Personal Finance: Another Perspective

Investing 8:
Selecting Financial Assets

Updated 2020-03-03

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)

- <u>2. Principle 4: Invest Low-cost and tax-efficiently</u>
  - 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
- <u>3. Principle 6: Know What You Invest In</u>
  - 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

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Taxes on Different Types of Earnings - 2020 (LT32) for Stocks, Bonds, and Mutual Funds

Types of Investment Earnings:	Federal Tax Rate	State Tax Rate **
Stocks:		
Capital Gains		
Short-term capital gains	Marginal Tax Rate	Marginal Tax Rate
Long-term capital gains *	15% or 0%	Marginal Tax Rate
Long-term capital gains (TI>$488MFJ) *	20% +	Marginal Tax Rate
Dividends		
Stock Dividends: Qualified ***	15% or 0%	Marginal Tax Rate
Stock Dividends: Ordinary/Not Qualified	Marginal Tax Rate	Marginal Tax Rate
Bonds and Savings Vehicles:		
Capital Gains		
Short-term capital gains	Marginal Tax Rate	Marginal Tax Rate
Long-term capital gains *	15% or 0%	Marginal Tax Rate
Long-term capital gains (TI>$488MFJ) *	20% +	Marginal Tax Rate
Interest/Coupon Payments		
Interest Payments	Marginal Tax Rate	Marginal Tax Rate
Treasury-bills/bond Interest	Marginal Tax Rate	0%
Muni-bond Interest (bonds from your state)	0%	0%
Muni-bond Interest (bonds from another state)	0%	Marginal Tax Rate
Mutual Funds (Pass Through Vehicles):		
Distributions:		
Capital Gains for Stocks/Bonds/Municipals		
Short-term capital gains	Marginal Tax Rate	Marginal Tax Rate
Long-term capital gains *	15% or 0%	Marginal Tax Rate
Long-term capital gains (TI>$488MFJ) *	20% +	Marginal Tax Rate
Stock Dividends		
Stock: Dividends: Qualified ***	15% or 0%	Marginal Tax Rate
Stock Dividends: Not Qualified/Ordinary	Marginal Tax Rate	Marginal Tax Rate
Interest/Coupon Payments		
Bond: Interest	Marginal Tax Rate	Marginal Tax Rate
Treasury-bills/bonds Interest	Marginal Tax Rate	0%
Muni-bond Interest (bonds from your state)	0%	0%
Muni-bond Interest (bonds from another state)	0%	Marginal Tax Rate

2020 Tax Brackets, Capital Gains, Dividends, and Medicare Tax Rates (000s)

Taxable Inc. Filing Single^	Married Filing Jointly^	Head of Household^	Ordinary Income	Cap. Gains & Dividends Tax Rate	Medicare Tax Rate Earned Income*	Net Invest. Inc. Tax	Total Cap Gains & Medicare
-	-	-	10%	0%			
9,876	19,751	14,101	12%	0%	2.9%	0.0%	2.9%
40,126	80,251	53,701	22%	0%	2.9%	0.0%	2.9%
40,001	80,001	53,601		15%	2.9%	0.0%	17.9%
85,526	171,051	85,501	24%	15%	2.9%	0.0%	17.9%
163,301	326,601	163,301	32%	15%	2.9%	3.8%	21.7%
207,350	414,701	207,351	35%	15%	2.9%	3.8%	21.7%
441,451	496,601	469,051		20%	3.8%	3.8%	27.6%
518,401	622,051	518,401	37%	20%	3.8%	3.8%	27.6%

^ The beginning of the tax bracket. * Combined rate = 1.45% employer contribution.

Net Investment Income Tax is calculated on your MAGI and Investment Income being above the Threshold. MAGI is AGI + foreign income + a few other areas. Your tax is on the excess above that threshold amount.

