



Personal Finance: Another Perspective

Investing 8: Selecting Financial Assets

Updated 2019-10-29



Objectives

- A. Understand why you should wait to pick stocks (until your assets have grown substantially)
- B. Understand where to find important information on mutual funds and stocks and taxes on financial assets
- C. Understand what makes a good mutual fund and the big deal about index funds
- D. Understand how to pick the mutual/index funds for your portfolio
- E. Understand plans and strategies for picking financial assets



A. Understand why you shouldn't be picking stocks until later

- Why have we not yet talked about picking stocks?
 - There are five major reasons why we have not talked about picking stocks. Picking single stocks initially violates the following investing principles:
- 1. Principle 3: Stay Diversified
 - Picking single stocks violates the principle of diversification, especially when you are just beginning to build your portfolio
 - With a small portfolio, it is difficult to achieve acceptable diversification with limited numbers of stocks



Stock Selection Strategies (continued)

- 2. Principle 4: Invest Low-cost and tax-efficiently
 - Investing in stocks when you have a small portfolio (less than \$500,000) is very expensive.
 - Transactions costs for purchasing stocks are among the highest of any major asset class
- 3. Principle 6: Know What You Invest In
 - Picking stocks when you have not developed the knowledge and skill base necessary to evaluate stocks is very risky, bordering on speculation or gambling
 - Most (and this includes Finance students) have not yet developed the skills needed to make good stock selection decisions for a portfolio



Stock Selection Strategies (continued)

- 4. Principle 8: Don't spend too much time trying to "Beat the Market"
 - Picking stocks is very difficult and challenging task
 - There is so much more to be learned about valuation that can't be taught in a single class.
 - I have given only the very basics in this course
- 5. Stock selection is not required to have a successful investment portfolio
 - While it is intellectually challenging to select stocks, you can generally improve returns and reduce risk more by properly selecting asset classes.
 - You may never need to buy an individual stock



Questions

- Any questions on why you shouldn't be picking stocks until later?
 - (Remember, since analyzing companies is not likely going to be many of your daytime jobs, it will be in most of your best interests to develop a “sleep-well portfolio” plan and follow it.)



B. Understand where to find Information on Financial Assets and Taxes

- Where do you find mutual fund, bond and stock information?
 - Stockbrokers
 - Mutual Fund Supermarkets
 - Schwab, Fidelity, TD Waterhouse
 - Mutual Fund Monitoring companies
 - Morningstar, Lipper
 - Financial Websites and the Financial Press
 - Yahoo, MSN Money, CNN Money
 - Kiplinger's, Smart Money, AOL Finance
 - BYU Libraries
 - HBLL has great information – See TT10



Mutual Fund Information (continued)

- What is the best format for the information?
 - In a database of consistent, pertinent information that is updated on a regular basis
 - The database must be directly searchable with a consistent framework and structure
- One example:
 - Morningstar
 - Note that this is just one of the many available databases. By choosing this database, I am neither implying or endorsing Morningstar (although I think they are pretty good). It is just that it is available free in the library



Taxes on Financial Assets

- All investment earnings are not created equal.
 - There are different taxes and tax rates on different types of financial assets. Some have preferential federal, and others preferential state tax rates
- Taxes fall under three main headings: a. Stocks, b. Bonds and Savings vehicles, and c. Mutual funds (which include index funds and exchange traded funds)
 - Note that each of these assets are taxed at the federal level and may be taxed at the state and local level as well, depending on your state of residence.
 - Many are taxed at your marginal tax rate (MTR), which is your highest tax rate, the tax on each additional dollar of income



Taxes on Financial Assets (continued)

- A. Stocks (or Equities)
 - There are two main types of taxes on stocks
 - 1. Capital gains are earnings from selling a stock.
 - Short-term are from stocks held < 366 days
 - Long-term are from stocks held ≥ 366 days
 - 2. Stock dividends are qualified or ordinary
 - Qualified dividends are held > 60 days during the 121-day period beginning 60 days before the ex-dividend date (see [Taxes on Securities Earning Including Qualified Dividends](#) (LT32))
 - Ordinary dividends are dividends that are not qualified



Taxes on Financial Assets (continued)

- B. Bonds and Savings Vehicles
 - Bond taxes are mainly two types: capital gains taxes and taxes on interest/coupon payments
 - 1. Capital gains include both short-term and long-term capital gains, and are the gains received from the realized sale of the bonds that are related to price appreciation
 - 2. Interest/coupon payments are payments received as part of the contractual agreement to receive interest payments
 - Bonds which have preferential interest tax treatment, i.e., muni's and Treasuries, must still pay capital gains taxes



Taxes on Financial Assets (continued)

- C. Mutual Funds
 - Mutual funds are pass through vehicles, which means that taxes are not paid at the Fund level but are passed through to the individual shareholders who must pay the taxes.
 - Mutual fund taxes are mainly capital gains, stock dividends and interest/coupon payments. They are handled the exact same way as the taxes for stocks and bonds discussed earlier

**Taxes on Different Types of Earnings - 2019 (LT32)
for Stocks, Bonds, and Mutual Funds**

Types of Investment Earnings:

Federal Tax Rate

State Tax Rate **

Stocks:

Capital Gains

- Short-term capital gains
- Long-term capital gains *
- Long-term capital gains (TI>\$488MFJ) *

Marginal Tax Rate
Preferential, 0%, 15%
20% +

Marginal Tax Rate
Marginal Tax Rate
Marginal Tax Rate

Dividends

- Stock Dividends: Qualified ***
- Stock Dividends: Ordinary/Not Qualified

Preferential, 0%, 15%
Marginal Tax Rate

Marginal Tax Rate
Marginal Tax Rate

Bonds and Savings Vehicles:

Capital Gains

- Short-term capital gains
- Long-term capital gains *
- Long-term capital gains (TI>\$488MFJ) *

Marginal Tax Rate
Preferential, 0%, 15%
20% +

Marginal Tax Rate
Marginal Tax Rate
Marginal Tax Rate

Interest/Coupon Payments

- Interest Payments
- Treasury-bills/bond Interest
- Muni-bond Interest (bonds from your state)
- Muni-bond Interest (bonds from another state)

Marginal Tax Rate
Marginal Tax Rate
0%
0%

Marginal Tax Rate
0%
0%
Marginal Tax Rate

Mutual Funds (Pass Through Vehicles):

Distributions:

Capital Gains for Stocks/Bonds/Municipals

- Short-term capital gains
- Long-term capital gains *
- Long-term capital gains (TI>\$488MFJ) *

Marginal Tax Rate
Preferential, 0%, 15%
20% +

Marginal Tax Rate
Marginal Tax Rate
Marginal Tax Rate

Stock Dividends

- Stock Dividends: Qualified ***
- Stock Dividends: Not Qualified/Ordinary

Preferential, 0%, 15%
Marginal Tax Rate

Marginal Tax Rate
Marginal Tax Rate

Interest/Coupon Payments

- Bond: Interest
- Treasury-bills/bonds Interest
- Muni-bond Interest (bonds from your state)
- Muni-bond Interest (bonds from another state)

Marginal Tax Rate
Marginal Tax Rate
0%
0%

Marginal Tax Rate
0%
0%
Marginal Tax Rate

Chart 1. 2019 Tax Brackets, Capital Gains and Dividends, and Medicare Tax Rates (000s)

Filing	Married		Cap. Gains				Total Cap Gains & Medicare
	Filing	Head of Household	Ordinary Income	Dividends	Medicare Tax Rate Earned Inc.*	Invest. Inc.	
Single	Jointly						
-	-	-	10%	0%			
9.70	19.40	13.85	12%	0%	2.9%	0.0%	2.9%
39.48	78.95	52.90	22%	0%	2.9%	0.0%	2.9%
39.38	78.75	52.75		15%	2.9%	0.0%	17.9%
84.20	168.40	84.20	24%	15%	2.9%	0.0%	17.9%
160.73	321.45	160.70	32%	15%	2.9%	0.0%	17.9%
204.10	408.20	204.10	35%	15%	2.9%	0.0%	17.9%
434.55	488.85	461.70		20%	3.8%	3.8%	27.6%
510.30	612.35	510.30	37%	20%	3.8%	3.8%	27.6%

* Combined rate = 1.45% employer contribution.

Definitions

- Short-term capital gains: Gains where shares/bonds that were sold were held for one year or less
- Long-term capital gains: Gains where shares/bonds that were sold were held more than one year

Tax Notes

- * Capital gains taxes are taxed differently based on your taxable income and AGI (see Chart 1)
- ** State tax rates vary state to state, while some states do not have a state income tax
- *** Qualified dividends are dividends which are paid by a U.S. corporation and you held the stock for more than 60 days during the 121-day period that begins 60 days before the ex-dividend date (see the Qualified Dividends tab on this worksheet to see if your dividends qualify for the lower rate).



