Financial Analysis of Annual Changes in Stock Prices

Applications of Machine Learning to Financial Analyses

Eunpa Chae

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Contents

1. Statement of Analysis

This is an analysis of financial data as sourced on https://www.kaggle.com/cnic92/200-financial-indicators-of-us-stocks-20142018?select=2015_Financial_Data.csv

2. Possible Applications

Although many analyses of financial data regarding changes in stock prices have been published few have covered machine learning applications to these types of analyses. In this report is presented analyses of data science applications relevant to financial data. Relevance of machine learning algorithms in analyses of quantitative data covering stock price fluctuation on annual basis is important to financial institutions including banks, credit rating agencies, equity analysts, etc. There are a vast array of data reported to the Securities Exchange Commission in annual reports including 10Ks upon which these data are based. Though the majority of equity analysts apply qualitative as well as quantitative data to analyze and predict changes in stock prices this analysis includes only quantitative data as reported to SEC in annual reports. An additional difference between traditional analyses of changes in stock prices and machine learning applications is refined levels of prediction once accuracy is determined to be sufficient. The subsequent analyses cover a review of variables that might be most importantly associated with annual changes in stock price.

3. Pre-Exploratory Data Analysis (Preparation of Data)

3a. Filtering

Specifics

Initial dataset covers 224 variables on years 2014 with 3808 companies, 2015 with 4120 companies, 2016 with 4797 companies, 2017 with 4960 companies, and 2018 with 4392 companies.

Pre-filter	**2014**	**2015**	**2016**	**2017**	**2018**
Number of companies	3808	4120	4797	4960	4392
Post-filter	**2014**	**2015**	**2016**	**2017**	**2018**
Number of companies	513	597	740	758	793

Identified variables with greater than 50% missing points and subsetted data accordingly. Dropped columns of 'operatingCycle' and 'cashConversionCycle' as these had less than 1% valid data.

Variable eliminated	**Reason**	**Remaining number of columns**
'operatingCycle'	Less than 1% valid data	229
'cashConversionCycle'	Less than 1% valid data	228
'operatingProfitMargin'	No variation	227

Standardized naming conventions on variables. Appended all years into an aggregated dataset. To be specific subsequent analyses on aggregated data of all years include macroeconomic variables to account for attractiveness of investment options in addition to stocks.

20 pairs of variables with identical correlation and similar names in aggregated data across 2014-2018	
Variable1	**Variable2**
priceBookValueRatio	PB ratio
priceEarningsRatio	PE ratio
ebitperRevenue	eBITperRevenue
ebtperEBIT	eBTperEBIT
niperEBT	nIperEBT
returnOnAssets	Return on Tangible Assets
returnOnEquity	ROE
returnOnCapitalEmployed	ROIC
payablesTurnover	PayablesTurnover
inventoryTurnover	Inventory Turnover
currentRatio	Current ratio
daysOfSalesOutstanding	Days of Inventory on Han
daysOfInventoryOutstanding	Days Sales Outstanding

daysOfPayablesOutstanding	Days Payables Outstanding
debtRatio	Debt to Assets
debtEquityRatio	Debt to Equity
cashFlowToDebtRatio	cashFlowCoverageRatios
freeCashFlowPerShare	Free Cash Flow per Share
cashPerShare	Cash per Share
payoutRatio	Payout Ratio

Although there were 22, 23, 26, 26, and 26 duplicate columns in years 2014,2015, 2016, 2017, and 2018 respectively, there were no duplicate rows in datasets. Once duplicate columns, variables with no variation ('operatingProfitMargin'), and rows with missing data were edited the resulting size of the filtered datasets were as follows → 513, 597, 740, 758, and 793 rows in years 2014, 2014,2015, 2016, 2017, and 2018 respectively. A review of data in selected columns via histograms pre- and post- filter revealed a greater degree of normal distributions. An analysis of the probability of selecting a random sample with these specific distributions of data was conducted via methods similar to boostrapping. Specifically, 10000 subsets with size of resulting filtered datasets were randomly sampled from unfiltered data of each year. Then the number of samples with mean of variables within standard margin of error was calculated. These means were averaged over all variables to fill in following table.

H_0 = There is a not a significant difference between random samples of size resulting from filtering methods applied in pre-EDA and actual post-filter dataset

H_A = There is a significant difference between random samples of size resulting from filtering methods applied in pre-EDA and actual post-filter dataset

Accepting the null hypothesis leads to conclusion that the random samples are not significantly different from dataset post-filter stage.

Post-filter	**2014**	**2015**	**2016**	**2017**	**2018**
Average of probabilities on all variables of selecting a subset with these distributions of features at random	0.688	0.673	0.689	0.668	0.677

3b. Review of academic journals, media, and websites on finance to select variables based on theory.

Relevant variables were identified based on review of peer-reviewed journal articles[1], news feeds[2], and texts[3] including operating cash flow, return on assets, book to market, leverage, earnings growth, dividend, and yield. Thus this set of variables was analyzed for collinearity and overlap with variables selected in correlation matrix analysis. Although correlation is not equivalent to causality the reverse association is true. Meaning that causality is associated with some level of correlation. Analysis of variables probably linked by causality based on financial theory and research might give

some insight into associations validated by these data. I present an initial analysis of correlation between these variables and Class variable indicating whether stock price increased on an annual basis.

[1]preliminary paper authors Fama,French Review of Financial Studies (researchers have articles linked to Center for Research in Security Prices, LLC site, crsp.org ,a respected source of financial analyses based on 60 years of research)

[2]Adamodar of Stern New York University, yahoo finance accessed Oct2020

[3]Hull J. Options, Futures, and Other Derivatives 9th ed.

A review of feature means by sector reveals distinct differences across type of industry for virtually all variables.

4. Exploratory Data Analysis (EDA)

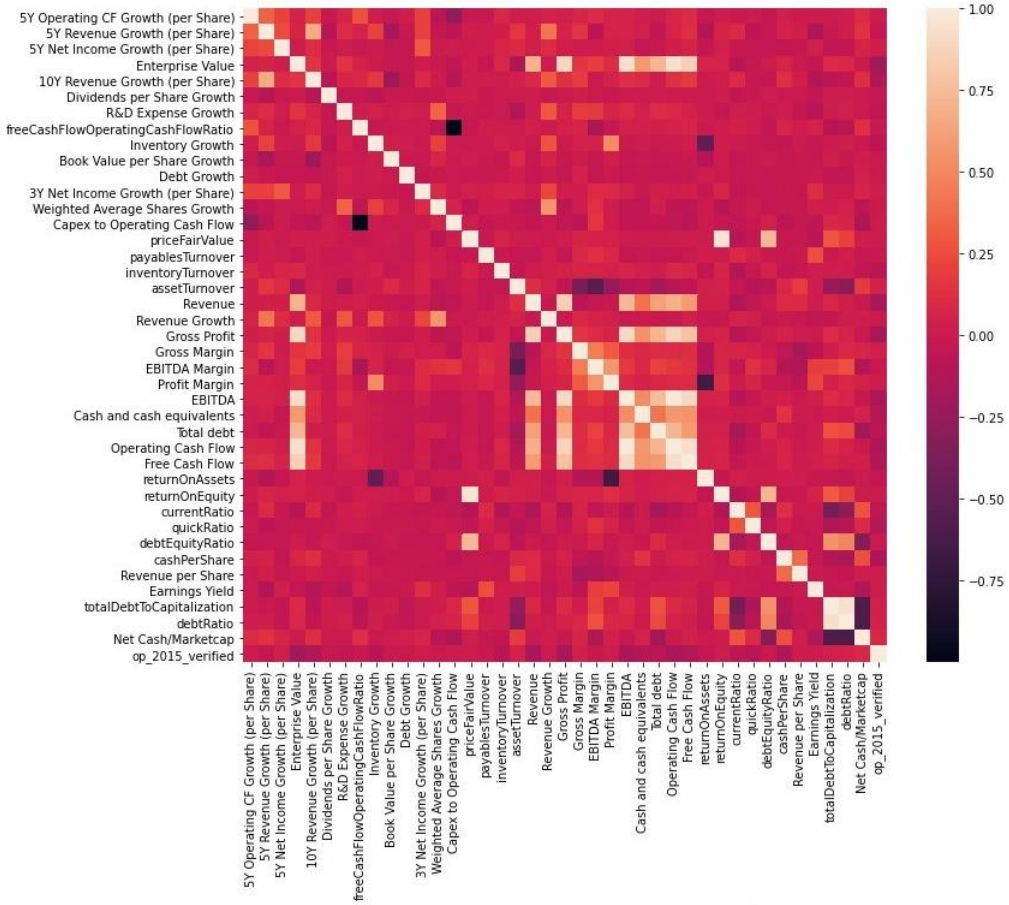
4a. Feature Engineering

Based on research of Fama and French, with permission, I added a new variable that measures a variation of operating profitability. Addition of this variable further reduced the size of data to 202, 280, 175, and 180 rows on years 2015,2016, 2017, and 2018 respectively. This additional feature excludes use of 2014 data as denominator includes variables referring to previous year. In modeling stage separate analyses were performed with and without this additional feature. The histograms of this operating profitability variable on each year showed near normal distributions. An upper limit was set on rows with infinite values.