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: Holdings)
    - Type of holdings (stocks, bonds, cash)
  - Location (Portfolio: Exposure: Region)
    - World Regions: Location of companies invested in by geographic area
  - Sector Weightings (Portfolio: Exposure: Sector)
    - Sector (or industry) weightings

Good Diversification

Holdings Equity | Others

Current Portfolio Date	Equity Holdings	Bond Holdings	Other Holdings	% Assets in Top 10 Holdings	Reported Turnover %
Jan 31, 2020	505	0	4	24	3

Top 10 Holdings	% Portfolio Weight	First Bought	Market Value USD Previous 4 Periods	as of Jan 31, 2020	Share Change %	1-Year Return	P/E	Equity Star Rating	Economic
Microsoft Corp	4.82	Sep 30, 1996	1b	2,112,325,170	↑ 0.53	55.27	27.62	★★★	Wide
1a Apple Inc	4.80	Sep 30, 1996		2,102,745,943	↑ 0.54	72.54	22.57	★★	Narro
Amazon.com Inc	3.11	Jan 31, 2006		1,360,759,155	↑ 0.54	16.88	66.23	★★★★	Wide
Facebook Inc A	1.81	Jan 31, 2014		790,346,812	↑ 0.54	21.05	21.51	★★★	Wide
Berkshire Hathaway Inc B	1.63	Apr 30, 2010		714,074,317	↑ 0.54	7.14	16.42	★★★★	Wide
Alphabet Inc A	1.59	Apr 30, 2006		698,288,257	↑ 0.53	20.70	25.38	★★★	Wide
Alphabet Inc Class C	1.59	Apr 30, 2014		697,270,994	↑ 0.53	21.75	25.38	★★★	Wide
JPMorgan Chase & Co	1.54	Sep 30, 1996		675,289,072	↑ 0.54	19.62	11.29	★★★	Wide
Johnson & Johnson	1.46	Sep 30, 1996		637,314,703	↑ 0.54	3.95	15.58	★★★	Wide
Visa Inc Class A	1.27	Jan 31, 2010		554,040,919	↑ 0.55	29.41	31.25	★★	Wide

Show More Holdings

Holdings as of Jan 30, 2020 | The top 100 largest holdings are available for display across Equity, Bond and Other

Source: All Morningstar charts are from Morningstar Library Edition, 2020-03-03

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

Low Cost (Fees and Expenses)

Price

Maximum Sales Fees

Front Load	Deferred Load
—	—

Redemption Load	Min. Initial Investment
—	0.00

USD

Ongoing Fee Level

Net Expense Ratio

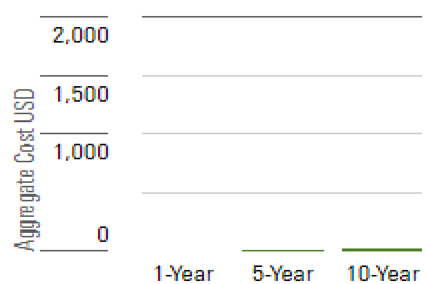
Fund	Large Cap No Load
0.020	0.860

Low

Low · Average · High

As of Jan 31, 2020

Cost Illustration (10k; 5% Return; USD)

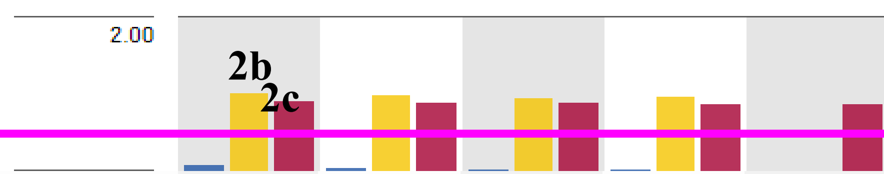


Fees	1-Yr	5-Yr	10-Yr
Purchase	0	0	0
Ongoing	2	11	26
Redemption	0	0	0
Total	**2**	**11**	**26**

Ongoing fees as of Feb 28, 2019. The fees illustrated above do not reflect any additional account-related fees and charges.