Questions

- Any questions on taxes on where to find information on financial assets and taxes on financial assets?



C. What Makes a Good Mutual Fund?

- What are the criteria for a good mutual fund?
 1. Good diversification
 2. Low cost
 3. Tax efficiency
 4. Low turnover
 5. Low un-invested Cash
 6. No manager style drift
 7. Small (or positive) tracking error
- Please note that these slides refer to Morningstar Pages for specific funds. The first title is the Morningstar Button. The second is the tab (separated by a colon if available), and the third is the heading (separated by a dash). For example, Portfolio: Portfolio – Market Capitalization, refers to the Market Capitalization heading from the Portfolio tab of the Portfolio button



1. Good Diversification

- Diversification is your key defense against market risk
 - Stay diversified at all times. Pick a fund with many companies in their portfolios within each asset class
 - Diversification your primary defense against things that might go wrong in investing
 - Remember where you are in the hourglass
 - Avoid sector (industry) funds, individual stocks or concentrated portfolios of any kind until you have sufficient education, experience, and assets
 - And even then, keep that percentage of these assets small in relation to your overall assets



Where do you find Diversification?

- Diversification by:
 - Numbers (Portfolio: Holdings)
 - Total: Number of Stock, Bond, and Other Holdings
 - Concentration: Assets in top 10 holdings
 - Type (Portfolio: Summary)
 - Type of holdings (stocks, bonds, cash)
 - Location (Portfolio: Summary)
 - World Regions: Location of companies invested in by geographic area
 - Sector Weightings (Portfolio: Summary)
 - Sector (or industry) weightings



Good Diversification



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FF Fund Family Data PDF Report

Quote Chart Fund Analysis Performance Rating & Risk Management Stewardship **Portfolio** Expense Tax Purchase Filings

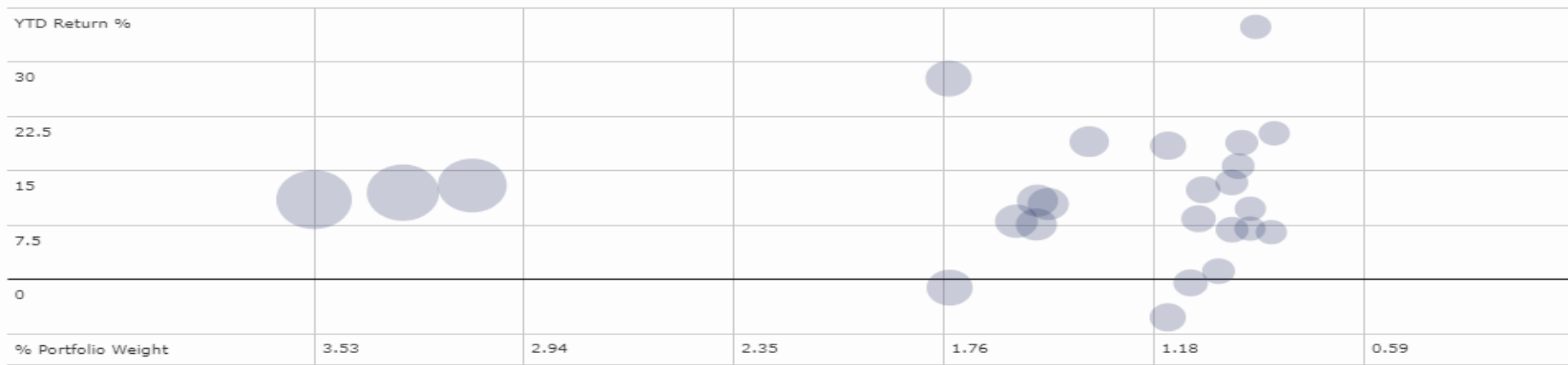
Summary **Holdings** Summary Detail

Annual Turnover 2%	Category Avg Turnover 58%	Yield(TTM) 1.37%	Assets in Top 10 Holdings 20.78%		
Stock Holdings(Long) 505	Stock Holdings(Short) —	Bond Holdings(Long) 0	Bond Holdings(Short) —	Other Holdings(Long) 4	Other Holdings(Short) —

1a

1b

Equity Holdings Performance SWPPX



Return as of :03/04/2019
 • Circle size is determined by % portfolio weight
 Please note that only equity holdings with a YTD Return % are displayed on the graph.



2. Low Cost

- Invest low cost
 - In a world where investment returns are limited, investment costs of any kind reduce your returns
- Invest in no-load mutual funds
 - You should rarely (if ever) pay a sales load of any kind (front end, level load, 12-b1, etc.).
 - Rear-end loads are OK, since you are long-term investor, as long as the loads are less than 180 days
 - Keep management fees to the lowest possible within the sector
- Remember: A dollar saved is a dollar you can earn more money with (and that has already been taxed)



Where do you find costs?

- Costs (Expense)
 - Expense Relative to Category
 - This is a key ratio: Total Expense Ratio
 - Compare that to your category average
 - Maximum Sales Fees (or Loads)
 - Initial
 - Deferred
 - Redemption
 - Other Fees/Expenses
 - Administrative costs
 - Management fees
 - 12b-1 Fees

Low Cost (Fees and Expenses)

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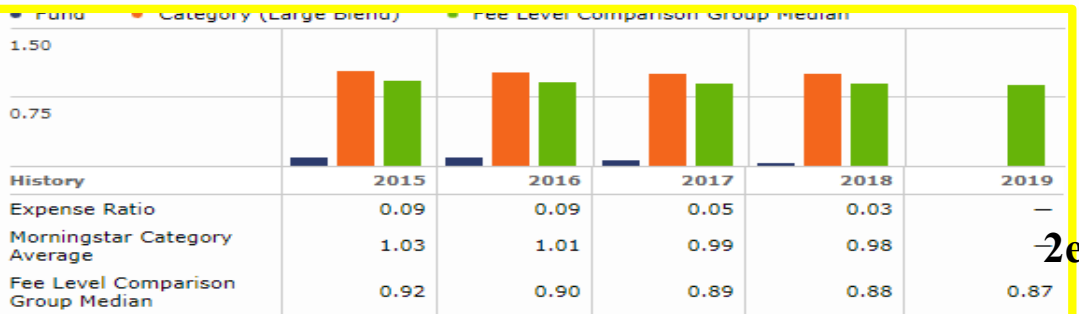
FF Fund Family Data PDF Report

Quote Chart Fund Analysis Performance Rating & Risk Management Stewardship Portfolio **Expense** Tax Purchase Filings

Fee Level Comparison Group
Large Cap No Load

Fee Level
Low

Expense Relative to Category SWPPX



Maximum Sales Fees SWPPX

Initial	—	2b
Deferred	—	2c
Redemption	—	

Total Cost Projections SWPPX

	Per 10K
3 Years	6
5 Years	11
10 Years	26

Other Fees/Expenses SWPPX

Net Expense Ratio: Annual Report 10/31/2018	0.03%
Net Expense Ratio: Prospectus 02/28/2018	2d 0.02%
Management Actual	0.02%
Management Maximum	0.02%
12b-1 Maximum	2f —
Administrative Maximum	—
Expense Waivers	



3. Tax Efficiency

- Invest in taxable funds with an eye to obtaining high returns while keeping taxes low
 - Taxes reduce the amount of money you can use for your personal and family goals
 - Watch the historical impact of taxes, for it will likely continue
- Remember: It is not what you earn, but what you keep after taxes that makes you wealthy



Where do you find Tax Efficiency?

- Tax analysis
 - Pretax Return: Return before taxes
 - Tax-adjusted Return: Return after taxes
 - Tax Cost Ratio: The percent of nominal Fund return attributable to taxes, assuming the fund is taxed at the highest rate. If a fund had an 8.0% return, and the tax cost ratio was 2.0%, the fund took home $(1 + \text{return}) * (1 - \text{tax cost ratio}) - 1$ or $(1.08 * .98) - 1$ or 5.84%
 - Potential Cap Gains Exposure: An estimate of the percent of a funds asset's that represent gains. If this is high, the probability is high that these may come to the investor as capital gains

Tax Efficiency

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Quote Chart Fund Analysis Performance Rating & Risk Management Stewardship Portfolio Expense **Tax** Purchase Filings

Compare

Tax Analysis

	1-Mo	3-Mo	6-Mo	YTD	1-Yr	3-Yr	5-Yr	10-Yr	15-Yr	Since Inception
Pretax Return										
SWPPX	3.21	1.39	-3.07	11.46	4.63	15.20	10.58	16.57	8.26	7.61
Tax-adjusted Return *										
SWPPX	3.21	0.35	-4.06	11.46	3.56	14.41	9.86	16.00	7.71	7.07
% Rank in Category	48	44	38	48	27	15	8	11	13	—
Tax Cost Ratio										
SWPPX	—	—	—	—	1.02	0.68	0.65	0.48	0.51	—
Potential Cap Gains Exposure										
SWPPX	45.40									

3b is the average of 1 yr -15 yr rank in category

(02/28/2019)

Currency is displayed in USD.

