

The Best & Worst Technology Sector ETFs

Ratings of Investment Merit

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- ProShares Ultra Semiconductors (USD) is our top pick for Technology sector ETFs.
- We provide predictive ratings for 25 Technology sector ETFs.
- We benchmark the individual ETFs against the entire Technology sector and the S&P 500.
- This research enables investors to analyze funds as they analyze stocks.
- We offer custom and enhanced ETFs based on our top-ranked stock rating system.
- Our ETF analysis is based on aggregation of models for companies held by the fund and weighted according to the fund's allocations to those companies, excluding cash.
- We offer individual ETF reports on 400+ ETFs.



Figure 1: The Investment Merit of the Best & Worst Technology Sector ETFs

Fund/Benchmark	% of Fund Allocated to Each Rating					Overall Fund Rating
	Very Attractive	Attractive	Neutral	Dangerous	Very Dangerous	
USD	58%	14%	21%	8%	0%	Attractive
QTEC	39%	17%	34%	5%	2%	Attractive
Overall Sector	54%	11%	23%	11%	2%	Attractive
IGV	22%	10%	33%	32%	3%	Neutral
PXQ	0%	5%	58%	32%	4%	Dangerous

* % may not add up to 100% due to the exclusion of cash and holdings not in our coverage universe.

Sources: New Constructs, LLC and company filings

Technology ETF Sector Overview

The Technology sector currently consists of 25 U.S. Equity ETFs with an average expense ratio of 0.34% and over \$15.1 billion in assets.

Figure 2: Top 10 U.S. Equity Technology Sector ETFs by Market Cap

ETF Symbol	ETF Name	Expense Ratio	Exposure	Index	Market cap
XLK	Technology Select Sector SPDR	0.20%	Long	Technology Select Sector	\$7,514,402,143
VGT	Vanguard Information Tech ETF	0.25%	Long	MSCI US Investable Market Info Tech 25/50	\$1,873,084,142
IYW	iShares Dow Jones U.S. Technology Index Fund	0.48%	Long	Dow Jones US Technology	\$1,441,583,000
FDN	First Trust DJ Internet Index Fund	0.60%	Long	Dow Jones Internet	\$782,000,074
IGV	iShares S&P North American Technology-Software Index Fund	0.48%	Long	S&P North American Technology-Software	\$623,765,500
QTEC	First Trust NASDAQ-100-Technology Sector Index Fund	0.60%	Long	NASDAQ-100 Technology Sector	\$549,910,051
IGM	iShares Goldman Sachs Technology Index Fund	0.48%	Long	S&P North American Technology Sector	\$416,338,000
IGN	iShares S&P North American Technology-Multimedia Networking Index Fund	0.48%	Long	S&P North American Tech-Multimedia Networking	\$226,440,000
MTK	SPDR MS Technology	0.50%	Long	Morgan Stanley Technology	\$203,811,988
FXL	First Trust Technology AlphaDEX	0.70%	Long	StrataQuant Technology	\$199,866,800

Sources: New Constructs, LLC

For a detailed description of an individual ETF's predictive ratings, purchase an [Individual ETF Report](#) for any of the 400+ ETF's we cover. Sample reports are available [here](#).

Methodology

Our Risk/Reward ratings have a solid track record of outperformance for investors.

[Barron's ranked us #1 for stock-picking.](#)

Custom ETFs: [Contact us](#) for best-of-breed and enhanced ETF products for a particular sector or index.

This report offers recommendations on Technology sector ETFs and benchmarks for (1) investors considering buying Technology sector ETFs and for (2) comparing individual ETFs to the Technology sector and the S&P 500. Our analysis is based on aggregating results from our models on each of the companies included in every ETF and the overall sector (574 companies) based on data as of July 12, 2011¹. We aggregate results for the ETFs in the same way the ETFs are designed. Our goal is to empower investors to analyze ETFs in the same way they analyze individual stocks.

To make an informed ETF investment decision, investors must consider the ETF's investment merit. An ETF's investment merit is determined by the quality of the ETF's holdings. We apply our stock rating system to each ETF's holdings to determine its investment merit.