2e

Historical Expense Ratio %



	2016	2017	2018	2019	2020
Fund	0.090	0.050	0.030	0.020	—
Category Average	1.002	0.981	0.945	0.974	— 2d
Comparison Group	0.900	0.890	0.880	0.865	0.860

2f

Expense Ratio: Annual Report | Fee Level Comparison Group: Large Cap No Load

Other Fees

Management Actual	Management Maximum
0.02%	0.02%

12b-1 Maximum	Administrative Maximum
—	—

Expense Waivers

—

Taxes

3-Year Tax Cost Ratio

Fund	Category
0.62	1.71

Potential Capital Gains Exposure

48%

As of Feb 29, 2020

Source: Morningstar 2020

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 (Price: Taxes)
  - 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 + return) * (1 – 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

Price

Maximum Sales Fees

Front Load	Deferred Load
—	—

Redemption Load	Min. Initial Investment
—	0.00

USD

Ongoing Fee Level

Net Expense Ratio

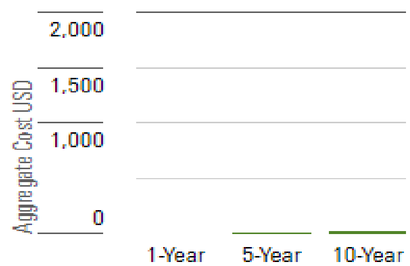
Fund	Large Cap No Load
0.020	0.860

Low

Low · Average · High

As of Jan 31, 2020

Cost Illustration (10k; 5% Return; USD)



Fees	1-Yr	5-Yr	10-Yr
Purchase	0	0	0
Ongoing	2	11	26
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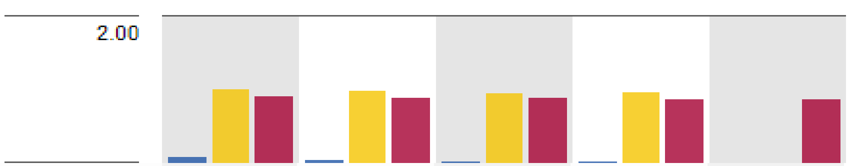

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Expense Ratio: Annual Report | Fee Level Comparison Group: Large Cap No Load

Other Fees

Management Actual	Management Maximum
0.02%	0.02%

12b-1 Maximum	Administrative Maximum
—	—

Expense Waivers

—

Taxes

3-Year Tax Cost Ratio

Fund	Category
0.62	1.71

Potential Capital Gains Exposure

48%

As of Feb 29, 2020

0.6% of the annual return goes to taxes each year—this pretty tax efficient, especially compared to the category

Source: Morningstar 2020

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 (Quote)
    - This is the Fund turnover
    - This is a proxy for taxes. The higher the turnover, the higher the taxes in a taxable account

Low Turnover

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Provided by BYU - Harold B. Lee Library

End Session

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NAV / 1-Day Return	Total Assets	Adj. Expense Ratio	Expense Ratio	Fee Level	Load
47.39 / 4.59%	42.1 Bil	0.020%	0.020%	Low	None
Category	**Investment Style**	**Minimum Initial Investment**	**Status**	**TTM Yield**	**Turnover**
US Fund Large Blend	Large Blend	0	Open	1.92%	3%

4a

USD | NAV as of Mar 02, 2020 | 1-Day Return as of Mar 02, 2020, 6:43 PM MST | Analyst Rating as of Mar 08, 2019, 6:00 AM

Source: Morningstar 2020

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 (Portfolio)