* Post tax returns are load adjusted.



4. Low Turnover

- Keep turnover low, as it's a proxy for fund expenses and taxes
 - The costs associated with turnover are hard to quantify and may not be disclosed in the prospectus. These costs include commissions, bid-ask spreads, and market impact
 - Each transaction generates a taxable event for you, and these cumulative costs can be very expensive.
 - Stick to funds with the low turnover (and low management fees), as they generally have lower costs and are more tax efficient as well



Where do you find Turnover?

- Turnover
 - Annual Turnover (Portfolio: Holdings, Quote)
 - This is the Fund turnover
 - Category Average Turnover (Portfolio: Holdings)
 - This is the turnover of Fund's in the same asset class or category



Low Turnover



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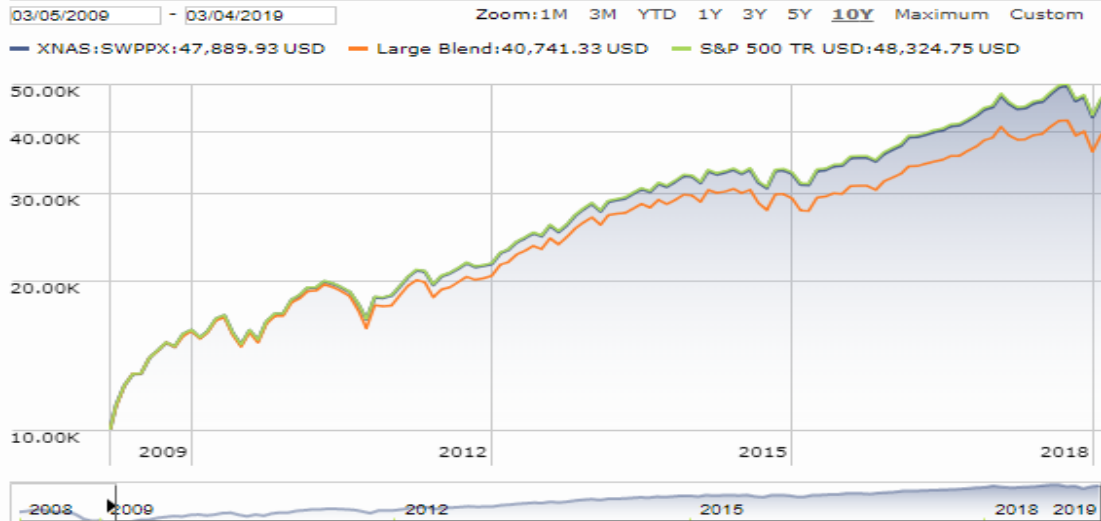
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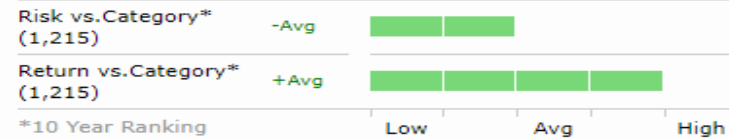
Quote Chart Fund Analysis Performance Rating & Risk Management Stewardship Portfolio Expense Tax Purchase Filings

NAV \$42.83	1-Day Total Return ↓ -0.40%	TTM Yield 1.97%	Load None	Total Assets \$ 36.2 bil	Expenses 0.02%	Fee Level Low	Turnover 2%	Status Open	Min. Inv. \$ --
USD NAV as of 04 Mar 2019 1-Day Return as of 04 Mar 2019		30-Day SEC Yield --	Category Large Blend	Investment Style Large Blend		4a			

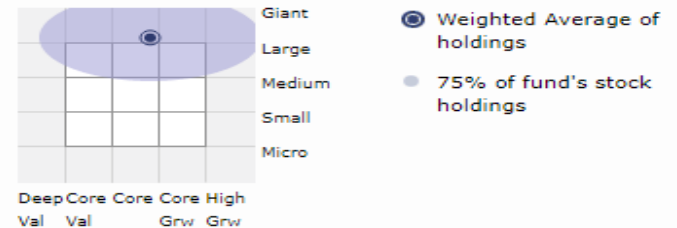
Growth of 10K SWPPX



Morningstar Risk Measures SWPPX



Style Map SWPPX





5. Low Un-invested Cash

- High cash levels are drags on performance.
Keep un-invested cash low
 - Many funds hold cash to fund potential redemptions, or as part of their investment policy, which are drags on performance
 - Choose funds that are fully invested (95%-99% depending on the asset class and fund size) in the market segment that you are targeting
 - Do not pay others to manage cash
 - Please note that some frictional cash is OK though for open-end mutual funds



Where do you find Un-invested Cash?

- Un-invested Cash (or cash drag)
 - Percent of cash in the fund (Snapshot - Asset Allocation)



Un-invested Cash



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Summary Holdings Summary Detail

Benchmark: Russell 1000 TR USD
Morningstar Category: Large Blend

Asset Allocation SWPPX



Type	% Net	% Short	% Long	Benchmark	Cat Avg
Cash	0.31	—	0.31	0.00	-0.47
US Stock	98.86	—	98.86	98.97	94.40
Non US Stock	0.82	—	0.82	1.01	3.02
Bond	0.00	—	0.00	0.00	2.13
Other	0.00	—	0.00	0.02	0.92

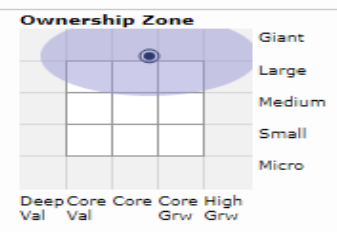
As of 01/31/2019

Source: Morningstar 2019

Style Details SWPPX

Avg Market Cap USD: 99,282 Mil
Benchmark Market Cap USD: 78,367 Mil
Category Avg Market Cap USD: 170,442 Mil

Size	% of Portfolio	Benchmark	Category Avg
Giant	56.47	50.72	76.83
Large	34.00	31.94	8.39
Medium	9.53	16.63	13.41
Small	0.00	0.70	1.36
Micro	0.00	0.00	0.01



Holdings Style			
29	30	31	Large
3	4	2	Mid
0	0	0	Small
Value	Blend	Growth	

Weighted Average of holdings

Portfolio Weight%
● > 50%



6. No Manager Style Drift

- Make sure the managers investment style remains constant
 - Investment fund managers have no authority to change the asset class
 - If you purchase a small cap fund, the manager should purchase small cap shares
 - The fund's prospectus should clearly define the market, size company, and portfolio style tilt
 - If you are looking for a domestic small value fund, screen for funds with the all of their assets invested in the U.S., the smallest average company size, and the highest book-to-market (or lowest price-book) ratios

Where do you find Manager Style drift?

Style Details SWPPX

Avg Market Cap USD 102,803 Mil **Benchmark Market Cap USD** 85,073 Mil **Category Avg Market Cap USD** 175,574 Mil

Market Capitalization

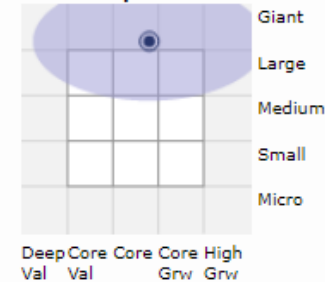
Size	% of Portfolio	Benchmark	Category Avg
Giant	56.38	50.57	75.90
Large	33.68	31.93	8.43
Medium	9.93	16.54	14.03
Small	0.01	0.95	1.63
Micro	0.00	0.00	0.01

Value & Growth Measures

	Stock Portfolio	Benchmark	Category Avg
Price/Prospective Earnings*	16.52	17.13	—
Price/Book*	2.92	2.87	—
Price/Sales**	1.97	1.97	—
Price/Cash Flow*	8.54	8.67	—
Dividend Yield %*	2.15	2.03	—
Long-Term Earnings %	10.76	10.75	—
Historical Earnings %	12.26	11.28	—
Sales Growth %	7.23	7.01	—
Cash-Flow Growth %	13.41	12.81	—
Book-Value Growth %	4.16	4.57	—

As of 05/31/2019

Ownership Zone



- Weighted Average of holdings
- 75% of fund's stock holdings

Holdings Style

	Value	Blend	Growth	
Large	29	30	30	
Mid	4	4	2	
Small	0	0	0	

- Portfolio Weight%**
- > 50%
 - 25-50%
 - 10-25%
 - 0-10%

6a

Investment Style History

Year	Style	% Equity
2019*	Value	99.91
2018	Value	99.50
2017	Value	99.36
2016	Value	98.68
2015	Value	99.20

*As of 05/31/2019

Style Box Detail calculations do not include the fund's short positions (if any).