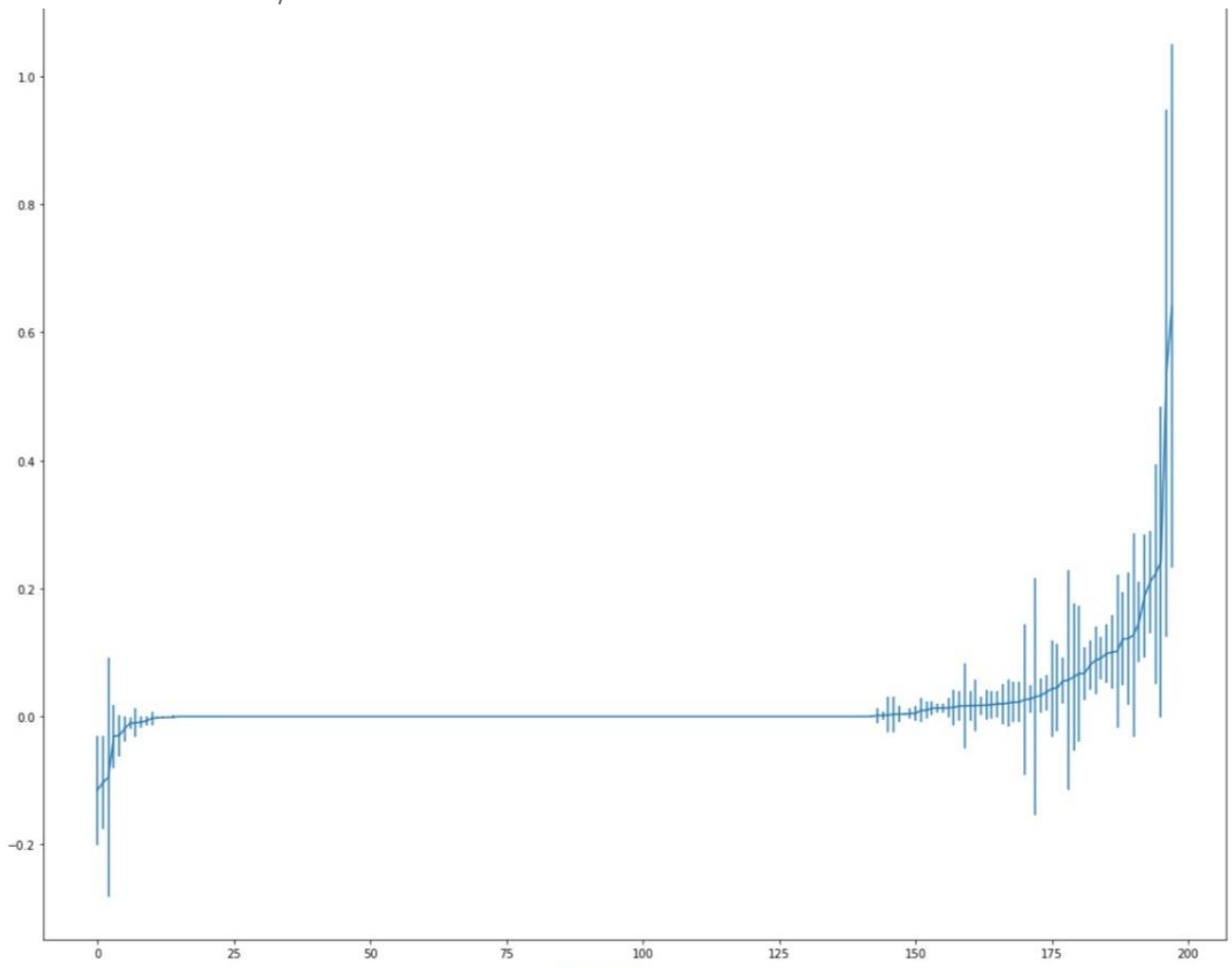
4b. Visual Analyses to Review Distributions, Identify Variables with Extreme Values, and Features Significantly Different by Class

A review of boxplots with quartiles was conducted including plots of differences in means by class with 95% confidence intervals. These boxplots identified variables with extreme values. In addition, confidence intervals were added to identify variables with significant mean and median differences between class 0 and 1 (where 1 identifies stocks that increased in price on annual basis while 0 identifies stocks that did not increase). ‘freeCashFlowOperatingCashFlowRatio’ was one variable that appeared in both mean and median significant difference subsets that intersected with variables identified on basis of financial theory.

In addition I conducted analyses to verify extremities of subsets without rows of missing values. The filtered subsets were tested to determine whether these samples are representative of source data. For example, the probability of selecting a sample with these specifications, +/- standard error, on variable of ‘Revenue’ is approximately 10%. A review of the probability on rest of variables ranked in top 20 by XGBoost Classifier on dataset with all variables and observations showed greater than 5% chance of selecting a sample with these specifications on all 20 except three variables. Thus subsets filtered to exclude missing values were representative of initial data. A covariance matrix to identify linear correlations on variables showed that majority of variables were not significantly linearly correlated, in particular the feature added to measure operating profitability was not linearly correlated to a visible degree on heatmaps.

