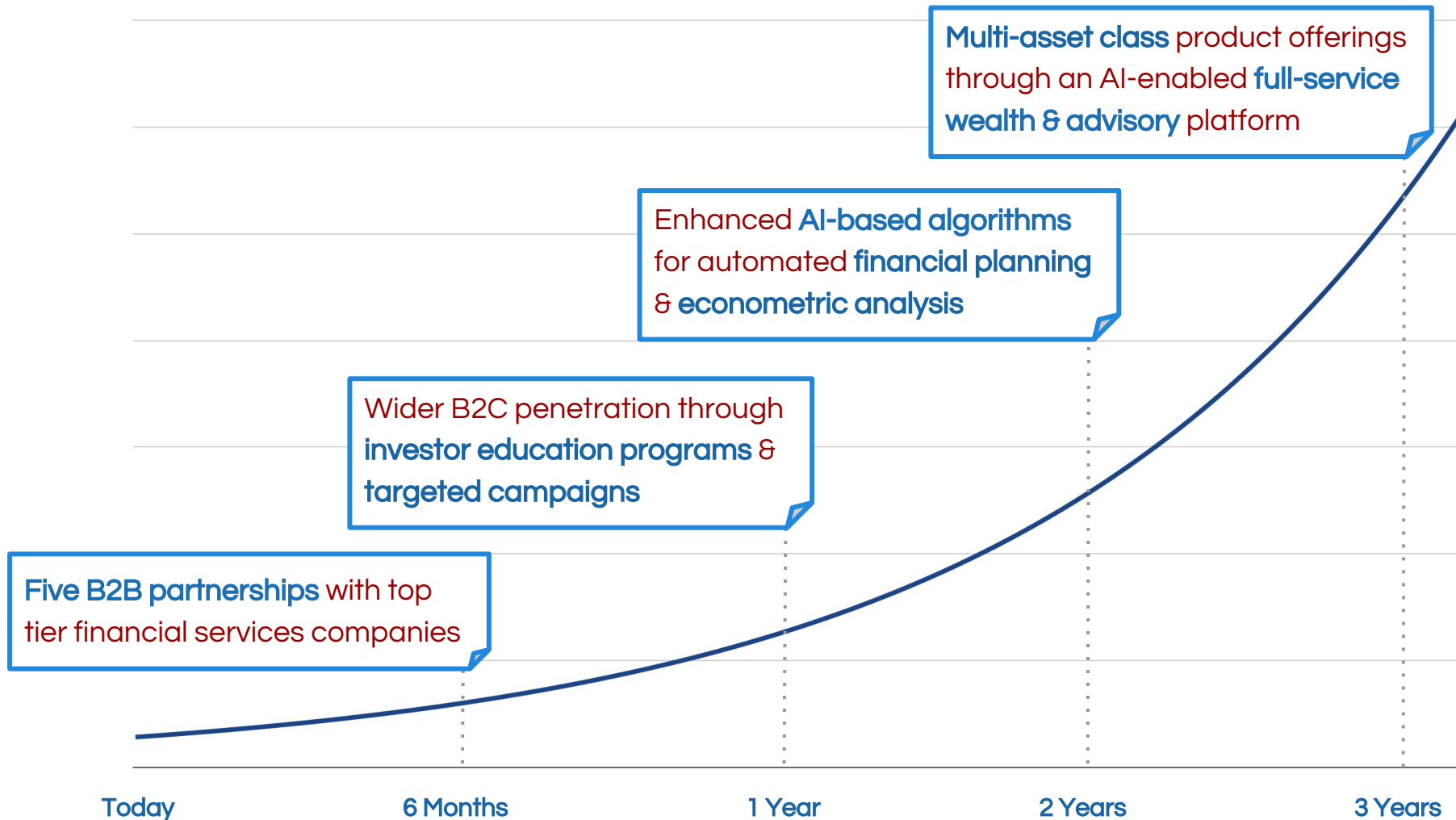
* Holding period returns from the trade entry date



New & existing themes, stock recommendations & risk/return profiles can be **customized** by B2B partner's research team and/or CIO

Internal research, CIO insights & client profiles can be used by the Tauro engines to create bespoke products & give recommendations

FUTURE MILESTONES



CLIENT SEGMENTATION

Basic, Novice

Savings are in fixed deposits, mutual funds, gold & property

Needs **inflation-beating** long term returns with **controlled risk**/downside

Ideally suited to invest in **long-term products** with a focus on asset allocation

Premium, Advanced

Invests based on tips & ad hoc advice from random sources

Needs good **quality research**, actionable advice & **bespoke solutions**

Ideal for tailored products with **varying risks & durations** across multiple asset classes