Source: Morningstar 2019



7. Low (or positive) Tracking Error

- Tracking error should be small
 - Tracking error is the historical difference between the return of a fund (i.e. a mutual fund) and its specific market/sector benchmark or index.
 - The smaller the tracking error, the better the performance of the Index fund relative to the benchmark
 - However, you won't complain if the tracking error is positive (i.e., your fund had higher returns than the index or benchmark)



Where do you find Tracking Error?

- Tracking Error (Performance: Growth of \$10k)
 - Returns. Fund annual returns
 - +/- S&P 500 TR. This is tracking error versus the S&P 500 Index (+/- Index). Note that Morningstar's choice of index is sometimes very poor, i.e., using MSCI EAFE for emerging markets
 - +/- Category. Tracking Error versus the Category. In this case it is large cap blend. This is a better check on performance—versus all funds in a similar category
 - % Rank in Category (Number is in top %--the lower the number the better)



Tracking Error

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Quote Chart Fund Analysis **Performance** Rating & Risk Management Stewardship Portfolio Expense Tax

Source: Morningstar 2019

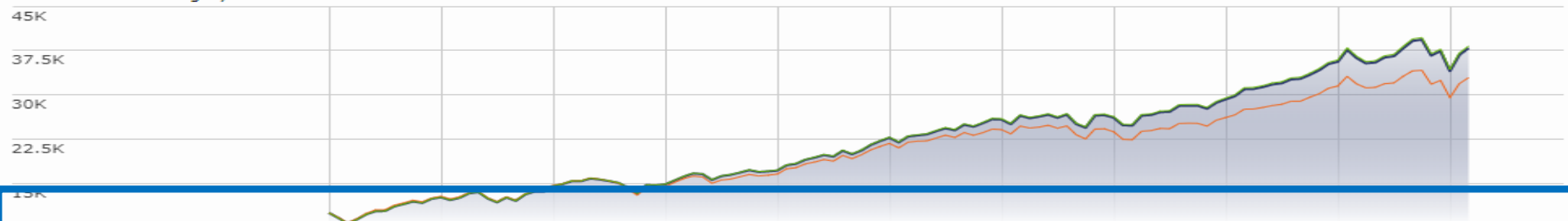
Total Returns Investor Returns

Compare

Growth of 10,000

Customize Interactive Chart >>

● SWPPX ● Category: LB ● S&P 500 TR USD



Performance Quartile												
History (02/28/2019)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	YTD	
SWPPX	26.25	14.97	2.07	15.91	32.27	13.57	1.29	11.82	21.79	-4.42	11.46	
S&P 500 TR USD	26.46	15.06	2.11	16.00	32.39	13.69	1.38	11.96	21.83	-4.38	11.48	
Category (LB)	28.17	14.01	-1.27	14.96	31.50	13.00	1.07	11.87	20.77	-3.27	11.40	
+/- S&P 500 TR USD	-0.21	-0.09	-0.05	-0.09	-0.11	-0.12	-0.10	-0.14	-0.04	-0.04	-0.02	
+/- Category (LB)	-1.92	0.96	3.34	0.95	0.77	2.61	2.36	1.45	1.36	1.85	-0.00	
Income USD	0.24	0.36	0.40	0.49	0.48	0.58	0.68	0.69	0.72	0.84		
Capital Gains USD							0.32	0.19	0.02	0.18		
Net Assets USD Mil	9,382	10,683	10,994	12,827	18,101	20,969	21,367	24,018	31,658	32,125	36,117	
Annual Report Net Expense Ratio	0.13	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.05	0.03	—	
Turnover Ratio	3	2	3	2	1	2	2	2	2	2	—	
Rank in Category	56	30	17	37	43	19	21	29	29	26	53	
Fund Category	LB	LB	LB	LB	LB	LB	LB	LB	LB	LB	LB	

7a

Highlighted row in the table showing tracking error values for SWPPX, S&P 500 TR USD, and Category (LB) from 2014 to 2019.



Mutual Fund Information (continued)

- For help with how to select funds, see [Using Morningstar to Select Mutual Funds](#) (LT07) using the HBL Library or the Internet. Record what you have found with each candidate and select the funds using [Mutual Fund Worksheet](#) (LT07B) (note: the “Filled In” tab gives some work previous students have done on specific funds)

Mutual Fund Selection Worksheet (TT07B)		What Makes a Good Mutual Fund?					
		2019					
Fund Ticker:	Morningstar Tab:						
Fund Family:	Quote:						
Category:	Quote:						
Asset Size:	Quote:						
Index Fund:	Quote:						
Minimum Purchase:	Quote:						
1. Low Un-invested Cash							
Cash Percentage:	Quote:						
2. No Manager Style Drift							
Style Drift:	Portfolio: Summary						
3. Broad Diversification							
Total Holdings:	Portfolio: Holdings						
% Assets top 10 hold:	Portfolio: Holdings						
4. Low Turnover							
Turnover:	Portfolio: Holdings						
Category Avg.:	Portfolio: Holdings						
5. Low Cost							
No-load Fund:	Expense						
Initial (front) Load:	Expense						
Deferred Load:	Expense						
Redemption (back):	Expense						
Management Fee:	Expense						
MF Category Avg.:	Expense						
12-b1 Fee:	Expense						
6. Tax Efficient							
Tax-adj Return:	Tax						
Avg. rank in Category:	Tax						
7. Small (or positive) Tracking Error							
Avg. Tracking Error:	Performance: +/- Cat.						
8. Good Performance							
Rank in Cat.:	Performance: R. in Cat.						
9. Other Factors							
Closed to New Inv.	Purchase						
Starting Year:	Management						
Manager Tenure:	Management						
Date Added:							



What is the Big Deal About Index Funds?

- What are index funds?
 - Mutual funds or ETFs which hold specific shares in proportion to those held by an index
 - Their goal is to match the benchmark performance
- Why have they come about?
 - Investors are concerned that most actively managed funds have not been able to beat their benchmarks after all fees, taxes and costs.
 - So instead of trying to beat an index, investors accept the index return and risk
 - Interestingly, index funds have tended to outperform most actively managed funds



Index Funds (continued)

- Why have index funds and ETFs grown so quickly?
 - There is no correlation between last year's winners and this year's winners for actively managed funds
 - Actively managed funds tend to reduce performance through excessive trading, which also generates taxes for the investor
 - Actively managed funds generally have higher management fees which must be overcome through higher returns (18 basis points for an index fund versus 80-250 basis points for an actively fund)
 - It is very difficult to beat these funds on a consistent basis after all fees and taxes



Index Funds (continued)

- Jason Zweig, a senior writer for *Money Magazine* commented:
 - With an index fund, you're on permanent autopilot: you will always get what the market is willing to give, no more and no less. By enabling me to say "I don't know, and I don't care," my index fund has liberated me from the feeling that I need to forecast what the market is about to do. That gives me more time and mental energy for the important things in life, like playing with my kids and working in my garden (Jason Zweig, "Indexing Let's You Say Those Magic Words," *CNN Money*, August 29, 2001).



Index Funds (continued)

- Warren Buffet commented:
 - By periodically investing in an index fund, the know-nothing investor can actually outperform most investment professionals. Paradoxically, when 'dumb' money acknowledges its limitations, it ceases to be dumb (Warren Buffett, *Letter to Berkshire Hathaway Shareholders*, 1993).
 - Doing reasonably well investing in stocks is very, very easy. Buy an index fund, preferably over time, so you end up owning good businesses at a reasonable average price. If you own a cross-section of American businesses, you are going to do well (“Warren Buffet: Top 3 Investment mistakes to avoid,” USA Today, October 26, 2013).



Index Funds (continued)

Insights on Indexing

- Most actively managed funds will under-perform index funds in the long run after all taxes, costs and fees (according to research)
- Competition in stock-market research is intense and will get more competitive going forward, making markets more efficient and indexing more attractive
- Indexing or “passive investing” is a free-ride on the competition
- Indexing is a time-efficient and cost-effective way to invest due to eliminating the need to evaluate individual securities and low turnover and distributions



Questions:

- Any questions on what makes a good mutual fund and the big deal of index funds?