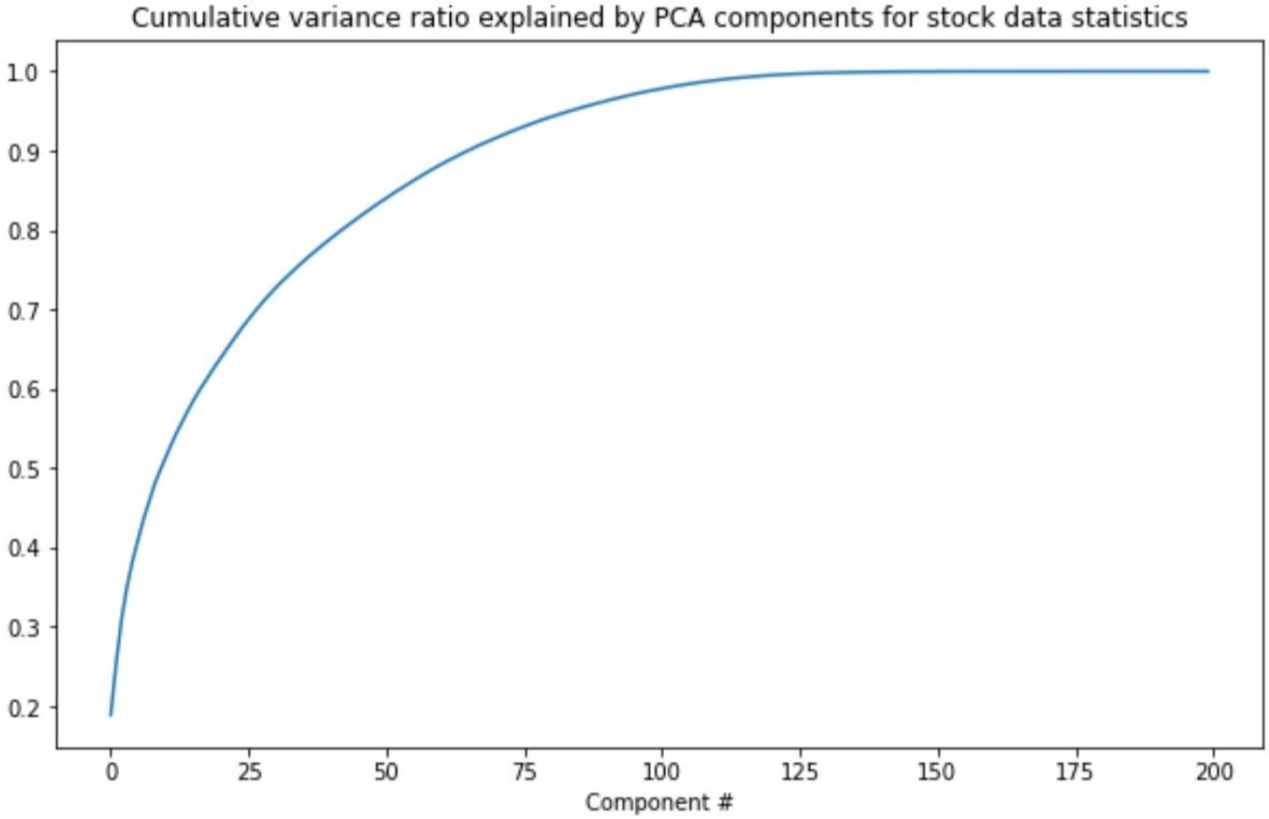

5Y Operating CF Growth (per Share)
5Y Revenue Growth (per Share)
5Y Net Income Growth (per Share)
Enterprise Value
10Y Revenue Growth (per Share)
Dividends per Share Growth
R&D Expense Growth
freeCashFlowOperatingCashFlowRatio
Inventory Growth
Book Value per Share Growth
Debt Growth
3Y Net Income Growth (per Share)
Weighted Average Shares Growth
Capex to Operating Cash Flow
priceFairValue
payablesTurnover
inventoryTurnover
assetTurnover
Revenue
Revenue Growth
Gross Profit
Gross Margin
EBITDA Margin
Profit Margin
EBITDA
Cash and cash equivalents
Total debt
Operating Cash Flow
Free Cash Flow
returnOnAssets
returnOnEquity
currentRatio
quickRatio
debtEquityRatio
cashPerShare
Revenue per Share
Earnings Yield
totalDebtToCapitalization
debtRatio
Net Cash/Marketcap
op_2015_verified
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75

An analysis of difference in variable-means by class revealed that most are not significantly different from zero. This result was verified in PCA analysis.



4c. Analyses of linear variation via PCA

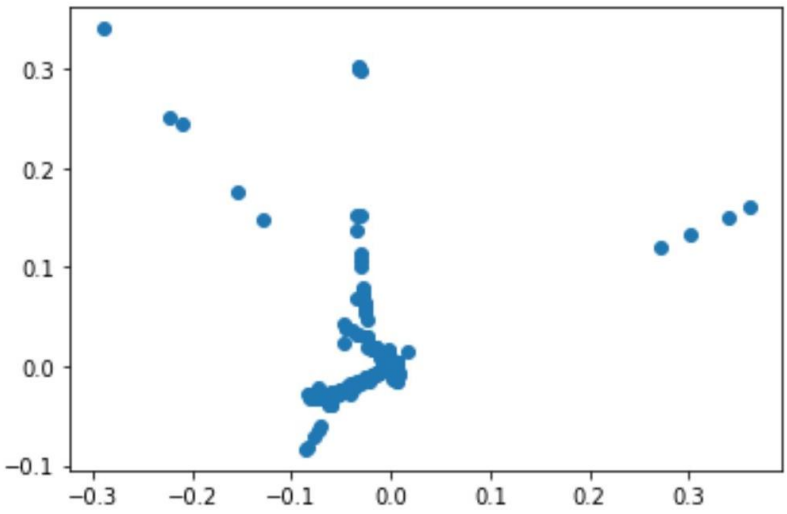
A principal components analyses done on all years with a subset of variables selected based on financial theory revealed that an estimated 25 - 30 of 200 variables explain about 100% of linear variance. A PCA performed on all years and variables resulted in a graph of components versus cumulative variance ratio that showed an estimated 40-50 of 200 variables explain about 90% of linear variance. The set of variables with significant differences from zero that intersect with variables selected on basis of financial theory include operating cash flow components in both analyses of means and medians. For example variables identified as significantly associated with annual change in stock price include ‘freeCashFlowOperatingCashFlowRatio’ and ‘Capex to Operating Cash Flow’.



Although PCA graphs of cumulative variance ratio are influenced by extreme values one inference is that there is not visible linear variation by sector in the first two PCA components. Further review of two-dimensional graphs by pair of consecutive components reveals that this finding is consistent across the majority of graphs. Although this lack of variation by sector is fairly consistent there is considerable variation by sector in the graphs of components 44 and 45 as well as 3 and 4. Thus linear variation in majority of stock prices is not significantly different by sector.

4d. Review non-linear variation via LLE

Local Linear Embedding (LLE) algorithms applied to assess nonlinearity in data by mapping of points to lower dimensions via identification of localized distance to nearest neighbors.



As explained in Sci-Kit Learn documentation and academic references there are three stages to LLE – 1) identification of nearest neighbors 2) weight matrix to give greater consideration to points with better fit relevant to an accurate reconstruction 3) partial eigenvalue decomposition 2.2. Manifold learning — scikit-learn 0.24.1 documentation (scikit-learn.org) and The Elements of Statistical Learning Hastie, Tibshirani, Friedman. The clustering patterns in LocalLinearEmbedding graphs indicate non-linear associations in these data. When the axes are rotated to make principal components x- and y-axes then plots show nonrandom patterns. Factors visibly associated with annual change in stock price based on graphs of stratification analyses include Capex to Operating Cash Flow, 5Y Operating CashFlow Growth (per Share), Revenue Growth, Total debt, and Return on Assets.

4e. Add macro variable

In addition to adding a feature that measures operating cash flow levels I added a variable to include data on interest rates of U.S. Treasury securities. These data are based on annual reports published by the Board of Governors of the Federal Reserve System as in following links https://www.federalreserve.gov/publications/annual-report/files/2015-annual-report.pdf

https://www.federalreserve.gov/publications/files/2016-annual-report.pdf

https://www.federalreserve.gov/publications/files/2017-annual-report.pdf

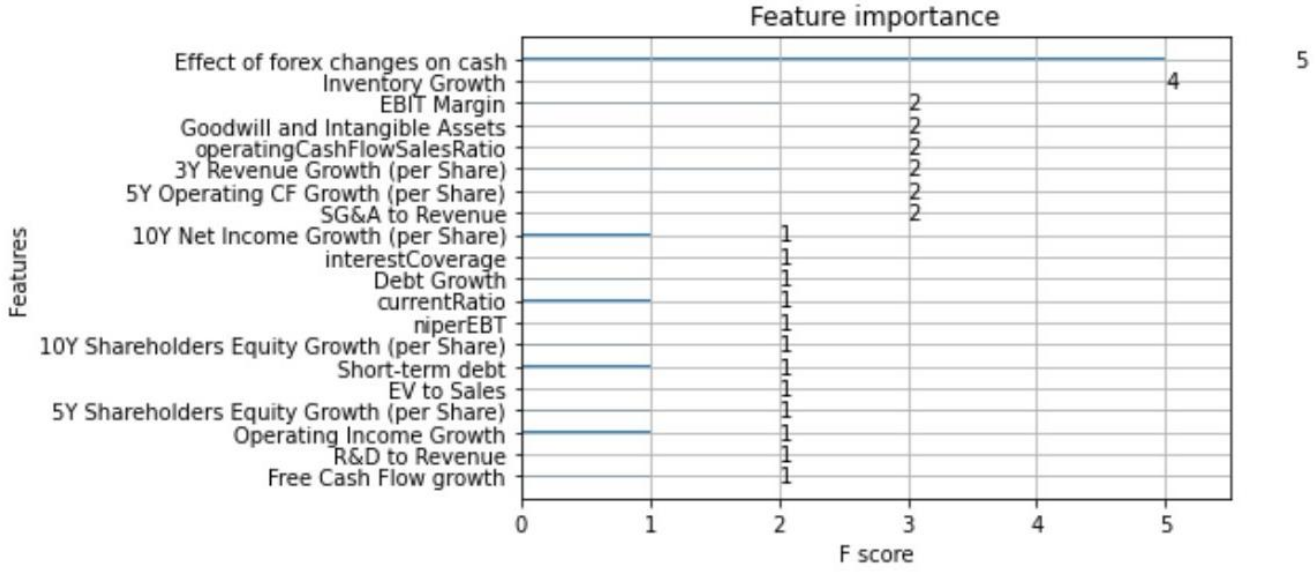
https://www.federalreserve.gov/publications/files/2018-annual-report.pdf

In table 5 of these annual reports, System Open Market Account (SOMA) holdings of the Federal Reserve Banks, average annual interest rate on U.S. Treasury securities is stated. Addition of this variable as 'int_rate' covers the possibility that annual changes in stock price might be affected by the attractiveness of fixed income options compared to equities.

5. Preprocessing and Modeling

In preparation to model data the observations were scaled and separated into training and testing sets. Then models were fit, trained, predicted on testing data, accuracy measured, and top features of importance were identified.

The consistently top-ranked variables of importance identified by XGBoost models include variations on features estimating operating cash flow particularly 10yr, 5yr, 3yr operating cash flow growth variables with approximate levels of accuracy in the range of 85% and RMSE in the range of [0.475 , 37.406].