Given the [success](#) of our rating system for individual stocks, we believe its application to groups of stocks (i.e. ETFs and funds) helps investors make more informed ETF and mutual fund buying decisions. Barron's featured our uniquely predictive ETF research in "[The Danger Within](#)".

Recommendations Summary

If you require exposure to the Technology sector:

We recommend investors buy the following Technology ETFs: USD, QTEC, XLK, TYH, IYW, ROM, FTQ, IGM, or VGT. These ETFs allocate substantial amounts to Attractive-or-better-rated stocks and all earn an Attractive Overall Risk/Reward Rating.

If you require exposure to any other sector:

We recommend investors review our [Sector ETF Roadmap](#) report or our [9 other sector ETF reports](#), beginning with the Consumer Staples sector report, which is the only other sector to earn an Attractive Overall Risk/Reward Rating.

If you require exposure to a Technology ETF or an index ETF:

We recommend investors buy the following Technology ETFs over an S&P 500 ETF: USD, QTEC, XLK, TYH, IYW, ROM, FTQ, IGM, VGT, SOXX, SOXL, MTK, RYT, PTF, PSI, or IGN.

If you are looking for exposure to the best stocks in the market:

We recommend you buy our [Most Attractive Stocks](#).

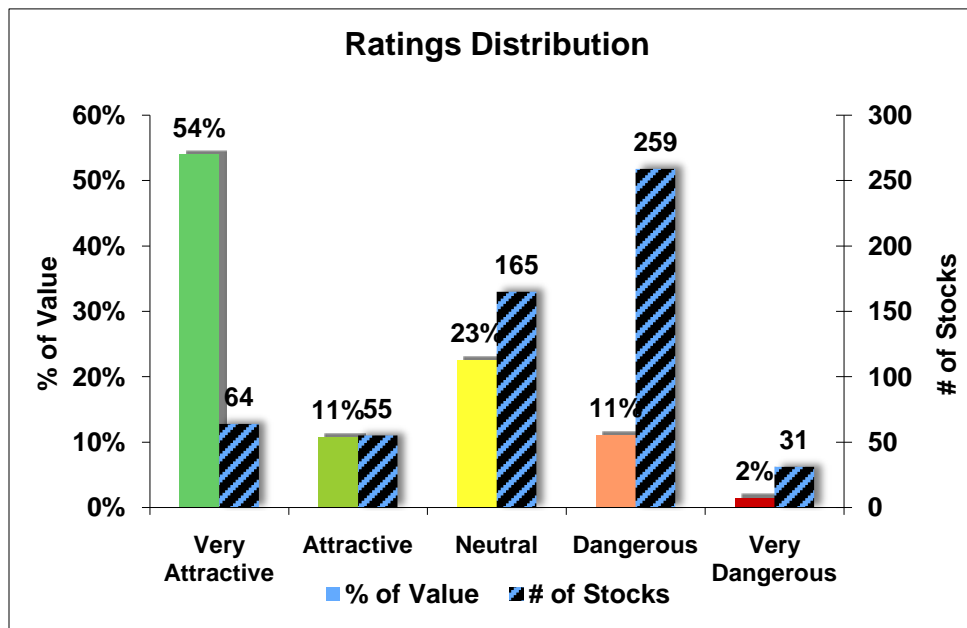
¹ For an explanation of the merits of using market-weighted averages in aggregation analysis instead of aggregate values, see Jeremy Siegel's WSJ article "[The S&P Gets Its Earnings Wrong](#)."

Recommendations Detail

Click [here](#) for more info on risk/reward rating system and our approach to equity research.

If you want to be in a sector ETF, the Technology and Consumer Staples sectors are the best places to shop due to their Attractive Overall Risk/Reward Ratings. Figure 3 shows how the Technology sector's stocks and the market value attributed to them stack up under the microscope of our risk/reward rating system.