D. Understand How to Pick Mutual Funds

- The process to pick YOUR mutual funds is:
 1. Determine the asset classes needed for your Plan and choose the appropriate benchmarks - Done
 2. Determine what makes a good mutual fund and which asset classes you need exposure
 3. Using a database program, set those principles and evaluate each of the potential mutual funds
 4. Select the best mutual funds using [Using Morningstar to Select Funds](#) (LT07) and [Mutual Fund Selection Worksheet](#) (LT7B) (with hints on the “Filled in” tab)
 5. Now put your Investment Plan together



Picking Your Mutual Funds (continued)

- Assume your asset class was Large Cap, and you choose SWPPX for your fund. What next?
 - 1. Go to Morningstar, and type the ticker “SWPPX” in upper right box
 - Where it says PDF Report (if available), print off this report. If there is no PDF Report, just print off the entire “Quote” Page. Include these in your Investment Plan as Exhibit III. Fund Support

MORNINGSTAR® Investment Research Center™
Provided by BYU - Harold B. Lee Library

Home Companies Funds ETFs Markets Articles & Videos Portfolio Help & Education Newsletters Enter a Ticker or Name

Schwab® S&P 500 Index SWPPX | ★★★★★ Fund Family Data PDF Report

Quote Chart Fund Analysis Performance Rating & Risk Management Stewardship Portfolio Expense Tax Purchase Filings

NAV \$41.14	1-Day Total Return ↑ 2.72%	TTM Yield 1.71%	Load None	Total Assets \$ 32.8 bil	Expenses 0.03%	Fee Level Low	Turnover 2%	Status Open	Min. Inv. \$ --
USD NAV as of 26 Mar 2018 1-Day Return as of 26 Mar 2018		30-Day SEC Yield --	Category Large Blend	Investment Style Large Blend					

- If you need help, see [Mutual Fund Selection Worksheet \(LT7B\)](#). Filled In for possible fund ideas and tickers



Picking Your Mutual Funds (continued)

- 2. Download the [Investment Process Spreadsheet \(LT13\)](#)
 - For most, the first tab (4-10 assets) will be sufficient.
 - Put in your Salary and emergency fund goal and percentage.
 - It will automatically determine your target portfolio fund size (your emergency fund amount divided by your bonds/cash percentage).
 - Assuming a salary of \$60,000 and a 25% allocation to bonds and cash. Your target

Annual Salary

Emergency Fund (3-6 months of annual salary)

Emergency Fund Goal

		60,000	
3 months	6 months		Initial Target Portfolio \$ Goal: 100,000
15,000	30,000		Current Portfolio Value 9,000
		25,000	(based on EF and AA Targets (or actual holdings))



Picking Your Mutual Funds (continued)

- 3. Add data to the [Investment Process Spreadsheet \(LT13\)](#)
 - Put in your asset classes and benchmarks, and percentages in Panel I. Use the dropdown boxes for asset classes and benchmarks
 - Then put in the tickers and Fund names

Panel I. Asset Allocation Targets
These are from Section IV.C. of your Investment Plan

Phase	Asset Class / Ticker	Investment Benchmark / Financial Assets
1. Emergency Fund:	Bonds/Cash	Barclay's Aggregate
	THIOPX	Thompson ST Bond fund
II. Core:	Large Cap	S&P 500 Index
	SWPPX	Schwab 500 Index Fund
III. Diversify 1:	Small Cap	Russell 2000 Index
	NAESX	Vanguard Small Cap
	2.	
Diversify 2:	International	MSCI EAFE Index
	NOINX	Northern International
	2.	
Diversify 3: (opt)	REIT	S&P REIT Index
	VGSIX	Vanguard Real Estate Index Inv.
	2.	
IV. Opportunistic (Optional)		
	1.	
	2.	

1. Target Allocations From your PFP (Note 1)					
In Percent			In Dollars		
Taxable	Retirement	Total	Taxable	Retirement	Total
25%		25% 0%	25,000	-	25,000
			-	-	-
20%	20%	40% 0%	20,000	20,000	40,000
			-	-	-
7%	7%	14% 0%	7,000	7,000	14,000
			-	-	-
6%	6%	12% 0%	6,000	6,000	12,000
			-	-	-
5%	4%	9% 0%	5,000	4,000	9,000
			-	-	-
		0% 0%	-	-	-
			-	-	-
63%	37%	100%	63,000	37,000	100,000

Total Target Allocations



Picking Your Mutual Funds (continued)

- 4. Print off all your Exhibits
 - Print off your filled in Exhibit I. [Expected Return Simulation](#) (LT27)
 - Print off your filled in Exhibit II. [Investment Process Spreadsheet](#) (LT13)
 - Print off Exhibit III. Mutual Fund Pages from Morningstar. There should be a minimum of 4 funds from 4 different asset classes
 - Include these with your completed and filled in Investment Plan and you should be good



Plans and Strategies for Selecting Financial Assets

- Following are a few ideas for plans and strategies for picking financial assets
 - Plans and Strategies

General

- Will you use mutual funds or individual stocks/bonds?
 - I recommend mutual/index funds as they give immediate diversification and low cost
 - With a broadly diversified fund, you get the performance of the asset class and do not need to know much about each individual stock
 - Most students, including business students, have not yet developed the skills necessary to effectively analyze individual stocks and bonds



Selecting Financial Assets (continued)

General (continued)

- If you choose to invest passively:
 - I recommend index funds for diversification, low cost, tax efficiency and returns
 - Broadly diversified index funds eliminate most of the required work to understand the individual stocks and bonds in the portfolio
- If you choose to invest actively
 - Monitor performance versus benchmarks over 24 and 36 months
 - If you do both passive and active, that is also OK
- Determine your target asset allocation and follow it
 - Ensure your chosen assets give exposure to the asset classes you need



Review of Objectives

- A. Do you understand why you shouldn't be picking stocks until the “deepen” phase when your assets and experience have grown?
- B. Do you understand where to find important information on mutual funds?
- C. Do you understand what makes a good mutual fund?
- D. Do you understand index funds and why they are attractive investment assets?
- E. Do you understand taxes on financial assets?
- F. Do you understand how to pick the mutual/index funds for your portfolio?
- F. Do you understand plans and strategies for picking financial assets?



Case Study #1

Data

- Bill can only invest \$50 per month and he already has his Emergency Fund. He would like to find an index fund that follows the large capitalization stocks, with his chosen benchmark being the S&P 500 Index. He has determined his criteria as large capitalization stocks, index funds, minimum purchase of \$2,500, asset size > \$750 million, a no load fund, with fees and expenses $\leq .10\%$ available to a retail investor.

Application

- Using Morningstar library and Learning Tool 7, how many funds meet Bill's criteria, and which would you choose?



Case Study #1 Answers

Go to Morningstar Library Edition Online, and go to the Fund Screeners (see [LT07](#)). Set up the problem with the following criteria:

- Fund Category = U.S. Equity and your category is Large Blend
- Special Fund Types, and Index Fund = Yes
- Minimum Purchase, MIP \leq a Value, \$50
- Fund Size (Total Assets), FS \geq Value, \$750
- Fees and Expenses, No-Load Funds = Yes
- Fees and Expenses, Expense Ratio \leq Value, .10



Case Study #1 Answers

As of 7/31/2019, there were 8 funds that passed.

- You find this information under the purchase tab.
 - Fidelity ZERO Large Cap Index
 - Fidelity ZERO Total Market Index
 - Fidelity SAI US Large Cap Index
 - Schwab 1000 Index
 - Schwab Total Stock Market Index
 - Schwab S&P 500 Index
 - TIA-CREF Equity Index W
- Which fund you choose will depend on which factors you consider most important, such as tenure of managers, expense costs, asset size, and tax position.



Case Study #1 Answers

- Which fund you choose will depend on which factors you consider most important, such as tenure of managers, expense costs, asset size, and tax position.
- Please note that after doing the analysis in Morningstar, you need to call each fund family to make sure the information is correct. Toll-free numbers are available under the Purchase Info tab.



Case Study #2

Most index funds are low cost. This was not one of the chosen index funds. Why? What fees and loads does it have?

DWS S&P 500 Index A SXPAX | ★★★★★

Quote Chart Fund Analysis Performance Rating & Risk Management Stewardship Portfolio

Minimum Investments SXPAX

	USD
Initial	1,000
Additional	50
Initial IRA	500
Additional IRA	50
Initial AIP	500
Additional AIP	50

Contact Information SXPAX

Telephone	800-728-3337
Website	dws.com

Review Other Classes SXPAX

Fund Name	Front Load	Deferred Load	Expense Ratio	Min. Init. Purchase	12b-1 Actual	Purchase Constraint	Shareclass Attributes
DWS S&P 500 Index A	4.50	—	0.57	1,000	0.24	—	—
DWS S&P 500 Index C	—	1.00	1.28	1,000	1.00	—	—
DWS S&P 500 Index R6	—	—	0.24	0	—	A	—
DWS S&P 500 Index S	—	—	0.32	2,500	—	A	—

Purchase Constraint: Institutional - I, Qualified Access - A, Closed to New/All Investments - C/L.
Shareclass Attributes: Available for 529 Only - N, Indirect Use Only - U.