5a. Comparison of XGBoost models on all aggregated data and year-specific subsets

Top 15 variables of 200 identified as significantly associated with annual change in stock price

XGBoost Classifier	All vars, All rows	2015	2016	2017	2018
Binary y-var with Dmatrix, importance type = 'weight' Without 'year' variable in independent variable dataset[1]	1. Effect of Forex changes on cash 2. Inventory Growth 3. EBIT Margin 4. Goodwill and intangible assets 5. Operating cash flow sales ratio 6. 3Y revenue growth (per share) 7. 5Y operating CF growth (per share) 8. SG&A to Revenue 9. 10Y Net Income Growth (per share) 10. Interest coverage 11. Debt growth 12. Current ratio 13. niperEBT 14. 10Y Shareholders Equity Growth (per share) 15. Short-term debt	1. Revenue 2. Return on capital employed 3. Other comprehensive income 4. 5Y Shareholders Equity Growth (per share) 5. Revenue per share 6. Operating cash flow sales ratio 7. Price fair value 8. 3Y operating CF growth (per share) 9. 3Y Revenue Growth (per share) 10. Payout ratio 11. Price to book ratio 12. Operating cash flow growth 13. Net income – discontinued ops 14. Dividend payments 15. 10Y operating CF growth (per share)	1. Price to sales ratio 2. Revenue 3. Goodwill and intangible assets 4. Net Income – Non-Controlling int 5. 3Y operating CF growth (per share) 6. Book Value per Share 7. 3Y Shareholders Equity Growth (per share) 8. Revenue Growth 9. 5Y Net Income Growth (per share) 10. Receivables Turnover 11. BE (verify whether this was included in all vars, all rows data) 12. Receivables Growth 13. Price to book value ratio 14. Intangibles to total assets 15. Operating expenses	1. Revenue 2. Revenue Growth 3. Inventories 4. Long term debt to capitaliz'n 5. Price to earnings ratio 6. Operating income growth 7. Gross margin 8. EBIT margin 9. Working Capital 10. SG&A Expense 11. Other Comprehensive Income 12. EBIT Growth 13. Price to free cash flow ratio 14. 3Y operating CF growth (per share) 15. 10Y Dividend per share growth (per share)	1. Revenue 2. EBITDA Margin 3. Price Operating Cash Flow ratio 4. Free cash flow growth 5. Enterprise Value over EBITDA 6. SG&A Expenses Growth 7. 10Y operating CF growth (per share) 8. Total Assets 9. Gross Profit Growth 10. Weighted Average Shares Diluted Growth 11. Revenue Growth 12. Other Comprehensive Income 13. 3Y Revenue Grow 14. Depreciation & Amortization 15. Dividend Yield

1: It should be noted that including variable indicating year in aggregated dataset results in this variable appearing in top 15 most importantly associated features with change in stock price. A possible inference is that there is an effect of interest rates or other factor that varies annually. Interestingly including interest rate as a variable does not replace 'year' as a top 20 most important feature in XGBoost models.

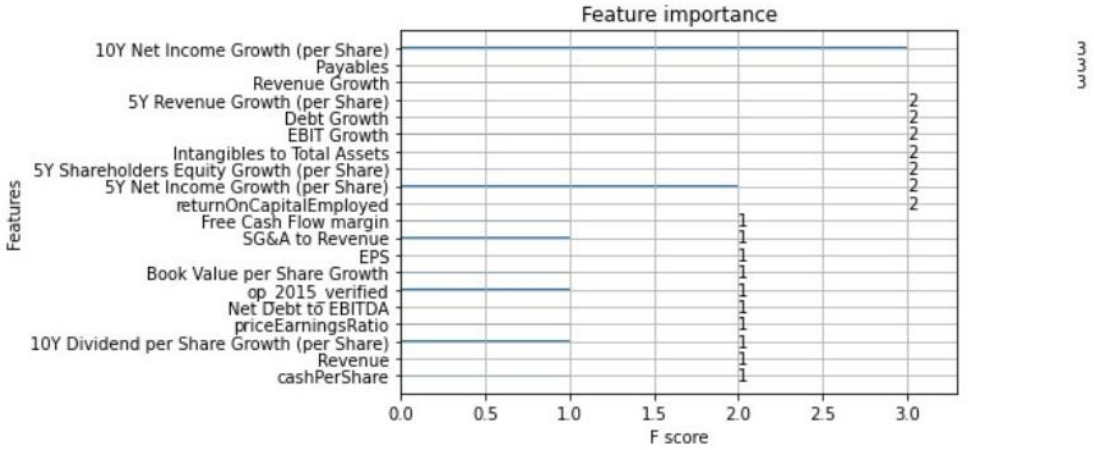
5b. Specifics on fine-tuned parameters

Finally I tuned hyperparameters of XGBoost models via GridSearchCV in Scikit Learn.

Parameter	colsample_bytree [0.3,0.5,0.7,0.9]	learning_rate [0.01,0.1,0.5,0.9]	max_depth [3,5,10,15]	n_estimators [100,200]	subsample [0.3,0.5,0.9]
Model	XGBClassifier (all variables, all rows)				
Best Values	0.7	0.01	3	200	0.5
Lowest RMSE	0.589				
Model	XGBRegressor (all variables, all rows)				
Best Values	0.7	0.01	5	200	0.5
Lowest RMSE	0.468				
Model	XGBRegressor (2015)				
Best Values	0.3	0.01	3	200	0.5
Lowest RMSE	27.147				
Model	XGBRegressor (2016)				
Best Values	0.3	0.01	3	200	0.9
Lowest RMSE	28.285				
Model	XGBRegressor (2017)				
Best Values	0.5	0.01	5	200	0.9
Lowest RMSE	24.065				
Model	XGBRegressor (2018)				
Best Values	0.7	0.01	5	200	0.5
Lowest RMSE	31.071				

An analysis of XGBoost Classifier on 2015 data showed that the feature representing a measure of operating cash flow profitability appeared in top 20 of important features when model was based on tuned parameters.

Top 20 Important Features in 2015 data based on XGBoost Regressor with Tuned Parameters



6. Conclusion and Possible Future Analyses

In summary the analyses of financial data based on annual reports sent to Securities Exchange Commission reveal a consistent pattern in regards to top variables of importance associated with annual change in stock prices. Regardless of sector, year, or type of XGB model variables including a measure of operating cash flow consistently appeared in the top 20 features of importance.

Possible future analyses include an in-depth analyses following up on relevant macro variables in addition to interest rate on Treasury securities to account for investment options aside from stocks. In addition a Twitter-sentiment-type analysis might reveal trends in non-quantitative factors driving investors to react as market news is reported. Application of unsupervised learning data science applications might reveal groups of independent variables that are correlated, linearly and non-linearly, via in-depth cluster analyses beyond the scope of results presented in appendix. This might be relevant to financial advising or portfolio management applications with a view to give institutional and private wealth clients options on investment in a range of companies that yield similar returns.

Appendix

The following tables were a result of cluster analyses conducted via affinity propagation algorithm in scikit-learn. I compared methodologies of clustering via kmeans, spectral cluster, and affinity propagation to determine that a non-flat geometry of data and graph methods is the best combination. An analysis of graphing number of clusters by inertia levels revealed that optimal number of clusters is 37 (as indicated in 'Label' column). These tables group Initial 4000 stocks into 37 associated clusters with similar variation in annual stock price.