Figure 3: Technology Sector – Allocation & Holdings by Risk/Reward Rating



Sources: New Constructs, LLC and company filings

The Technology sector has 13% of its value invested in Dangerous-or-worse-rated stocks and 65% invested in Attractive-or-better-rated stocks. The Technology sector's heavy allocation to Attractive-or-better-rated stocks and its low weighting of Dangerous-or-worse-rated stocks create large opportunities for Attractive-or-better-rated ETFs.

When analyzing the Technology sector ETFs, we chose the 25 U.S. Equity Technology sector ETFs where we cover at least 85% of the value of the ETF.

Figure 4: Holdings Count of Technology Sector ETFs

TICKER	ETF Description	Management Style	# of Holdings*
SOXL	Direxion Daily Semiconductor Bull 3x Shares	Passive	28
SOXX	iShares PHLX SOX Semiconductor Sector Index Fund	Passive	28
PSJ	PowerShares Dynamic Software	Passive	29
PSI	PowerShares Dynamic Semiconductors	Passive	30
PXQ	PowerShares Dynamic Networking	Passive	30
MTK	SPDR MS Technology	Passive	30
IGN	iShares S&P North American Technology-Multimedia Networking Index Fund	Passive	33
SKYY	First Trust ISE Cloud Computing Index Fund	Passive	37
FDN	First Trust DJ Internet Index Fund	Passive	40
QTEC	First Trust NASDAQ-100-Technology Sector Index Fund	Passive	40
USD	ProShares Ultra Semiconductors	Passive	50
IGV	iShares S&P North American Technology-Software Index Fund	Passive	51
XSD	SPDR S&P Semiconductor ETF	Passive	51
PTF	PowerShares Dynamic Technology	Passive	59
PNQI	PowerShares Nasdaq Internet Portfolio	Passive	60
RYT	Rydex S&P Equal Weight Technology ETF	Passive	73
XLK	Technology Select Sector SPDR	Passive	81
FXL	First Trust Technology AlphaDEX	Passive	88
TYH	Direxion Daily Technology Bull 3X Shares	Passive	115
PSCT	PowerShares S&P SmallCap Information Technology Portfolio	Passive	129
IYW	iShares Dow Jones U.S. Technology Index Fund	Passive	162
ROM	ProShares Ultra Technology	Passive	163
FTQ	Focus Morningstar Technology Index ETF	Passive	228
IGM	iShares Goldman Sachs Technology Index Fund	Passive	255
VGT	Vanguard Information Tech ETF	Passive	388

* # of Holdings excludes cash

Sources: New Constructs, LLC

Figure 4 clearly shows that not all Technology ETFs are made the same. Different ETFs have meaningfully different numbers of holdings and, therefore, different allocations to holdings. Given the differences in holdings and allocations, these ETFs will likely perform quite differently.

[Contact us](#) for details on our ratings for any stocks in any equity ETF.

We analyzed the investment merit of each ETF based on how it allocates value to each stock it holds. Figure 5 shows how the 25 Technology sector ETFs stack up versus each other, the overall sector and the S&P 500 based on their Overall Risk/Reward Ratings and the allocation of their holdings by rating.

Figure 5: Investment Merit Based on Holdings and Allocations

Fund/Benchmark	% of Fund Allocated to Each Rating					Overall Fund Rating
	Very Attractive	Attractive	Neutral	Dangerous	Very Dangerous	
USD	58%	14%	21%	8%	0%	Attractive
QTEC	39%	17%	34%	5%	2%	Attractive
XLK	55%	14%	21%	7%	1%	Attractive
TYH	63%	8%	19%	9%	0%	Attractive
IYW	63%	9%	18%	8%	1%	Attractive
ROM	63%	9%	18%	8%	1%	Attractive
FTQ	59%	9%	21%	10%	1%	Attractive
IGM	53%	11%	24%	9%	1%	Attractive
VGT	55%	11%	20%	10%	2%	Attractive
Overall Sector	54%	11%	23%	11%	2%	Attractive
SOXX	41%	21%	24%	6%	0%	Neutral
SOXL	41%	21%	24%	6%	0%	Neutral
MTK	38%	17%	24%	8%	0%	Neutral
RYT	29%	17%	28%	20%	3%	Neutral
PTF	18%	19%	34%	21%	6%	Neutral
PSI	18%	18%	39%	22%	3%	Neutral
IGN	22%	5%	38%	26%	4%	Neutral
S&P 500	24%	19%	33%	19%	5%	Neutral
FXL	29%	15%	30%	25%	1%	Neutral
XSD	18%	14%	31%	36%	0%	Neutral
PSCT	10%	16%	36%	33%	5%	Neutral
IGV	22%	10%	33%	32%	3%	Neutral
PSJ	13%	10%	45%	27%	4%	Neutral
FDN	12%	10%	33%	38%	7%	Neutral
PNQI	8%	10%	44%	31%	3%	Neutral
SKYY	19%	9%	32%	31%	4%	Neutral
PXQ	0%	5%	58%	32%	4%	Dangerous