Case Study #2 Answers

- This fund, depending on your class of share, has a 4.5% front end load, 1.0-4.0% deferred load, expense ratios between .34 and 1.39%, and 12b-1 fees from 0-1.0%. This index fund will cost you a lot in expenses.

Deutsche S&P 500 Index A SXPAX | ★★★

Quote Chart Fund Analysis Performance Rating & Risk Management Stewardship Portfolio

Minimum Investments SXPAX		Contact Information SXPAX	
	USD	Telephone	800-728-3337
Initial	1,000	Website	www.dws-investments.com
Additional	50		
Initial IRA	500		
Additional IRA	50		
Initial AIP	500		
Additional AIP	50		

Review Other Classes SXPAX

Fund Name	Front Load	Deferred Load	Expense Ratio	Min. Init. Purchase	12b-1 Actual	Purchase Constraint	Shareclass Attributes
Deutsche S&P 500 Index A	4.50	—	0.65	1,000	0.24	—	—
Deutsche S&P 500 Index B	—	4.00	1.39	1,000	0.99	C/L	—
Deutsche S&P 500 Index C	—	1.00	1.33	1,000	1.00	—	—
Deutsche S&P 500 Index S	—	—	0.34	2,500	—	A	—

Purchase Constraint: Institutional - T, Qualified Access - A, Closed to New/All Investments - C/L.
 Shareclass Attributes: Available for 529 Only - N, Indirect Use Only - U.



Case Study #3

- Given the Morningstar report for VFINX following, highlight the areas where you find the critical information below (with the colors listed): (report is from Morningstar, 9/30/18)
 - 1. Diversification (orange)
 - 2. Costs and Fees (orange)
 - 3. Taxes (light green)
 - 4. Turnover (red)
 - 5. Un-invested cash (blue)
 - 6. Style and style drift (green)
 - 7. Tracking error and performance (blue)

Vanguard 500 Index Investor

Ticker VFINX
Yield 1.6%
Total Assets \$354,745 mil
Mstar Category Large Blend

Benchmark 1: Russell 1000 TR USD
Benchmark 2: S&P 500 TR USD

Morningstar Analyst Rating 03-09-18



Morningstar Pillars

Process	⊕ Positive
Performance	⊕ Positive
People	⊕ Positive
Parent	⊕ Positive
Price	⊕ Positive

Morningstar Analyst Rating

Morningstar evaluates mutual funds based on five key pillars, which its analysts believe lead to funds that are more likely to outperform over the long term on a risk-adjusted basis.

Analyst Rating Spectrum

⊕ Gold ⊖ Silver ⊖ Bronze Neutral ⊖ Negative

Pillar Spectrum

⊕ Positive ⊖ Negative ⊖ Neutral

Performance 09-30-18

	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total
2014	1.76	5.19	1.09	4.89	13.51
2015	0.91	0.26	-6.48	7.00	1.25
2016	1.31	2.42	3.82	3.80	11.82
2017	6.03	3.05	4.45	6.61	21.67
2018	-0.79	3.40	7.67	—	—

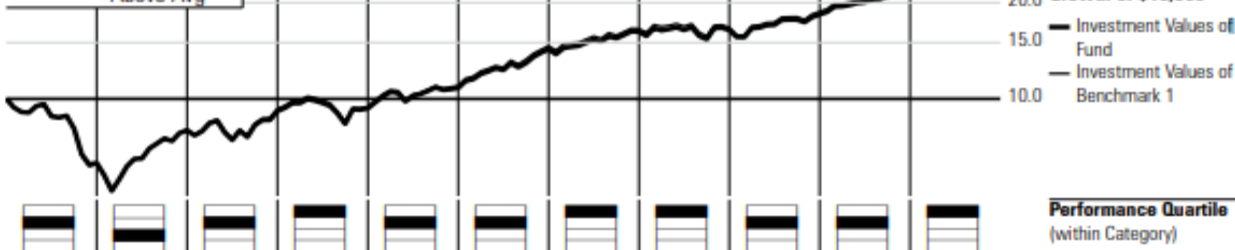
Trailing	Total	+/- Bmark	+/- Bmark	%Rank	Growth of
	Return%	1	2	Cat	\$10,000
3 Mo	7.67	0.25	-0.04	27	10,767
6 Mo	11.33	0.08	-0.08	19	11,133
1 Yr	17.74	-0.03	-0.17	24	11,774
3 Yr Avg	17.15	0.08	-0.16	15	16,077
5 Yr Avg	13.79	0.12	-0.16	13	19,075
10 Yr Avg	11.83	-0.26	-0.14	25	30,585
15 Yr Avg	9.52	-0.33	-0.13	28	39,119

Tax Analysis	Tax Adj Rtn%	%Rank Cat	Tax-Cost Rat	%Rank Cat
3 Yr (estimated)	16.49	9	0.56	22
5 Yr (estimated)	13.10	7	0.61	20
10 Yr (estimated)	11.29	13	0.48	15

Potential Capital Gain Exposure: 47% of assets

Historical Profile

Return Above Avg
Risk Average
Rating ★★★★★
 Above Avg



2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	09-18	History
83.09	102.67	115.82	115.80	131.37	170.36	189.89	188.48	206.57	246.82	269.09	NAV
-37.02	26.49	14.91	1.97	15.82	32.18	13.51	1.25	11.82	21.67	10.44	Total Return %
0.58	-1.95	-1.18	0.47	-0.60	-0.94	0.27	0.33	-0.24	-0.02	-0.04	+/- Bmark 1
-0.02	0.02	-0.15	-0.15	-0.18	-0.21	-0.18	-0.14	-0.14	-0.16	-0.12	+/- Bmark 2
1.87	2.56	1.93	1.95	2.35	2.26	1.95	1.99	2.13	2.04	1.33	Income Return %
-38.89	23.93	12.99	0.01	13.48	29.91	11.56	-0.74	9.69	19.63	9.11	Capital Return %
38	54	31	19	38	44	20	22	29	33	23	Total Rtn % Rank Cat
2.51	2.10	1.97	2.25	2.70	2.95	3.30	3.75	3.98	4.18	3.28	Income \$
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Capital Gains \$
0.16	0.18	0.17	0.17	0.17	0.17	0.17	0.16	0.14	0.14	0.14	Expense Ratio %
2.16	2.42	1.94	1.92	2.13	1.95	1.88	2.00	2.05	1.87	1.77	Income Ratio %
6	12	5	4	3	3	3	3	4	3	—	Turnover Rate %
38,778	48,313	31,904	25,967	24,821	27,758	28,040	26,092	26,652	27,656	27,976	Net Assets \$mil

Rating and Risk

Time Period	Load-Adj Return %	Morningstar Rtn vs Cat	Morningstar Risk vs Cat	Morningstar Risk-Adj Rating
1 Yr	17.74			
3 Yr	17.15	+ Avg	Avg	★★★★★
5 Yr	13.79	+ Avg	Avg	★★★★★
10 Yr	11.83	+ Avg	Avg	★★★★★
Incept	11.17			

Other Measures

	Standard Index	Best Fit Index
Alpha	-0.1	-0.1
Beta	1.00	1.00
R-Squared	100	100
Standard Deviation	9.18	
Mean	17.15	
Sharpe Ratio	1.68	

Portfolio Analysis 08-31-18

Total Stocks: 510

Share change since 07-31-18

Stock	Sector	YTD Ret %	% Assets
⊕ Apple Inc	Technology	—	4.53
⊕ Microsoft Corp	Technology	—	3.50
⊕ Amazon.com Inc	Cnsmr Cyc	—	3.28
⊕ Facebook Inc A	Technology	—	1.71
⊕ JPMorgan Chase & Co	Finan Svcs	7.09	1.58
⊕ Berkshire Hathaway Inc B	Finan Svcs	—	1.56
⊕ Alphabet Inc Class C	Technology	—	1.50
⊕ Alphabet Inc A	Technology	—	1.49
⊕ Johnson & Johnson	Hlth Care	0.78	1.46
⊕ Exxon Mobil Corp	Energy	—	1.37
⊕ Bank of America Corporati	Finan Svcs	—	1.18
⊕ Visa Inc Class A	Finan Svcs	—	1.06
⊕ UnitedHealth Group Inc	Hlth Care	—	1.05
⊕ Wells Fargo & Co	Finan Svcs	—	1.04



Morningstar's Take by Adam McCullough 03-09-18

Vanguard S&P 500 is a compelling option for exposure to U.S. large-cap stocks. This fund gains a leg up over most of its category peers by efficiently tracking a broadly diversified and representative benchmark at a low cost. It earns a Morningstar Analyst Rating of Gold.