Label	Company	Stock Price ChangeYr1	Stock Price ChangeYr2	Stock Price ChangeYr3	Stock Price ChangeYr4	SparkLines	Sector
0	GRA	-29.96228278	3.108679505	-7.140644767	7.912022399		Basic Materials
0	DIS	2.724909837	2.923334183	-0.367842325	34.34665181		Consumer Cyclical
0	IPG	5.296554033	-11.40189696	5.598865453	19.20942576		Consumer Cyclical
0	THRM	-25.68606138	-6.480119922	24.74259124	9.227362343		Consumer Cyclical
0	MNRO	-10.49863092	0.878090854	19.06960142	15.4671812		Consumer Cyclical
0	KR	-15.03650314	-17.0682515	-0.990448919	8.690633021		Consumer Defensive
0	FLO	-3.46230212	0.424385727	-0.979235372	22.52823288		Consumer Defensive
0	EPD	8.741576179	4.741643526	-2.674145956	19.92462041		Energy
0	BMY	-11.21962864	5.878996919	-12.93831545	26.64174768		Healthcare
0	MDT	-4.001501267	16.91339538	13.13922826	31.74119997		Healthcare
0	HSIC	-2.28648982	-10.37004154	9.864278065	11.36012526		Healthcare
0	UHS	-9.489575151	6.597315605	1.154187513	22.69436542		Healthcare
0	SNA	3.276889076	3.715060695	-16.11116184	17.7768145		Industrials
0	MATX	-11.79951816	-15.15938205	6.188329325	29.39309049		Industrials
0	PLAB	-6.842538466	-24.84581986	12.55813809	61.14520101		Technology
0	PPL	5.508848557	-5.139197474	-1.902321534	34.46355476		Utilities
1	SGC	22.18109703	45.58138984	-31.36767518	-23.33825991		Consumer Cyclical
1	NUS	30.8456918	43.57168645	-8.762576324	-30.42018776		Consumer Defensive
1	MMSI	46.73311619	64.88549429	28.15155534	-41.31579161		Healthcare
1	CVTI	5.683065349	39.39834397	-31.67259608	-34.36548323		Industrials
1	ARCB	34.5204251	25.28338193	-6.576158945	-19.30555489		Industrials
1	KEQU	43.48141058	20.7962702	21.18893149	-56.69874477		Industrials
2	BLL	5.592738493	1.051436634	20.17158821	45.99209743		Consumer Cyclical
2	HELE	-6.114508267	12.36151426	36.71703684	37.99217327		Consumer Defensive
2	LHCG	6.353268477	34.14367106	52.35313028	47.96992134		Healthcare
2	ENSG	3.138401088	0.025375906	67.30557798	27.46090884		Healthcare
2	ACIW	-12.19158417	22.14440048	21.94799218	39.60943346		Industrials
3	CENT	148.4234303	16.10977815	-11.23421916	-11.07612789		Consumer Defensive
3	OKE	142.8304216	-4.347816211	3.936205794	46.51230673		Energy
3	PMD	163.5955247	-11.71017487	-20.74483184	-39.26527368		Healthcare

Label	Company	Stock Price ChangeYr1	Stock Price ChangeYr2	Stock Price ChangeYr3	Stock Price ChangeYr4	SparkLines	Sector
4	LFVN	-13.20554504	-40.27603069	174.791647	20.16936052		Consumer Defensive
5	WY	5.104914902	20.5195634	-35.53611542	47.80396246		Basic Materials
5	CMP	6.93242649	-4.395485242	-41.6307604	55.26797509		Basic Materials
5	SWM	16.17467868	4.065978981	-43.00815803	72.80162148		Basic Materials
5	DISH	1.117122324	-20.0033488	-50.25896627	37.05565058		Communication Services
5	CSV	23.02894185	-9.090201931	-39.48409009	66.54441787		Consumer Cyclical
5	CPB	20.44386645	-18.52590093	-28.04266064	58.7046167		Consumer Defensive
5	HAIN	-1.860703218	7.425241696	-62.19308851	60.04932296		Consumer Defensive
5	CAR	1.662966862	17.10701798	-49.40355753	41.96390567		Industrials
5	EFX	9.227055987	0.501286824	-21.04315793	52.45866448		Industrials
5	ALGT	5.021061541	-4.98418317	-33.64810909	70.72453358		Industrials
5	WDC	16.79695796	17.27443031	-52.99627567	71.1693017		Technology
6	SMG	54.30706571	15.36135586	-41.80504568	74.32290325		Basic Materials
6	UFPI	56.00926598	9.379128122	-29.99419564	82.09256318		Basic Materials
6	GFF	54.87958731	-22.17417865	-43.53097171	87.8672789		Basic Materials
6	RS	41.62712625	9.293732998	-17.15070094	71.43529433		Industrials
6	SNX	40.8853982	13.12755937	-40.25884963	61.10008296		Industrials
6	AMKR	74.66887843	-5.633797646	-36.4341072	94.9025465		Technology
7	BBY	43.62346642	64.13886545	-21.42618661	68.46636699		Consumer Cyclical
7	TFX	27.00631997	57.65290334	2.024391604	49.79257047		Healthcare
7	HRC	20.65092285	49.68898844	5.543821712	34.57917723		Healthcare
7	MTD	27.0905454	46.68403234	-9.666181258	45.27874537		Healthcare
7	IEX	20.87448472	46.64291819	-2.946699842	39.27951265		Industrials
7	HEI	43.21525844	51.56643749	29.47318999	50.39605472		Industrials
7	AVY	17.30957675	66.94220403	-20.84039014	48.2801692		Industrials
7	MSFT	16.50571086	39.74112343	20.2190866	58.25926291		Technology
7	ENTG	40.06259456	68.5996779	-11.05110366	70.22309027		Technology
7	CDNS	22.84461018	65.03551477	3.400714224	60.44413913		Technology

1	Label	Company	Stock Price ChangeYr1	Stock Price ChangeYr2	Stock Price ChangeYr3	Stock Price ChangeYr4	SparkLines	Sector
60	8	AWI	-7.234799897	43.31363605	-5.101681238	58.38325284		Basic Materials
61	8	AMT	11.51197179	37.10509174	14.55985939	49.23400757		Communication Services
62	8	HD	4.473638751	44.36519652	-6.555962543	30.11303448		Consumer Cyclical
63	8	WMT	15.72912116	47.54264342	-3.275250228	29.89801695		Consumer Defensive
64	8	EL	-11.04068959	66.8522476	3.092234207	58.10802382		Consumer Defensive
65	8	WLTW	-0.593023204	24.07161037	5.002743512	36.77314007		Financial Services
66	8	ABT	-8.276719007	49.53658275	25.28590894	27.05125023		Healthcare
67	8	CNC	-14.41768989	73.00633661	12.38912873	11.27433439		Healthcare
68	8	TMO	2.115125379	32.61075766	16.31121084	48.4487393		Healthcare
69	8	CRL	-2.632584739	43.01580909	2.286487794	37.51012651		Healthcare
70	8	ROP	-1.176220605	40.96558122	2.895135495	33.61855154		Industrials
71	8	PTSI	-0.612088183	27.51851965	8.627346123	48.58393115		Industrials
72	8	CCI	5.812066827	32.92013518	3.695454632	38.87711282		Real Estate
73	8	CBRE	-7.626871135	37.18720872	-8.626195357	53.49361494		Real Estate
74	8	JLL	-34.40929512	46.23924612	-17.32172218	36.93123681		Real Estate
75	8	WAT	3.099342614	41.60376223	-3.597531022	27.39217558		Technology
76	8	AME	-6.995597344	48.08934161	-6.254751223	48.72999323		Technology
77	8	WTR	4.365073406	34.04092304	-9.322352237	46.24320173		Utilities
78	9	SRI	30.64993046	29.88636429	8.25647397	16.44161771		Consumer Cyclical
79	9	CHD	8.676289087	14.93645492	35.22264852	10.60117408		Consumer Defensive
80	9	IPAR	45.68708631	33.48582991	53.31913246	12.99408		Consumer Defensive
81	9	CME	36.84564522	33.44417065	33.29522445	11.16710713		Financial Services
82	9	PFE	5.503433927	14.07545307	24.06534776	-6.046939565		Healthcare
83	9	EHC	21.82835439	21.29953078	22.02194448	15.05805362		Healthcare
84	9	USPH	36.35898102	3.180554653	40.65233119	12.89993647		Healthcare
85	9	GWW	17.54395531	3.366435975	21.96492256	24.80366073		Industrials
86	9	CSCO	17.487773	29.89281692	14.89169459	14.81957008		Technology
87	9	XLNX	35.42494105	16.61249861	27.94890753	14.14565534		Technology
88	9	EXC	33.18370241	16.06534774	17.79049137	6.712644844		Utilities
89	9	AEE	26.2634911	16.10400694	15.16154063	24.04821899		Utilities
90	9	OGE	31.27559942	1.765877018	24.81093258	20.39199362		Utilities
91	9	NJR	11.47584338	17.50395447	17.59066354	2.765146871		Utilities
92	9	ALE	33.85639443	20.37360327	6.398401469	13.71295818		Utilities