* % may not add up to 100% due to the exclusion of cash and holdings not in our coverage universe.

Sources: New Constructs, LLC; and company filings

Attractive ETFs:

USD, QTEC, XLK, TYH, IYW, ROM, FTQ, IGM, VGT – these 9 ETFs earn an Attractive-or-better Overall Risk/Reward Rating and therefore, they are the only U.S. Equity Technology ETFs we recommend. Our top pick from this group is USD.

Neutral ETFs:

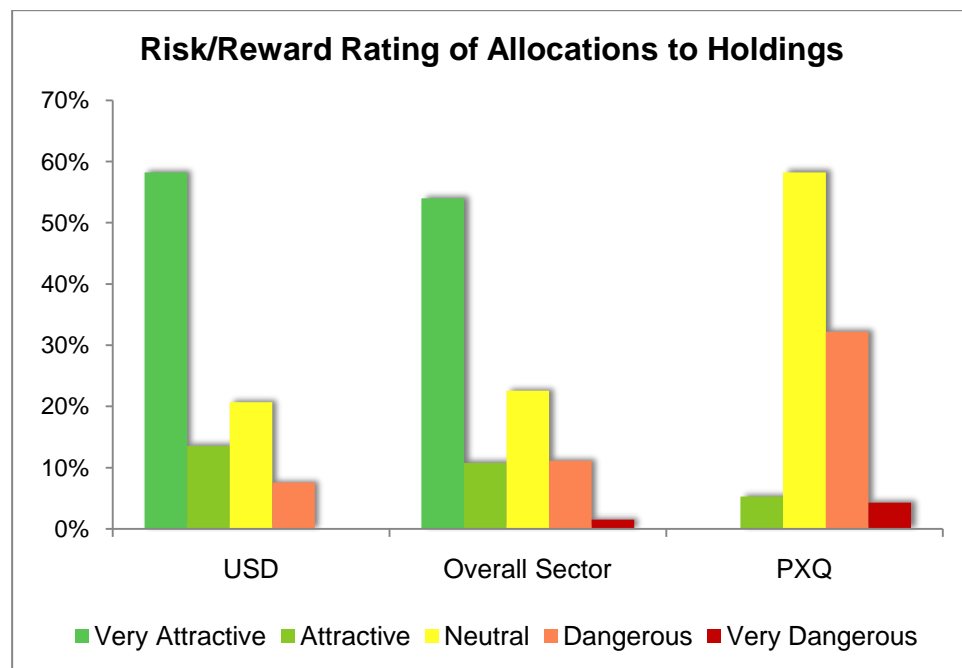
SOXX, SOXL, MTK, RYT, PTF, PSI, IGN, FXL, XSD, PSCT, IGV, PSJ, FDN, PNQI, and SKYY allocate their value in a way that earns them a Neutral Overall Risk/Reward Rating. We recommend investors buy the Very Attractive and Attractive stocks in this sector before buying any of the U.S. Equity Technology ETFs except those we recommend. [Contact us](#) for the full list of the 119 Technology stocks that earn an Attractive-or-better Overall Risk/Reward Rating.

Dangerous ETFs:

We recommend investors avoid PXQ because of its Dangerous Overall Risk/Reward Rating.