The fund tracks the S&P 500, a market-cap-weighted index that includes large-cap stocks representing about 80% of the U.S. stock market. A committee selects the index's holdings, which offers more flexibility than indexes that adhere to rigid rules but also reduces transparency. But the S&P 500's performance has been, and should continue to be, highly correlated with large-cap indexes that follow mechanical rules.

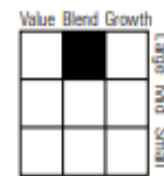
Market-cap-weighting pulls the portfolio toward the largest U.S. stocks and accurately reflects the composition of the market. The fund's average market capitalization of just under \$100 billion is nearly double the market capitalization of the average fund in the category. Its top 10 holdings make up about 20% of its portfolio and include household names like Apple AAPL, Microsoft MSFT, and Amazon.com AMZN.

Low turnover is a key advantage of the fund's broad market-cap-weighted approach. Lower turnover equates to lower transaction costs and a smaller likelihood of taxable capital gains distributions. The fund's average turnover over the past decade was 5% compared with an average figure of over 60% for its category peers. Tax efficiency adds to the fund's appeal. It has not distributed any capital gains since its inception.

The durable cost advantage has translated into strong category-relative performance. During the past decade through February 2018, its Admiral share class outpaced the large-blend Morningstar Category by 1.6% annually. Its risk-adjusted returns, as measured by its Sharpe ratio, landed in the category's top quintile over the same period. Because this index fund remains fully invested, it suffered a larger drawdown than the category average during the financial crisis. But its smaller cash drag pays off during bull markets. Its performance during the market recovery more than made up for its larger drawdown.

⊖ Pfizer Inc	Pharm Care	—	0.90
⊕ AT&T Inc	Comm Svcs	—	0.94
⊕ The Home Depot Inc	Cnsmr Cyc	10.93	0.94
⊕ Chevron Corp	Energy	—	0.92
⊕ Cisco Systems Inc	Technology	—	0.91
⊕ Intel Corp	Technology	—	0.91

Current Investment Style



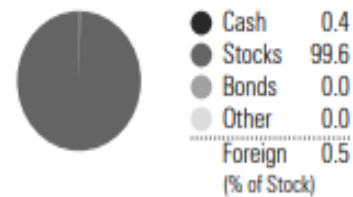
Sector	% of Stocks	Rel Bmark 1
Weightings		
Cyclical	32.81	0.98
BasicMat	2.34	0.91
CnsmrCyc	12.00	0.97
FinanSvcs	16.23	1.05
Real Est	2.24	0.72
Sensitive	42.71	1.00
CommSvcs	3.24	1.06
Energy	5.86	1.01
Industri	10.23	0.96
Technlgy	23.38	1.01
Defensive	24.49	1.03
CnsmrDef	7.12	1.06
Hlthcare	14.54	1.01
Utilities	2.83	1.04

Value Measures	Rel Category
Price/Earnings	18.05 1.06
Price/Book	3.15 1.06
Price/Sales	2.33 1.14
Price/Cash Flow	13.61 1.10
Dividend Yield %	1.85 0.98
Growth Measures	% Rel Category
Long-Term Erngs	12.28 0.99
Book Value	4.83 1.18
Sales	3.75 1.07
Cash Flow	3.36 1.11
Historical Erngs	8.39 0.79

Profitability

Return on Equity	23.03
Return on Assets	7.97
Net Margin	14.95

Composition - Net



Address:	Vanguard Index Funds Valley Forge, PA 19482 800-662-7447	Minimum Purchase:	\$3000	Add:	\$1	IRA:	—
Web Address:	www.vanguard.com	Min Auto Inv Plan:	—	Add:	—		
Inception:	08-31-76	Sales Fees:	No-load				
Advisor:	Vanguard Group Inc	Management Fee:	0.12%				
Subadvisor:	None	Actual Fees:	Mgt:0.12%	Dist:	—		
		Expense Projections:	3Yr:\$45	5Yr:\$79	10Yr:\$179		
		Income Distribution:	Quarterly				



Cast Study #3 Answers

- Morningstar Report Coding
 - To help you in finding the information, we have color coded a report in the following slides to show you where the criteria discussed can be found
 1. Diversification (orange)
 2. Costs and Fees (orange)
 3. Taxes (light green)
 4. Turnover (red)
 5. Un-invested cash (blue)
 6. Style and style drift (green)
 7. Tracking error and performance (blue)

Data through September 30, 2018 FINRA members: For internal or institutional use only.

Vanguard 500 Index Investor

Ticker	Yield	Total Assets	Mstar Category
VFINX	1.6%	\$354,745 mil	Large Blend

Benchmark 1: Russell 1000 TR USD
 Benchmark 2: S&P 500 TR USD

Morningstar Analyst Rating 03-09-18



Morningstar Pillars

Process	⊕ Positive
Performance	⊕ Positive
People	⊕ Positive
Parent	⊕ Positive
Price	⊕ Positive

Morningstar Analyst Rating

Morningstar evaluates mutual funds based on five key pillars, which its analysts believe lead to funds that are more likely to outperform over the long term on a risk-adjusted basis.

Analyst Rating Spectrum

⊕ Gold ⊖ Silver ⊖ Bronze Neutral ⊖ Negative

Pillar Spectrum

⊕ Positive ⊖ Negative ⊖ Neutral

Performance 09-30-18

	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total
2014	1.76	5.19	1.09	4.89	13.51
2015	0.91	0.26	-6.48	7.00	1.25
2016	1.31	2.42	3.82	3.80	11.82
2017	6.03	3.05	4.45	6.61	21.67
2018	-0.79	3.40	7.67	—	—

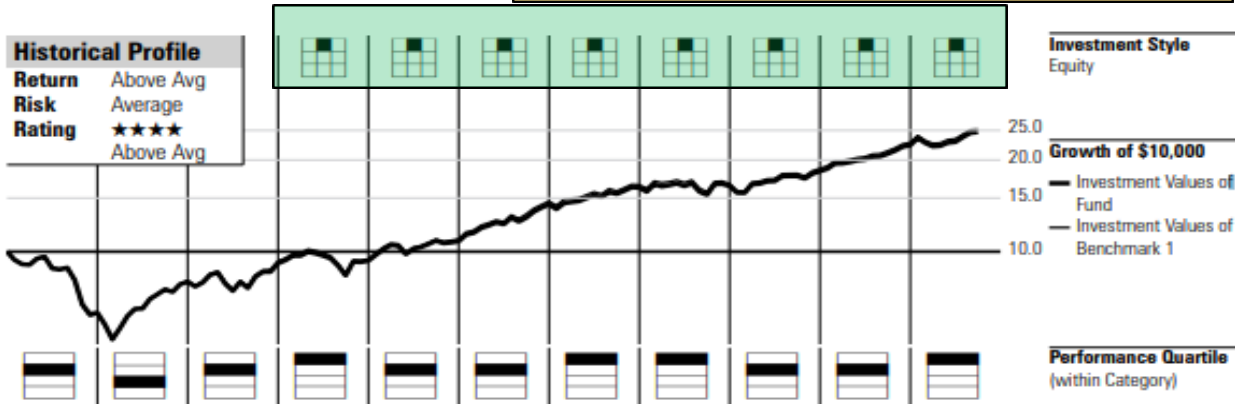
Trailing	Total Return%	+/- Bmark	+/- Bmark	%Rank Cat	Growth of \$10,000
3 Mo	7.67	0.25	-0.04	27	10,767
6 Mo	11.33	0.08	-0.08	19	11,133
1 Yr	17.74	-0.03	-0.17	24	11,774
3 Yr Avg	17.15	0.08	-0.16	15	16,077
5 Yr Avg	13.79	0.12	-0.16	13	19,075
10 Yr Avg	11.83	-0.26	-0.14	25	30,585
15 Yr Avg	9.52	-0.33	-0.13	28	39,119

Tax Analysis	Tax Adj Rtn%	%Rank Cat	Tax Cost Rat	%Rank Cat
3 Yr (estimated)	16.49	9	0.56	22
5 Yr (estimated)	13.10	7	0.61	20
10 Yr (estimated)	11.29	13	0.48	15