1	Label	Company	Stock Price ChangeYr1	Stock Price ChangeYr2	Stock Price ChangeYr3	Stock Price ChangeYr4	SparkLines	Sector
94	11	ODC	10.63286097	13.99250271	-33.17942847	36.04025582		Basic Materials
95	11	F	-9.032181931	4.339579368	-35.96178085	25.53720404		Consumer Cyclical
96	11	ALV	-4.145036688	15.02916904	-21.79557445	24.00041245		Consumer Cyclical
97	11	AN	-17.10682797	4.159908893	-31.96112077	34.89598363		Consumer Cyclical
98	11	SBGI	8.577914472	14.21374854	-27.33193844	25.74352446		Consumer Cyclical
99	11	PSMT	4.715039425	3.587255996	-32.29401081	21.95726788		Consumer Defensive
100	11	RMCF	1.457686007	22.83235697	-23.73085606	12.69920027		Consumer Defensive
101	11	ALXN	-33.75026894	-2.479002678	-21.51551938	10.30086503		Healthcare
102	11	MCK	-27.3598401	6.648508017	-29.77797572	23.80841296		Healthcare
103	11	DVA	-6.509394699	11.00015988	-29.05983122	45.04156088		Healthcare
104	11	MTSC	-4.02053022	-3.133104846	-23.15014268	22.09567658		Technology
105	12	GT	-2.553500253	4.978395331	-35.39863293	-21.85949842		Consumer Cyclical
106	12	EVC	-1.494525643	10.55675248	-56.6872575	-4.583933605		Consumer Cyclical
107	12	TAP	5.439369288	-16.15242618	-31.71205882	-2.058940164		Consumer Defensive
108	12	UNFI	23.30749426	2.989131063	-78.66209969	-19.78021824		Consumer Defensive
109	12	ADS	-15.68855706	9.752601191	-40.60883762	-26.41998097		Financial Services
110	12	MYL	-28.39714264	8.18205245	-36.44166265	-28.00859482		Healthcare
111	12	MD	-6.178746237	-20.20307951	-39.71501829	-15.17093303		Healthcare
112	12	GVA	33.60309723	16.09295607	-36.36995187	-30.45426867		Industrials
113	13	PIR	79.759956	-49.69921868	-92.47542268	3.225811165		Consumer Cyclical
114	14	ATNI	9.804928835	-32.97426482	29.48620077	-22.25896737		Communication Services
115	14	VIAB	-11.29223217	-12.08211782	-15.36206941	-7.496076603		Consumer Cyclical
116	14	JWN	-1.44880807	2.96804327	-2.445901774	-10.05466355		Consumer Cyclical
117	14	HZO	5.853389796	-2.577319638	-5.618557598	-9.978426592		Consumer Cyclical
118	14	RDI	29.68750105	0.119906819	-12.77744514	-23.3036363		Consumer Cyclical
119	14	TLF	12.18837419	-3.726710356	-25.26315922	-4.67445315		Consumer Cyclical
120	14	BDL	11.78740089	-3.693790551	9.832827412	-11.83765851		Consumer Cyclical
121	14	UVV	20.67755403	-13.88960438	8.445509644	9.759875495		Consumer Defensive
122	14	WVVI	14.92109713	2.867824552	-16.4848501	-3.076926771		Consumer Defensive
123	14	WBA	1.502151698	-10.72705835	-6.645697796	-10.61264765		Healthcare
124	14	CXW	-1.752841958	-3.713564695	-14.18015686	7.146335619		Industrials
125	14	MAYS	-26.02262935	-8.235294118	-0.743592091	-23.125		Real Estate

1	Label	Company	Stock Price ChangeYr1	Stock Price ChangeYr2	Stock Price ChangeYr3	Stock Price ChangeYr4	SparkLines	Sector
126	15	HIBB	22.98054511	-44.93927115	-33.33333482	86.18857991		Consumer Cyclical
127	15	SAH	3.555452069	-19.14947176	-24.24844198	121.0466052		Consumer Cyclical
128	15	GPI	5.980613129	-9.432518674	-26.17012302	86.90305424		Consumer Cyclical
129	15	LAD	-4.673058157	17.04942549	-32.81476909	89.02009682		Consumer Cyclical
130	16	NLS	0.108227588	-30.10471144	-18.35206512	-84.36103605		Consumer Cyclical
131	17	WWE	7.215343957	71.20471594	139.8406042	-11.98352968		Consumer Cyclical
132	18	KWR	72.61480815	17.5932717	18.29198617	-6.96062794		Basic Materials
133	18	TMUS	47.6508272	8.899174647	-0.671455807	20.16548514		Communication Services
134	18	SON	35.99647927	2.68883751	1.648623222	21.51687222		Consumer Cyclical
135	18	FLWS	51.34369943	-0.925929442	12.20183459	19.04761606		Consumer Cyclical
136	18	SMP	46.2725048	-15.03761621	9.068220275	13.4713162		Consumer Cyclical
137	18	PAA	47.3643141	-32.17775461	0.584283403	-4.799286394		Energy
138	18	SGU	54.4888151	5.023519736	-8.531218067	7.28271137		Energy
139	18	NHC	26.34451546	-16.88943376	30.2882435	14.08361333		Healthcare
140	18	RBA	50.84565739	-9.493027338	11.08121576	33.00484609		Industrials
141	18	HNI	64.40878433	-27.81814699	-6.604052687	9.88775796		Industrials
142	18	ENS	44.29384287	-10.41909691	12.63760725	-2.535574882		Technology
143	18	SMTC	66.84293755	7.378337059	31.81034465	14.62621837		Technology
144	18	SWX	45.95381115	7.878605217	-1.411953911	5.398688055		Utilities
145	18	UGI	39.13818544	4.487311713	14.65934713	-11.42701777		Utilities
146	18	OTTR	60.58131326	15.55823142	16.74308156	10.28123698		Utilities
147	18	UTL	34.45153055	2.832044663	16.44342586	31.06948694		Utilities
148	18	MGEE	47.22910663	0.527131871	-1.804372639	38.11666801		Utilities
149	18	MSEX	68.16809522	-1.197359535	39.40523346	24.62811606		Utilities
150	19	BBGI	85.05135189	115.8803349	-71.02271489	-21.16772911		Consumer Cyclical
151	20	HUN	77.47714472	76.2640815	-42.21930954	25.92100401		Basic Materials
152	20	ALB	57.47655174	46.8543955	-40.58059876	-4.569680837		Basic Materials
153	20	RICK	78.21912092	65.78001163	-21.01977168	-5.555516989		Consumer Cyclical
154	20	MGPI	104.882896	58.20070093	-27.66907121	-13.46257634		Consumer Defensive
155	20	EBIX	83.38003817	37.89907769	-44.66180949	-23.08075158		Technology
156	20	TCX	76.25	92.18107431	-4.817745126	1.796012815		Technology
157	21	NC	129.7202857	97.08768838	-11.51338082	44.19912963		Consumer Cyclical
158	21	SAIA	102.6158773	57.57237772	-21.93007036	70.73707588		Industrials

1	Label	Company	Stock Price ChangeYr1	Stock Price ChangeYr2	Stock Price ChangeYr3	Stock Price ChangeYr4	SparkLines	Sector
159	22	MTRN	46.96212999	22.55104587	-9.347637372	33.27038011		Basic Materials
160	22	CVGW	28.49257013	39.29594195	-14.18649783	28.25083037		Consumer Defensive
161	22	BRO	46.03887388	17.72331878	9.421036624	47.29006962		Financial Services
162	22	UNH	39.8106466	38.6137443	14.1614401	22.77778461		Healthcare
163	22	BAX	20.67938775	46.9637599	-0.987403063	29.42003388		Healthcare
164	22	SYK	34.9277324	31.25387929	0.449814248	37.29959844		Healthcare
165	22	CSX	42.97359202	55.64972744	11.76502258	18.40005373		Industrials
166	22	UNP	34.65290113	33.79804214	3.959744204	34.1365315		Industrials
167	22	RSG	35.47849194	21.34588115	10.53807006	27.60827765		Industrials
168	22	WM	38.77909598	25.15192674	5.565552498	30.84711551		Industrials
169	22	ROLL	49.38032507	35.14380752	3.628174761	22.95387315		Industrials
170	22	TXN	37.89379811	45.52932295	-8.163124838	39.63731491		Technology
171	22	APH	33.35200746	31.35785096	-6.824120887	36.98702614		Technology
172	22	BMI	32.83827011	31.04365991	4.752420679	34.39125558		Technology
173	22	CWT	49.96578443	36.99708248	8.615529689	13.03057254		Utilities
174	23	FUL	37.62202884	11.26727559	-20.3389037	20.95068761		Basic Materials
175	23	CNTY	8.28946902	16.45408083	-17.70601065	10.15299045		Consumer Cyclical
176	23	ARKR	11.35528815	13.44943243	-25.34511555	27.02223992		Consumer Cyclical
177	23	INGR	36.79540816	13.48910954	-33.18076949	3.397356681		Consumer Defensive
178	23	FONR	14.12395015	26.62507	-16.87885234	-7.341173957		Healthcare
179	23	MMM	24.8835932	35.29776171	-16.99433777	-4.496326055		Industrials
180	23	GD	29.67410053	17.94857121	-20.17961328	14.75867638		Industrials
181	23	IRM	28.26332911	21.24824049	-7.680844921	6.893913363		Industrials
182	23	MIDD	21.11894632	4.945952867	-24.06120322	7.414670093		Industrials
183	23	WNC	32.60687368	34.98992998	-39.5803737	13.94250688		Industrials
184	23	B	40.10298953	33.09487767	-15.85476128	15.5173846		Industrials
185	23	LECO	51.42746351	19.4409008	-12.79499254	26.30977478		Industrials
186	23	VSEC	26.68072654	22.41998122	-39.00263563	21.76034552		Industrials
187	23	PKOH	24.98922976	8.216935225	-31.61146901	11.31973348		Industrials
188	23	SHO	31.94512999	11.87764647	-17.99876237	13.59727905		Real Estate
189	23	ARW	34.1738876	12.54024786	-15.10712151	21.84039417		Technology
190	23	PLPC	39.29969294	24.51063819	-24.17475799	9.971132942		Technology
191	23	AVA	18.11707993	33.8115622	-15.08397458	16.40471576		Utilities