Un-invested Cash

Portfolio

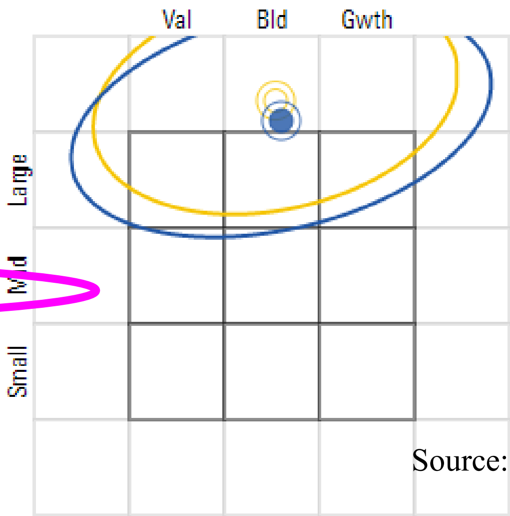
Asset Allocation

Asset Class	Fund	Category	Index
U.S. Equity	98.81	94.98	98.80
Non-U.S. Equity	0.91	2.95	1.20
Fixed Income	0.00	0.69	0.00
Other	0.00	1.47	0.00
Cash	0.27	1.82	5a 0.00
Not Classified	0.00	0.01	0.00

Fund as of Jan 31, 2020 | Category: Large Blend as of Jan 31, 2020 | Index: Russell 1000 TR USD as of Feb 29, 2020

Stock Style

Map | Factors | Market Cap



Centroid
Ownership Zone

Schwab® S&P 500 Index as of 01/31/2020
Large Blend as of 01/31/2020
Russell 1000 TR USD as of 02/29/2020

Source: Morningstar 2020

Exposure

Sector | Region | vs. Category

	Sectors	Fund %	Cat %
Cyclical	Basic Materials	2.10	2.17
	Consumer Cyclical	9.67	9.79
	Financial Services	15.79	16.99

Financial Metrics

Metrics	Fund	Category	Index
Wide Moat Coverage %	51.47	50.78	47.13
Narrow Moat Coverage %	37.08	36.31	35.86
No Moat Coverage %	7.91	6.12	8.67

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?

Portfolio

Asset Allocation

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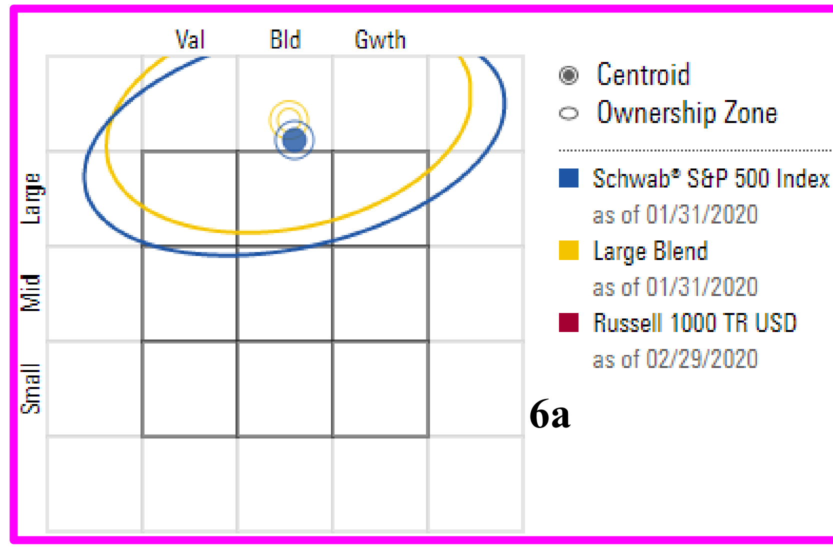

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Exposure

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Source: Morningstar 2020

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?