B2B

Technology Platform

1. Integration fees
₹25-50 lacs one-time
2. Annual subscription
₹25-50 lacs per annum

Technology + Advisory

1. Integration fees
₹30-60 lacs one-time
2. Annual subscription
₹40-60 lacs per annum
or
40-60 bps per annum

*B2B revenue estimates do not include fees from value-added services

B2C

Basic, Novice

1. Transaction fees
40-60 bps per annum
2. Advisory fees
0-100 bps per annum

Premium, Advanced

1. Transaction fees
20-40 bps per annum
2. Advisory fees
25-50 bps per annum

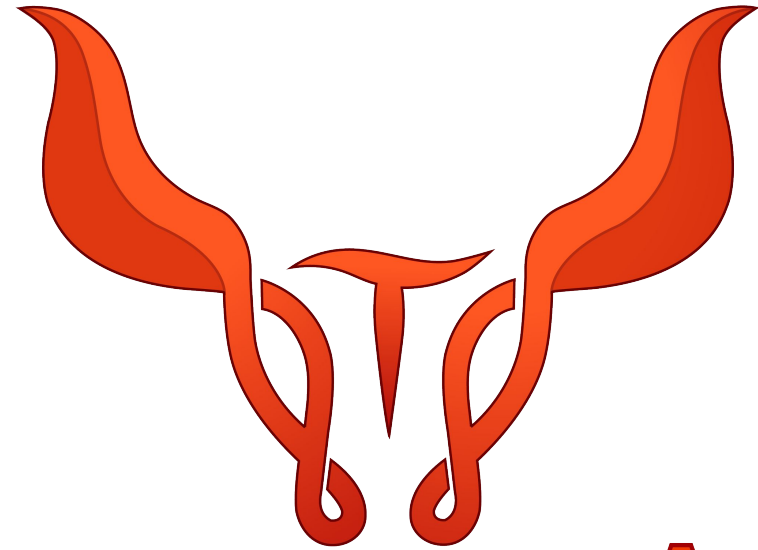
*Transaction fees on 50% sharing basis with brokerage partner

FUNDING HISTORY

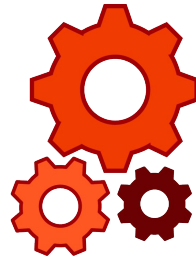


- Closed a seed round in September 2015 led by **Tracxn Labs**
- Raised **₹55 lac at 5.50% dilution** a Post-Money valuation of **₹10 crores**

CATEGORY	NAME	% HOLDING
1. Founder	Harsh Vardhan Singh	47.70%
2. Founder	Anand Vivek Srivastava	31.80%
3. Seed Round Investor	Tracxn Labs	3.00%
4. Seed Round Angel	Sudarshan / Chandrakanta Dhamija	1.00%
5. Seed Round Angel	Hem Chand Sirohi	0.50%
6. Seed Round Angel	Gauravjit Singh	0.50%
7. Seed Round Angel	Nitin Nath	0.50%
8. ESOP Pool	ESOP	15.00%



TAURO
inside





APPENDIX

PRIMER ENGINE PERFORMANCE



- Top 50 stocks based on **Tauro Stock Score** outperform the universe roughly **60%** times with median outperformance of **4-10%**
- Outperformance can be seen in both **upward** and **downward** trending periods
- **Strike Rate** is defined as the percentage of outperformers amongst the top 50 (ranked by Stock Score)

Date	Benchmark	Top 50	Outperformance	Strike Rate
2014-03-30	26.9%	36.0%	9.1%	68%
2014-03-30	26.9%	36.0%	9.1%	68%
2014-09-30	8.1%	13.4%	5.3%	58%
2015-03-30	-3.4%	1.0%	4.4%	62%
2015-09-30	-5.0%	-0.6%	4.4%	60%
2016-03-30	19.8%	17.1%	-2.7%	44%
2016-09-30	9.1%	13.8%	4.6%	56%
2017-03-30	7.4%	15.8%	8.4%	64%
2017-09-30	2.0%	12.4%	10.3%	62%
2018-03-30	-12.7%	-7.9%	4.8%	62%

TOP FUNDAMENTAL PICKS



Based on Stock Score as on 30 March 2018

Stock Name	Market Cap	Stock Price	Stock Score	*Performance
Larsen & Toubro Infotech Ltd	23,250	1,341	237.86	32.8%
Automotive Axles Ltd	2,189	1,448	209.57	-16.0%
Britannia Industries Ltd	59,726	2,485	198.90	28.9%
Tata Consultancy Services Ltd	5,34,557	1,425	195.80	33.0%
Mphasis Ltd	15,593	838	178.90	7.3%
Hindustan Unilever Ltd	2,88,623	1,333	169.52	31.2%
V-Mart Retail Ltd	3,435	1,895	164.35	19.1%
G M Breweries Ltd	1,432	784	158.13	-29.2%
Polaris Consulting & Services Ltd	4,827	468	155.93	1.3%
L&T Technology Services Ltd	12,847	1,236	148.78	36.7%
Tata Elxsi Ltd	6,136	985	143.40	-1.8%
V I P Industries Ltd	4,503	319	123.27	63.4%