1	Label	Company	Stock Price ChangeYr1	Stock Price ChangeYr2	Stock Price ChangeYr3	Stock Price ChangeYr4	SparkLines	Sector
192	24	MTX	78.58310234	-11.19854682	-25.95783516	13.88182458		Basic Materials
193	24	SCL	73.3181963	-0.886288557	-6.196219501	39.84582711		Basic Materials
194	24	OBCI	82.71043799	17.59001934	-18.76606115	1.23262163		Consumer Defensive
195	24	PWR	71.59038672	12.03094181	-23.19021165	36.6586801		Industrials
196	24	WOR	62.89206738	-4.380109701	-21.99577748	24.47563343		Industrials
197	24	MLI	54.16781983	-4.836579181	-33.60935683	35.93094252		Industrials
198	24	NDSN	79.01813016	30.54486846	-18.21528323	40.56479036		Industrials
199	24	MSM	68.38861255	7.405827023	-18.71023352	7.250600763		Industrials
200	24	VVI	65.60098121	27.65319434	-10.36723602	36.49312263		Industrials
201	24	KBAL	86.12447695	6.913846571	-22.80417694	45.91000502		Technology
202	24	ORA	54.43610922	21.6962074	-18.37302667	45.08175799		Utilities
203	24	SJW	94.50874561	17.98546991	-10.69776313	32.2818457		Utilities
204	25	TIF	3.904987425	33.62900845	-22.79244813	67.05361854		Consumer Cyclical
205	25	TSN	17.68315646	31.71576477	-32.44791595	74.81122283		Consumer Defensive
206	25	BIO	33.84242273	30.48493433	-3.810784947	62.23693257		Healthcare
207	25	DOV	25.45918581	35.68745847	-11.62333289	65.09912378		Industrials
208	25	KSU	16.81069588	32.02271462	-9.720488501	60.95984885		Industrials
209	25	G	0.578492314	31.05951071	-15.84337961	58.83949844		Industrials
210	25	ITT	7.736123626	37.9534263	-7.93128684	53.01086883		Industrials
211	25	FSS	4.520569241	28.64357771	1.243165559	63.59441815		Industrials
212	25	ACN	17.350039	34.10301926	-6.685850751	51.66534508		Technology
213	25	EQIX	23.26828785	28.72382781	-19.29203555	70.0963857		Technology
214	25	SNPS	31.03295416	43.57419471	-2.080670628	65.61569529		Technology
215	25	TECD	30.15678371	15.09633231	-17.99318784	72.76227305		Technology
216	26	CE	21.58584369	37.17512444	-14.04908525	37.95054989		Basic Materials
217	26	VMC	36.37780857	3.84747613	-24.34519786	48.9588383		Basic Materials
218	26	CMCSA	26.19976506	17.45674744	-15.21450401	32.79457341		Consumer Cyclical
219	26	LVS	29.91861931	36.3651422	-21.17607349	34.10320223		Consumer Cyclical
220	26	DGX	32.61109198	8.505925696	-14.19918643	33.72242958		Healthcare
221	26	MGLN	23.01782287	26.87254269	-41.28999123	40.23297683		Healthcare
222	26	UTX	17.75306333	17.83071561	-15.05024814	41.40439223		Industrials
223	26	ETN	33.35607685	18.98666777	-9.871937736	42.86873268		Industrials
224	26	AGCO	29.95408938	23.53552468	-21.52252147	40.34285847		Industrials
225	26	CLGX	10.13757374	24.75701792	-26.56559378	30.86824508		Industrials
226	26	DCI	50.90665211	17.66177598	-9.972105083	36.14100542		Industrials
227	26	GWR	29.52043938	14.05186839	-7.923874605	51.39376853		Industrials
228	26	HUBG	36.50546347	9.485717773	-24.65447333	37.87634372		Industrials
229	26	EXLS	16.30159066	20.09949945	-12.67839297	33.42296821		Industrials
230	26	SP	17.29166508	28.37369884	-21.43616459	42.09644822		Industrials
231	26	PCH	48.08943298	22.85616755	-29.72987791	46.71234425		Real Estate
232	26	WSO	31.9486647	17.79723529	-15.45118215	34.94312158		Technology
233	26	OTEX	31.73643266	17.81105326	-4.808033373	38.21056539		Technology
234	26	HUBB	17.27742289	17.87823828	-23.96468113	53.37464263		Technology
235	26	CW	47.09233908	24.39891156	-16.36325259	37.49134943		Technology
236	26	EE	26.03163062	21.60013283	-5.962217514	43.03879876		Utilities
237	27	ARLP	81.85245816	-5.50861843	-3.849484618	-29.78965223		Basic Materials
238	27	HNRG	88.00429308	-32.3033896	-17.42469078	-41.57689554		Basic Materials
239	27	TEN	37.35707801	-7.161197443	-52.1852012	-51.7728237		Consumer Cyclical
240	27	HA	73.72754681	-28.79973052	-33.30661303	11.10884725		Industrials
241	27	TPC	70.9401797	-10.73943408	-37.12598226	-20.02487738		Industrials
242	27	LDL	86.57615574	-19.31637716	-60.21547548	-3.932584872		Industrials
243	28	PKG	40.64700827	45.20063496	-30.60915684	36.566942		Consumer Cyclical
244	28	RUSHA	48.5794233	59.2789824	-29.84408309	32.75256179		Consumer Cyclical
245	28	CMI	57.17608835	29.77356784	-22.24953159	38.30659279		Industrials
246	28	CMCO	48.89127456	46.31070059	-26.38702084	35.76470489		Industrials
247	28	AIMC	52.3390576	35.8933095	-48.52170554	40.99915911		Industrials
248	28	KAI	62.90869023	63.82371927	-16.68343485	29.77484756		Industrials
249	28	ALG	50.25994932	46.25689532	-30.84728642	64.56715355		Industrials
250	28	ON	31.5463967	65.01183	-24.30077656	45.29200336		Technology