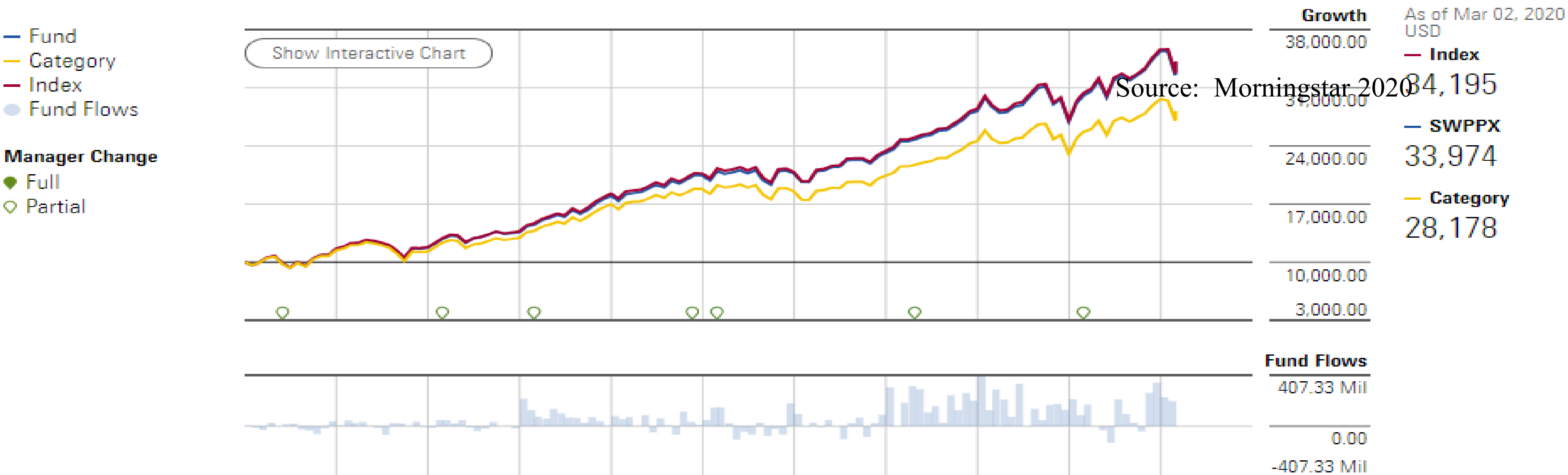
- Tracking Error (Performance)
  - Returns. Fund annual returns
  - +/- S&P 500 TR. This is tracking error versus the S&P 500 Index (+/- Index). Note that Morningstar's choice of index is sometimes very poor, i.e., using MSCI EAFE for emerging markets
  - +/- Category. Tracking Error versus the Category. 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

Performance

Returns | Distributions

Growth of 10,000



Total Return %	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	YTD
Fund	14.97	2.07	15.91	32.27	13.57	1.29	11.82	21.79	-4.42	31.44	-4.05
+/- Category	0.96	3.34	0.95	0.77	2.61	2.36	1.45	1.36	1.85	2.67	0.85
+/- Index	-1.13	0.57	-0.51	-0.84	0.33	0.37	-0.24	0.11	0.36	0.02	-0.08
Quartile Rank											
Percentile Rank	30	17	37	43	19	21	29	29	26	24	33
# of Funds in Cat.	2,010	1,786	1,686	1,559	1,568	1,606	1,409	1,396	1,402	1,387	1,252

7a

YTD Fund as of Mar 02, 2020 | Category: Large Blend as of Mar 02, 2020 | Index: Russell 1000 TR USD as of Mar 02, 2020

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 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:								

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 auto-pilot: 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
    - You will print off from the Quote to the Trailing Returns.
  - If you need help, see Mutual Fund Selection Worksheet (LT7B), Filled In for possible fund ideas and tickers

Picking Your Mutual Funds
(continued)

For your PFP:

- Print off from the top of the page to the end of the "Trailing Returns"
- This will give me sufficient information to ensure this will give you exposure to your chosen asset class

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

End Session

The redesigned security quote pages are now live. To learn about the new pages, download the guide.