Figure 6 contrasts the difference in investment merit between USD, PXQ, and the overall sector.

Figure 6: Attractive and Dangerous Technology Sector ETFs



Sources: New Constructs, LLC; and company filings

Figure 7 provides a comparison of basic stats for the 2 highest rated ETFs covered in this report.

Figure 7: ETF Stat Comparison

Ticker	USD	QTEC
Name	ProShares Ultra Semiconductors	First Trust NASDAQ-100-Technology Sector Index Fund
Last Closing Quote	37.87	25.4
Expense Ratio	0.95%	0.60%
Market Cap	\$48,284,250	\$549,910,051
Avg. Daily Volume	93,386	212,889
Inception Date	1/30/07	4/19/06
Issuer	ProShares	First Trust
Geography	U.S.	U.S.
Avg. # of Components	50	40
Asset Class	Equity	Equity
Sector	Information Technology	Information Technology
Investment Metric Rank	98%	98%
Management Style	Passive	Passive
Underlying Index	Dow Jones US Semiconductors	NASDAQ-100 Technology Sector
Exposure	Double Long	Long
Premium (Discount)	0.08%	0.00%

Sources: New Constructs, LLC

Sector Benchmark

Ratings Comparison

USD has similar ratings to the overall sector. USD has a Price-to-EBV of 1.6 compared to the overall sector's Price-to-EBV of 2.3. USD's lower Price-to-EBV makes it a more attractive investment than the overall sector.

Figure 8: USD – Risk/Reward Rating

Overall Risk/Reward Rating	Quality of Earnings		Valuation		
	Econ v Reported Earnings	ROIC	FCF Yield	Price-to-EBV	GAP (yrs)
Very Dangerous	Misleading Trend	Bottom Quintile	<-5%	>3.5 or -1<0	More than 50
Dangerous	False Positive	4th Quintile	-5%<-1%	2.4<3.5 or <-1	20<50
Neutral	Neutral EE	3rd Quintile	-1%<3%	1.6<2.4	10<20
Attractive	Positive EE	2nd Quintile	3%<10%	1.1<1.6	3<10
Very Attractive	Rising EE	Top Quintile	>10%	0<1.1	Less than 3
Market-Weighted Avg	n/a	31.2%	6.5%	1.6	20

Sources: New Constructs, LLC and company filings

Figure 9: Technology Sector – Risk/Reward Rating

Overall Risk/Reward Rating	Quality of Earnings		Valuation		
	Econ v Reported Earnings	ROIC	FCF Yield	Price-to-EBV	GAP (yrs)
Very Dangerous	Misleading Trend	Bottom Quintile	<-5%	>3.5 or -1<0	More than 50
Dangerous	False Positive	4th Quintile	-5%<-1%	2.4<3.5 or <-1	20<50
Neutral	Neutral EE	3rd Quintile	-1%<3%	1.6<2.4	10<20
Attractive	Positive EE	2nd Quintile	3%<10%	1.1<1.6	3<10
Very Attractive	Rising EE	Top Quintile	>10%	0<1.1	Less than 3
Market-Weighted Avg	n/a	47.7%	3.7%	2.3	19

Sources: New Constructs, LLC and company filings

Allocation Comparison

USD more effectively allocates capital than the overall Technology sector. Per [Figure 5](#) above, USD allocates 72% of its value to Attractive-or-better-rated stocks while the sector allocates 65%. USD also allocates 8% of its value toward Dangerous-or-worse-rated stocks compared to the sector's Dangerous-or-worse weightings of 13%.

For explanation and details behind our risk/reward rating system, see one of our Individual ETF Reports, which are available for free [here](#).

Market Benchmark

Ratings comparison

USD outperforms the S&P 500 in valuation ratings. USD has a Price-to-EBV of 1.6, earning it an Attractive rating, and a Free Cash Flow Yield of 6.5% compared to the S&P 500's Price-to-EBV of 2.0 and Free Cash Flow Yield of 2.1%.