1	Label	Company	Stock Price ChangeYr1	Stock Price ChangeYr2	Stock Price ChangeYr3	Stock Price ChangeYr4	SparkLines	Sector
251	29	MLM	64.59907313	-0.239422889	-22.92639505	65.07164113		Basic Materials
252	29	IOSP	32.57274955	2.803564337	-12.22578995	69.39992297		Basic Materials
253	29	DKS	53.58108146	-45.36856021	8.522877032	60.29177077		Consumer Cyclical
254	29	JBSS	46.01897619	-6.679706951	-9.61810164	75.45986484		Consumer Defensive
255	29	DHR	65.48347181	18.58113696	12.26409811	53.45263528		Healthcare
256	29	KNL	55.87302873	-14.81759802	-27.15982351	56.83946483		Industrials
257	29	WWD	40.1273676	10.95662542	-2.7067098	61.22104616		Industrials
258	29	BBSI	58.40558405	1.905338379	-8.915431223	59.62525245		Industrials
259	29	TTEK	70.40020286	13.62056896	8.167222376	69.727899		Industrials
260	29	CSGS	41.05775832	-8.01807211	-26.75828985	64.61581533		Technology
261	29	CACI	38.75865206	6.433460175	7.364894023	76.1361364		Technology
262	29	PLXS	57.91934245	12.56952682	-16.37197069	48.70506367		Technology
263	29	ESE	62.15154057	5.484567287	10.03654817	43.30209821		Technology
264	30	GV	244.5945837	-13.27433606	-54.80000019	55.70175425		Industrials
265	31	ECL	5.820583707	14.99873806	10.80666744	34.48261783		Basic Materials
266	31	RPM	27.70860936	-1.036137861	12.61649759	36.20857155		Basic Materials
267	31	APD	24.22029851	18.11472818	-0.605631655	50.44988999		Basic Materials
268	31	ELY	17.05593793	22.91109739	11.10764502	36.91170888		Consumer Cyclical
269	31	POOL	33.52679786	25.42039017	14.62539165	47.22690846		Consumer Cyclical
270	31	ABG	-7.245935243	2.4	5.391310138	64.10745216		Consumer Cyclical
271	31	SYY	40.09086381	13.92276832	5.883635767	41.01289823		Consumer Defensive
272	31	JJSF	19.60549077	15.78770235	-1.858360389	32.27655453		Consumer Defensive
273	31	MMC	27.77185378	22.77221606	1.087371745	43.61347901		Financial Services
274	31	AON	24.52453019	20.88978743	12.04311975	46.00097972		Financial Services
275	31	CP	14.41732108	30.95835173	-1.747742719	44.57118778		Industrials
276	31	FAST	20.39227616	19.7401557	-1.336895951	48.47488684		Industrials
277	31	FISV	18.74860199	22.16322839	12.75795078	60.1301741		Industrials
278	31	EEFT	3.500995757	15.3435525	20.22075253	55.13982015		Industrials
279	31	LAMR	18.01925476	14.39575964	-0.0365932	39.38700151		Real Estate
280	31	FIS	28.10628876	23.84259481	10.77918638	38.70292088		Technology
281	31	AEP	11.80971789	21.33624308	7.072547774	33.74042948		Utilities
282	31	LNT	25.78119918	15.92529097	3.585253467	36.99290278		Utilities
283	31	SO	9.358157574	2.729114115	-1.874717672	52.34655179		Utilities
284	31	NEE	19.71064413	35.23178761	15.11441143	46.03815036		Utilities
285	31	XEL	17.82597244	22.15302229	6.543395242	35.25369449		Utilities
286	31	ES	12.18015945	18.29112733	6.459084653	37.77245017		Utilities
287	31	WEC	19.20442587	17.42862142	8.956131021	40.45428393		Utilities
288	31	SRE	11.14596452	8.89880932	6.045806442	45.93568235		Utilities
289	31	ATO	21.74493876	17.77474357	11.49842946	27.07122246		Utilities
290	31	AWR	14.97695101	31.51687866	21.06388945	34.19308806		Utilities
291	32	VZ	21.61925421	1.686327785	10.00966858	14.2408863		Communication Services

1	Label	Company	Stock Price ChangeYr1	Stock Price ChangeYr2	Stock Price ChangeYr3	Stock Price ChangeYr4	SparkLines	Sector
291	32	VZ	21.61925421	1.686327785	10.00966858	14.2408863		Communication Services
292	32	GPC	16.82727688	2.353866901	2.418201548	15.52919959		Consumer Cyclical
293	32	SCI	13.86349858	31.70368236	8.599368179	16.62194696		Consumer Cyclical
294	32	KO	0.958958636	13.45170799	7.570640533	21.67873852		Consumer Defensive
295	32	PEP	9.051033548	17.79555803	-3.313237088	28.77463316		Consumer Defensive
296	32	CLX	-1.79449733	26.08582392	9.309434604	4.266240002		Consumer Defensive
297	32	ICE	18.62558548	27.80030593	9.207163189	24.47061035		Financial Services
298	32	AMGN	-5.226534685	18.60176274	13.21487321	29.44296743		Healthcare
299	32	RHI	8.059307273	13.86463833	4.129423591	14.07228003		Industrials
300	32	CHRW	21.43593321	25.26421331	-4.328179073	-3.434628163		Industrials
301	32	FWRD	12.004564	20.01325407	-4.026358911	29.02723086		Industrials
302	32	LNN	9.760093214	18.55755378	9.19413857	1.209183219		Industrials
303	32	FIX	23.69923919	32.53282109	1.080618288	15.65348413		Industrials
304	32	KAMN	23.05558443	21.23602209	-3.160570732	19.72174143		Industrials
305	32	INTC	10.22821291	29.69019361	2.691485278	30.29551377		Technology
306	32	ORCL	8.770174943	24.12660705	-1.617032522	19.15855211		Technology
307	32	CTSH	-3.612593806	26.46816468	-9.334746226	-0.460492421		Technology
308	32	RBC	21.67122002	9.702008813	-8.101898574	22.78768332		Technology
309	32	D	17.962916	10.40324635	-6.693387862	21.97755782		Utilities
310	32	DUK	13.75496719	12.79592296	8.550318437	12.37028624		Utilities
311	32	PNW	26.14129592	13.7093585	5.16892	12.12679827		Utilities
312	32	PEG	17.75628472	23.14878944	5.702012484	19.90010083		Utilities
313	32	ED	18.65584038	19.38252982	-5.090496295	24.69592833		Utilities
314	32	DTE	28.64031441	15.8068711	6.084544133	24.09653161		Utilities
315	32	SR	13.52057856	20.24796616	3.177965151	18.48532986		Utilities
316	32	CPK	26.60207782	21.24057129	6.939214829	22.45168738		Utilities
317	32	NWE	10.48497616	9.140662557	6.003986145	27.52614007		Utilities
318	32	ARTNA	24.82510077	28.12567946	-4.083139394	10.83370555		Utilities
319	33	SKX	-17.95727412	52.02893162	-40.46814321	86.24406051		Consumer Cyclical
320	33	CPRT	47.09318434	55.0251173	9.587156999	90.72986967		Consumer Cyclical
321	33	CHDN	11.53746406	57.56965101	3.097307426	70.53700764		Consumer Cyclical
322	33	PPC	-3.073509595	60.10309318	-48.60834966	112.6055912		Consumer Defensive
323	33	RDNT	6.260290393	55.38462125	1.194028689	94.07264974		Healthcare
324	33	AAPL	12.38434235	48.04250803	-7.054338117	88.74246463		Technology
325	33	LRCX	38.11775716	73.69343318	-26.48169056	115.9554149		Technology
326	33	FICO	28.20185423	27.50566721	21.91146799	101.9947068		Technology

1	Label	Company	Stock Price ChangeYr1	Stock Price ChangeYr2	Stock Price ChangeYr3	Stock Price ChangeYr4	SparkLines	Sector
327	34	SXT	31.6155575	-4.351459951	-23.10402649	20.67878988		Basic Materials
328	34	NP	42.57684511	7.745817065	-33.79839137	21.60967007		Basic Materials
329	34	ETH	39.58389615	-20.91217204	-36.71779471	10.99348055		Consumer Cyclical
330	34	LZB	32.03237152	0.529566752	-10.04052261	16.42154983		Consumer Cyclical
331	34	BC	10.74294051	0.982596988	-15.94084169	30.53432294		Consumer Cyclical
332	34	HVT	15.53064058	-2.817647679	-14.58161253	9.708431515		Consumer Cyclical
333	34	PAG	30.97342322	-5.422489199	-13.19479207	26.68312168		Consumer Cyclical
334	34	TR	33.79637464	-4.387794095	-3.85717999	6.741526666		Consumer Defensive
335	34	NS	34.69738707	-34.606575	-22.25234298	32.65665885		Energy
336	34	HNNA	8.636354078	-20.86920594	-38.73445858	2.880437248		Financial Services
337	34	ALK	14.99646866	-14.93930271	-17.23760195	12.54241825		Industrials
338	34	FLS	16.21499456	-12.93330842	-9.000644945	33.06804867		Industrials
339	34	AZZ	23.06318289	-19.62957394	-20.1113918	14.93428989		Industrials
340	34	IBM	27.96523621	-4.676963734	-22.97470491	21.92424577		Technology
341	35	BYD	6.102017996	72.64772777	-39.25862131	42.15402173		Consumer Cyclical
342	35	MHK	7.095733947	36.75340466	-57.62318874	14.99157389		Consumer Cyclical
343	35	BWA	-5.1741249	29.17822051	-31.89477018	25.72236864		Consumer Cyclical
344	35	PII	-4.387844448	53.77857734	-37.89062153	33.93820787		Consumer Cyclical
345	35	STZ	10.01964238	49.29005871	-28.09367684	17.49383641		Consumer Defensive
346	35	VLO	1.767909942	35.81257106	-16.53891708	29.25077385		Energy
347	35	BECN	13.44496184	38.75951526	-50.96614915	-1.690744721		Industrials
348	35	MAN	10.91174771	40.88471244	-47.65330734	52.86287648		Industrials
349	35	CERN	-18.55226939	36.41700722	-23.52340623	42.56522506		Technology
350	35	BLKB	1.183978732	46.13496853	-32.96413739	26.5072703		Technology
351	36	NOVT	58.85022372	132.0185697	24.75247525	38.01498114		Technology
352	37	SORL	22.58064268	107.4074003	-73.33333412	103.6697212		Consumer Cyclical
353	37	IPGP	14.99301409	116.7746584	-49.0465041	26.28093018		Technology
354	37	TRT	14.48275255	112.4242524	-61.91950428	55.25292269		Technology
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