Potential Capital Gain Exposure: 47% of assets

Historical Profile

Return	Above Avg
Risk	Average
Rating	★★★★ Above Avg



2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	09-18	History
83.09	102.67	115.82	115.80	131.37	170.36	189.89	188.48	206.57	246.82	269.09	NAV
-37.02	26.49	14.91	1.97	15.82	32.18	13.51	1.25	11.82	21.67	10.44	Total Return %
0.58	-1.95	-1.18	0.47	-0.60	-0.94	0.27	0.33	-0.24	-0.02	-0.04	+/- Bmark 1
-0.02	0.02	-0.15	-0.15	-0.18	-0.21	-0.18	-0.14	-0.14	-0.16	-0.12	+/- Bmark 2
1.87	2.56	1.93	1.95	2.35	2.26	1.95	1.99	2.13	2.04	1.33	Income Return %
-38.89	23.93	12.99	0.01	13.48	29.91	11.56	-0.74	9.69	19.63	9.11	Capital Return %
38	54	31	19	38	44	20	22	29	33	23	Total Rtn % Rank Cat
2.51	2.10	1.97	2.25	2.70	2.95	3.30	3.75	3.98	4.18	3.28	Income \$
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Capital Gains \$
0.16	0.18	0.17	0.17	0.17	0.17	0.17	0.16	0.14	0.14	0.14	Expense Ratio %
2.16	2.42	1.94	1.92	2.13	1.95	1.88	2.00	2.05	1.87	1.77	Income Ratio %
6	12	5	4	3	3	3	3	4	3	—	Turnover Rate %
38,778	48,313	31,904	25,967	24,821	27,758	28,040	26,092	26,652	27,656	27,976	Net Assets \$mil

Rating and Risk

Time Period	Load-Adj Return %	Morningstar Rtn vs Cat	Morningstar Risk vs Cat	Morningstar Risk-Adj Rating
1 Yr	17.74			
3 Yr	17.15	+ Avg	Avg	★★★★
5 Yr	13.79	+ Avg	Avg	★★★★
10 Yr	11.83	+ Avg	Avg	★★★★
Incept	11.17			

Other Measures	Standard Index	Best Fit Index
Alpha	-0.1	-0.1
Beta	1.00	1.00
R-Squared	100	100
Standard Deviation	9.18	
Mean	17.15	
Sharpe Ratio	1.68	

Portfolio Analysis 08-31-18

Total Stocks: 510	Share change since 07-31-18	Sector	YTD Ret %	% Assets
⊕ Apple Inc		Technology	—	4.53
⊕ Microsoft Corp		Technology	—	3.50
⊕ Amazon.com Inc		Cnsmr Cyc	—	3.28
⊕ Facebook Inc A		Technology	—	1.71
⊕ JPMorgan Chase & Co		Finan Svcs	7.09	1.58
⊕ Berkshire Hathaway Inc B		Finan Svcs	—	1.56
⊕ Alphabet Inc Class C		Technology	—	1.50
⊕ Alphabet Inc A		Technology	—	1.49
⊕ Johnson & Johnson		Hlth Care	0.78	1.46
⊕ Exxon Mobil Corp		Energy	—	1.37
⊕ Bank of America Corporati		Finan Svcs	—	1.18
⊕ Visa Inc Class A		Finan Svcs	—	1.06
⊕ UnitedHealth Group Inc		Hlth Care	—	1.05
⊕ Wells Fargo & Co		Finan Svcs	—	1.04



Morningstar's Take by Adam McCullough 03-09-18

Vanguard S&P 500 is a compelling option for exposure to U.S. large-cap stocks. This fund gains a leg up over most of its category peers by efficiently tracking a broadly diversified and representative benchmark at a low cost. It earns a Morningstar Analyst Rating of Gold.

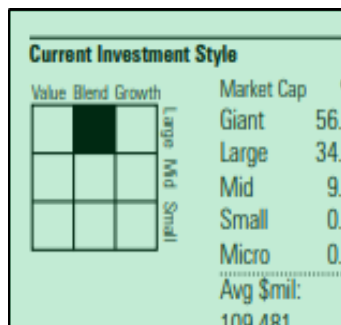
The fund tracks the S&P 500, a market-cap-weighted index that includes large-cap stocks representing about 80% of the U.S. stock market. A committee selects the index's holdings, which offers more flexibility than indexes that adhere to rigid rules but also reduces transparency. But the S&P 500's performance has been, and should continue to be, highly correlated with large-cap indexes that follow mechanical rules.

Market-cap-weighting pulls the portfolio toward the largest U.S. stocks and accurately reflects the composition of the market. The fund's average market capitalization of just under \$100 billion is nearly double the market capitalization of the average fund in the category. Its top 10 holdings make up about 20% of its portfolio and include household names like Apple AAPL, Microsoft MSFT, and Amazon.com AMZN.

Low turnover is a key advantage of the fund's broad market-cap-weighted approach. Lower turnover equates to lower transaction costs and a smaller likelihood of taxable capital gains distributions. The fund's average turnover over the past decade was 5% compared with an average figure of over 60% for its category peers. Tax efficiency adds to the fund's appeal. It has not distributed any capital gains since its inception.

The durable cost advantage has translated into strong category-relative performance. During the past decade through February 2018, its Admiral share class outpaced the large-blend Morningstar Category by 1.6% annually. Its risk-adjusted returns, as measured by its Sharpe ratio, landed in the category's top quintile over the same period. Because this index fund remains fully invested, it suffered a larger drawdown than the category average during the financial crisis. But its smaller cash drag pays off during bull markets. Its performance during the market recovery more than made up for its larger drawdown.

⊕ Pfizer Inc	Pharm Care	—	0.90
⊕ AT&T Inc	Comm Svcs	—	0.94
⊕ The Home Depot Inc	Cnsmr Cyc	10.93	0.94
⊕ Chevron Corp	Energy	—	0.92
⊕ Cisco Systems Inc	Technology	—	0.91
⊕ Intel Corp	Technology	—	0.91

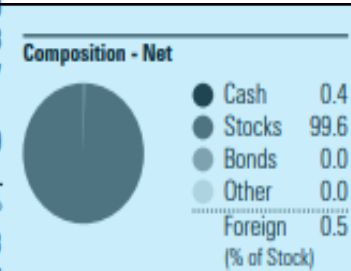


Value Measures		Rel Category
Price/Earnings	18.05	1.06
Price/Book	3.15	1.06
Price/Sales	2.33	1.14
Price/Cash Flow	13.61	1.10
Dividend Yield %	1.85	0.98
Growth Measures		% Rel Category
Long-Term Erngs	12.28	0.98
Book Value	4.83	1.18
Sales	3.75	1.07
Cash Flow	3.36	1.11
Historical Erngs	8.39	0.79

Profitability

Return on Equity	23.03
Return on Assets	7.97
Net Margin	14.95

Sector	% of Stocks	Rel Bmark 1
Weightings		
🔄 Cyclical	32.81	0.98
📊 BasicMat	2.34	0.91
🛒 CnsmrCyc	12.00	0.97
🏦 FinanSvcs	16.23	1.05
🏠 Real Est	2.24	0.72
📈 Sensitive	42.71	1.00
🏢 CommSrvs	3.24	1.06
⚙️ Energy	5.86	1.01
🏭 Industri	10.23	0.96
💻 Technlgy	23.38	1.01
⬇️ Defensive	24.49	1.03
🛡️ CnsmrDef	7.12	1.06
🏥 Hlthcare	14.54	1.01
⚡ Utilities	2.83	1.04



Address: Vanguard Index Funds
Valley Forge, PA 19482
800-662-7447

Web Address: www.vanguard.com
Inception: 08-31-76
Advisor: Vanguard Group Inc
Subadvisor: None

Minimum Purchase:	\$3000	Add: \$1	IRA: —
Min Auto Inv Plan:	—	Add: —	
Sales Fees:	No-load		
Management Fee:	0.12%		
Actual Fees:	Mgt:0.12% Dist:—		
Expense Projections:	3Yr:\$45	5Yr:\$79	10Yr:\$179
Income Distribution:	Quarterly		



Mutual Fund Selection Worksheet (TT07B)
What Makes a Good Mutual Fund?
2019

Fund Ticker:	Morningstar Tab:								
Fund Family:	Quote:								
Category:	Quote:								
Asset Size:	Quote:								
Index Fund:	Quote:								
Minimum Purchase:	Quote:								
1. Low Un-invested Cash									
Cash Percentage:	Quote:								
2. No Manager Style Drift									
Style Drift:	Portfolio: Summary								
3. Broad Diversification									
Total Holdings:	Portfolio: Holdings								
% Assets top 10 holdir	Portfolio: Holdings								
4. Low Turnover									
Turnover:	Portfolio: Holdings								
Category Avg.:	Portfolio: Holdings								
5. Low Cost									
No-load Fund:	Expense								
Initial (front) Load:	Expense								
Deferred Load:	Expense								
Redemption (back):	Expense								
Management Fee:	Expense								
MF Category Avg.:	Expense								
12-b1 Fee:	Expense								
6. Tax Efficient									
Tax-adj Return:	Tax								
Avg. rank in Category:	Tax								
7. Small (or positive) Tracking Error									
Avg. Tracking Error:	Performance: +/- Cat.								
8. Good Performance									
Rank in Cat.:	Performance: R in Cat.								
9. Other Factors									
Closed to New Inv.	Purchase								
Starting Year:	Management								
Manager Tenure:	Management								
Date Added:									