USD also outperforms the S&P 500 in quality of earnings ratings. USD has positive and rising Economic Earnings while the S&P 500 has positive and declining Economic Earnings.

Figure 10: USD – Risk/Reward Rating

Overall Risk/Reward Rating	Quality of Earnings		Valuation		
	Econ v Reported Earnings	ROIC	FCF Yield	Price-to-EBV	GAP (yrs)
Very Dangerous	Misleading Trend	Bottom Quintile	<-5%	>3.5 or -1<0	More than 50
Dangerous	False Positive	4th Quintile	-5%<-1%	2.4<3.5 or <-1	20<50
Neutral	Neutral EE	3rd Quintile	-1%<3%	1.6<2.4	10<20
Attractive	Positive EE	2nd Quintile	3%<10%	1.1<1.6	3<10
Very Attractive	Rising EE	Top Quintile	>10%	0<1.1	Less than 3
Market-Weighted Avg	n/a	31.2%	6.5%	1.6	20

Sources: New Constructs, LLC and company filings

Figure 11: S&P 500 – Risk/Reward Rating

Overall Risk/Reward Rating	Quality of Earnings		Valuation		
	Econ v Reported Earnings	ROIC	FCF Yield	Price-to-EBV	GAP (yrs)
Very Dangerous	Misleading Trend	Bottom Quintile	<-5%	>3.5 or -1<0	More than 50
Dangerous	False Positive	4th Quintile	-5%<-1%	2.4<3.5 or <-1	20<50
Neutral	Neutral EE	3rd Quintile	-1%<3%	1.6<2.4	10<20
Attractive	Positive EE	2nd Quintile	3%<10%	1.1<1.6	3<10
Very Attractive	Rising EE	Top Quintile	>10%	0<1.1	Less than 3
Market-Weighted Avg	n/a	18.4%	2.1%	2.0	22

Sources: New Constructs, LLC and company filings

Allocation Comparison

USD allocates capital more effectively than the S&P 500. Per [Figure 5](#) above, USD allocates 72% of its value to Attractive-or-better-rated stocks while the S&P 500 allocates 43%. USD also allocates 8% of its value toward Dangerous-or-worse-rated stocks compared to the S&P 500's Dangerous-or-worse weightings of 24%.

Technology Sector Overview

Figure 12 lists the top 25 companies in the Technology sector by market capitalization representing about 66% of the overall sector.

Figure 12: Top 25 Technology Sector Companies by Market Cap.

Ticker	Company Name	Industry	P/E Ratio	% of Sector
AAPL	Apple Inc.	Computer Hardware	23.3	11%
MSFT	Microsoft Corporation	Systems Software	12.6	8%
IBM	International Business Machines Corp	Computer Hardware	15.1	7%
GOOG	Google Inc.	Internet Software & Services	20.3	6%
ORCL	Oracle Corporation	Systems Software	19.6	6%
INTC	Intel Corporation	Semiconductors	11.2	4%
QCOM	QUALCOMM Inc.	Communications Equipment	28.9	3%
CSCO	Cisco Systems, Inc.	Communications Equipment	11.7	3%
HPQ	Hewlett-Packard Company	Computer Hardware	9.5	3%
EMC	EMC Corporation	Computer Storage & Peripherals	30.4	2%
BIDU	Baidu Inc.	Internet Software & Services	90.8	2%
VMW	VMware Inc.	Systems Software	118.9	1%
EBAY	eBay Inc.	Internet Software & Services	23.8	1%
MA	MasterCard Inc.	Data Processing & Outsourced Services	21.6	1%
ACN	Accenture plc	IT Consulting & Other Services	26.3	1%
TXN	Texas Instruments, Inc.	Semiconductors	11.9	1%
DELL	Dell Inc.	Computer Hardware	12.3	1%
ADP	Automatic Data Processing, Inc.	Data Processing & Outsourced Services	22.4	1%
GLW	Corning Inc.	Communications Equipment	7.5	1%
CTSH	Cognizant Technology Solutions Corp	IT Consulting & Other Services	31.0	1%
CRM	salesforce.com Inc.	Application Software	319.7	1%
YHOO	Yahoo! Inc.	Internet Software & Services	16.5	1%
NTAP	NetApp Inc.	Computer Storage & Peripherals	30.4	1%
BRCM	Broadcom Corporation	Semiconductors	16.8	1%
AMAT	Applied Materials, Inc.	Semiconductor Equipment	18.2	1%
Total				66%