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

Quote | Analysis | Performance | Risk | Price | Portfolio | People | Parent

Schwab® S&P 500 Index Fund SWPPX ★★★★★ Gold

NAV / 1-Day Return	Total Assets	Adj. Expense Ratio	Expense Ratio	Fee Level	Load
47.39 / 4.59%	42.1 Bil	0.020%	0.020%	Low	None
Category	**Investment Style**	**Minimum Initial Investment**	**Status**	**TTM Yield**	**Turnover**
US Fund Large Blend	Large Blend	0	Open	1.92%	3%

USD | NAV as of Mar 02, 2020 | 1-Day Return as of Mar 02, 2020, 6:43 PM MST | Analyst Rating as of Mar 08, 2019, 6:00 AM

Morningstar's Analysis

Analyst Take | Investment Objective

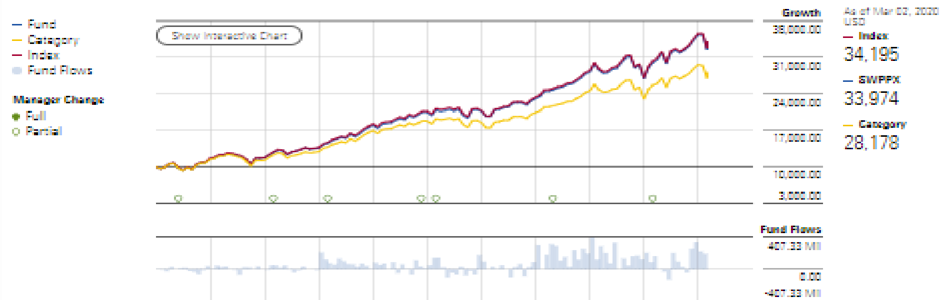
The investment seeks to track the total return of the S&P 500® Index. The fund generally invests at least 80% of its net assets (including, for this purpose, any borrowings for investment purposes) in these stocks; typically, the actual percentage is considerably higher. It generally will seek to replicate the performance of the index by giving the same weight to a given stock as the index does.

The investment objective & strategy is a summary of the fund's principal investment strategy as written in the prospectus. This information is pulled from the most recent SEC filing (prospectus or supplement).

Performance

Returns | Distributions

Growth of 10,000



Total Return %	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	YTD
Fund	14.97	2.07	15.91	32.27	13.57	1.29	11.82	21.79	-4.42	31.44	-4.05
+/- Category	0.96	3.34	0.95	0.77	2.81	2.36	1.45	1.36	1.85	2.67	0.85
+/- Index	-1.13	0.57	-0.51	-0.84	0.33	0.37	-0.24	0.11	0.36	0.02	-0.08
Quartile Rank											
Percentile Rank	30	17	37	43	19	21	29	29	26	24	33
# of Funds in Cat.	2,010	1,786	1,686	1,559	1,568	1,606	1,409	1,396	1,402	1,387	1,252

YTD Fund as of Mar 02, 2020 | Category: Large Blend as of Mar 02, 2020 | Index: Russell 1000 TR USD as of Mar 02, 2020

Trailing Returns

	1-Day	1-Week	1-Month	3-Month	YTD	1-Year	3-Year	5-Year	10-Year	15-Year	Since Inception
Total Return %	4.59	-4.19	-4.01	-0.30	-4.05	12.36	11.20	10.02	12.93	8.84	7.84
+/- Category	0.38	0.28	0.37	1.21	0.85	3.22	2.16	2.12	1.70	0.93	—
+/- Index	0.13	0.24	0.06	0.02	-0.08	0.49	0.14	0.20	-0.04	-0.17	—
Morningstar Rating							★★★★	★★★★	★★★★★		
Quartile Rank											—
Percentile Rank	27	33	33	27	33	23	16	9	10	18	—
# of Funds in Cat.	1,256	1,256	1,253	1,243	1,252	1,209	1,092	962	747	520	—

Fund return as of Mar 02, 2020 | Morningstar Rating as of Jan 31, 2020 | Category: Large Blend as of Mar 02, 2020 | Index: Russell 1000 TR USD as of Mar 02, 2020 | Inception date May 19, 1997 | Time periods greater than 1 year are annualized