* Holding Period Returns from March 2018 to June 2019

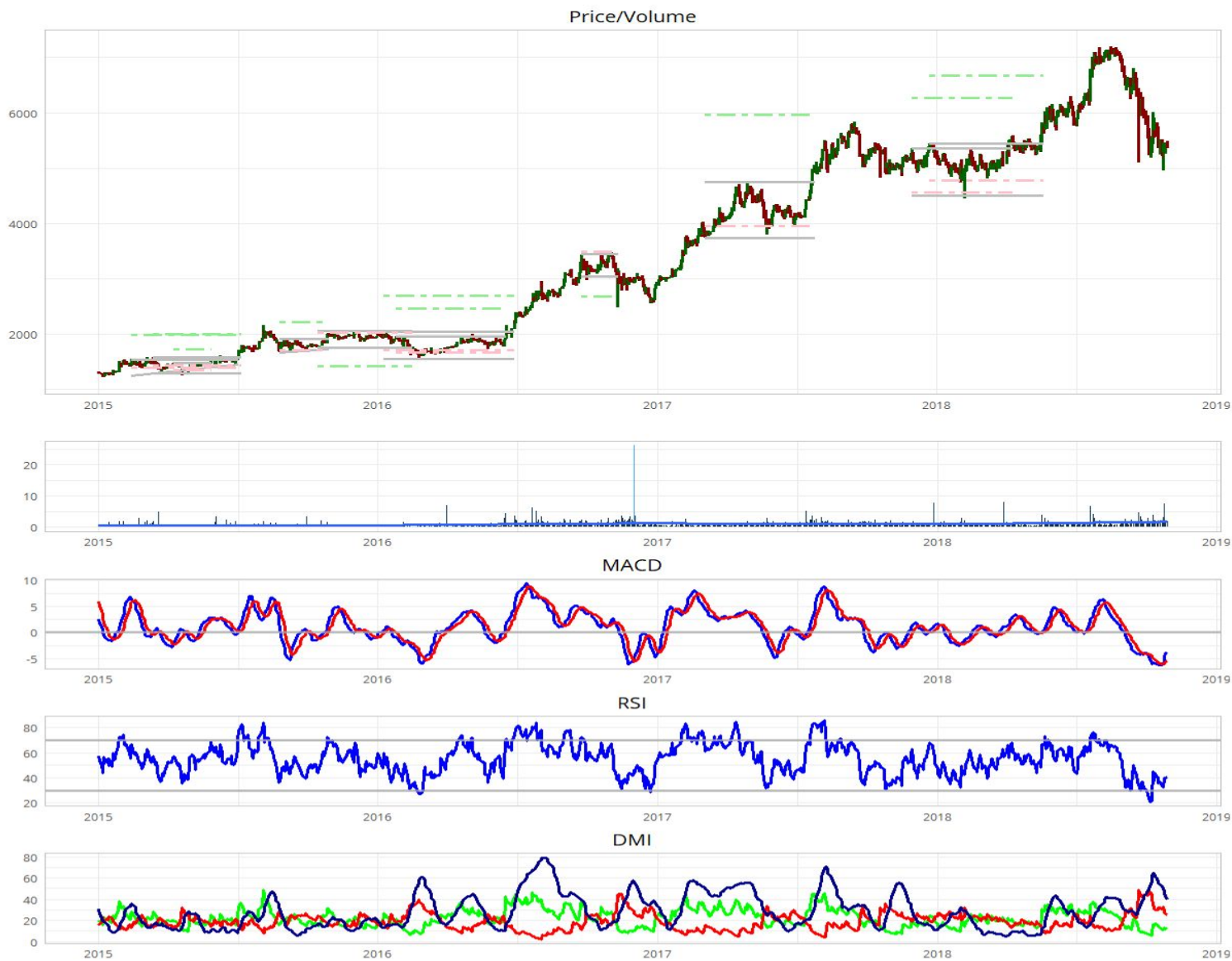
LOWEST STOCK SCORES

Based on Stock Score as on 30 March 2018

Stock Name	Market Cap	Stock Price	Stock Score	*Performance
Max Financial Services Ltd	12,197	453	0.481	0.8%
Jindal Stainless Ltd	3,764	79	0.704	-58.8%
Reliance Capital Ltd	10,697	423	0.759	-48.6%
Sical Logistics Ltd	1,263	216	1.074	-32.0%
Gayatri Projects Ltd	3,761	201	1.176	-10.0%
Advanced Enzyme Technologies Ltd	2,380	213	1.477	-19.9%
Bombay Burmah Trading Corporation Ltd	8,169	1,171	1.496	6.9%
SREI Infrastructure Finance Ltd	3,698	74	1.528	-54.6%
Lakshmi Vilas Bank Ltd	2,522	99	1.652	-24.0%
Reliance Infrastructure Ltd	11,243	428	1.676	-30.6%
Sun Pharmaceuticals Industries Ltd	1,18,791	495	1.852	-13.8%
Motilal Oswal Financial Services Ltd	14,593	1,002	2.724	-32.2%

* Holding Period Returns from March 2018 to June 2019

TECHNICAL ENGINE SAMPLE



B2B PLATFORM SAMPLE