Sources: New Constructs, LLC and company filings

Appendix: Risk/Reward Rating System

Our Risk/Reward Rating System assigns a rating to every stock we cover according to what we believe are the 5 most important criteria for assessing the risk versus reward of stocks. See table that follows for details.

Overall Risk/Reward Ranking	The Overall Risk/Reward Ranking provides a final rating based on the equal-weighted average rating of each criterion.
Very Dangerous	FCF Yield is not included in the average.
Dangerous	FCF Yield is not included in the average.
Neutral	All criteria are equal-weighted in the average calculation.
Attractive	All criteria are equal-weighted in the average calculation.
Very Attractive	All criteria are equal-weighted in the average calculation.

Economic vs Reported Earnings	Rates stocks based on how their Economic Earnings compare to their Reported Earnings. Values based on Latest Fiscal Year.
Very Dangerous	Negative and declining Economic Earnings despite positive and rising Reported Earnings
Dangerous	Same as above except Reported Earnings are not rising or Reported Earnings are not positive
Neutral	Negative Economic and Reported Earnings
Attractive	Economic Earnings are positive
Very Attractive	Economic Earnings are positive and rising

Return on Invested Capital (ROIC)	Rates stocks based on their ROIC. Values based on Latest Fiscal Year.
Bottom Quintile	Very Dangerous = the bottom 20% of Russell 1000 companies
4th Quintile	Dangerous = the bottom 40% of Russell 1000 companies
3rd Quintile	Neutral = the middle 20% of Russell 1000 companies
2nd Quintile	Attractive = the top 40% of Russell 1000 companies
Top Quintile	Very Attractive = the top 20% of Russell 1000 companies

FCF Yield	Rates stocks based on their Free Cash Flow Yield. Values based on Latest Closing Stock price and Latest Fiscal Year.
<-5%	Very Dangerous = less than or equal to -5%
-5%<-1%	Dangerous = more than -5% but less than or equal to -1%
-1%<3%	Neutral = more than -1% but less than or equal to +3%
3%<10%	Attractive = more than +3% but less than or equal to +10%
>10%	Very Attractive = more than +10%

Price-to-EBV Ratio	Rates stocks based on their Price-to-Economic Book Value Ratio. Values based on Latest Closing Stock price and Latest Fiscal Year.
>3.5 or -1>0	Very Dangerous = greater than or equal to 3.5 or less than 0 but greater than -1
2.4>3.5 or <-1	Dangerous = greater than or equal to 2.4 but less than 3.5 and less than or equal to -1
1.6>2.4	Neutral = greater than or equal to 1.6 but less than 2.4
1.1>1.6	Attractive = greater than or equal to 1.1 but less than 1.6
0>1.1	Very Attractive = greater than or equal to 0 but less than 1.1

Growth Appreciation Period (yrs)	Rates stocks based on their Market-Implied Growth Appreciation Period. Values based on Latest Closing Stock price and Default Forecast Scenario.
>50	Very Dangerous = greater than or equal to 50 years
20>50	Dangerous = at least 20 years but less than 50
10>20	Neutral = at least 10 years but less than 20
3>10	Attractive = at least 3 years but less than 10
0>3	Very Attractive = at least 0 years but less than 3

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Accounting data is not designed for equity investors, but for debt investors. [Accounting data must be translated into economic earnings](#) to understand the profitability and valuation relevant to equity investors. Respected investors (e.g. Adam Smith, Warren Buffett and Ben Graham) have repeatedly emphasized that accounting results should not be used to value stocks. [Economic earnings](#) are what matter because they are:

1. Based on the complete set of financial information available.
2. Standard for all companies.
3. A more accurate representation of the true underlying cash flows of the business.

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