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		60,000		
	3 months	6 months	**Initial Target Portfolio $ Goal:**	100,000
Emergency Fund (3-6 months of annual salary)	15,000	30,000	**Current Portfolio Value**	9,000
Emergency Fund Goal		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

			1. Target Allocations From your PFP (Note 1)					
			In Percent			In Dollars		
Phase	**Asset Class / Ticker**	**Investment Benchmark / Financial Assets**	**Taxable**	**Retirement**	**Total**	**Taxable**	**Retirement**	**Total**
1. Emergency Fund:	Bonds/Cash	Barclay's Aggregate						
	THIOPX	Thompson ST Bond fund	25%		25%	25,000	-	25,000
					0%	-	-	-
II. Core:	Large Cap	S&P 500 Index						
	SWPPX	Schwab 500 Index Fund	20%	20%	40%	20,000	20,000	40,000
					0%	-	-	-
III. Diversify 1:	Small Cap	Russell 2000 Index				-	-	-
	NAESX	Vanguard Small Cap	7%	7%	14%	7,000	7,000	14,000
	2.				0%	-	-	-
Diversify 2:	International	MSCI EAFE Index						
	NOINX	Northern International	6%	6%	12%	6,000	6,000	12,000
	2.				0%	-	-	-
Diversify 3: (opt)	REIT	S&P REIT Index						
	VGSIX	Vanguard Real Estate Index Inv.	5%	4%	9%	5,000	4,000	9,000
	2.				0%	-	-	-
IV. Opportunistic (Optional)								
	1.				0%	-	-	-
	2.				0%	-	-	-
	Total Target Allocations		63%	37%	100%	63,000	37,000	100,000

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

    - I will use mutual/ETF/index funds as they give immediate diversification and low cost
    - With my broadly diversified funds, I will get the performance of the asset class and do not need to know much about each individual stock
    - I have, like most business students, not 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 =<.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 <= a Value, $50
- Fund Size (Total Assets), FS >= Value, $750
- Fees and Expenses, No-Load Funds = Yes
- Fees and Expenses, Expense Ratio <= Value, .10
- Minimum Purchase, Institutional Funds = No

Case Study #1 Answers

As of 3/3/2020, there were 10 funds that passed.

- 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
- State Street Equity 500 Index
- TIA-CREF Equity Index W
- TIA-CREF S&P 500 Index W

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.

You pay a sales charge of 4.5% of every dollar invested

You pay a Net Expense fee of .57% annually. Note this is huge compared to the mgmt. fee.

You pay a 12-b1 and administration fee, this so the company can market it to others

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

Maximum Sales Fees

Front Load
4.50%

Redemption Load
—

USD

Deferred Load
—

Min. Initial Investment
1,000.00

Ongoing Fee Level

Net Expense Ratio

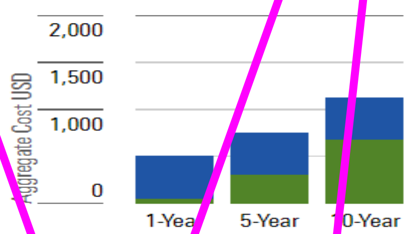
Fund	Large Cap Front Load
0.570	1.070

Low

Low Average High

As of Jan 31, 2020

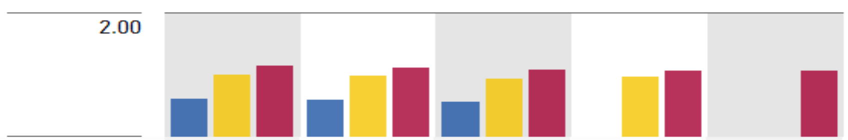
Cost Illustration (10k; 5% Return; USD)



Fees	1-Yr	5-Yr	10-Yr
Purchase	450	450	450
Ongoing	56	304	681
Redemption	0	0	0
Total	**506**	**754**	**1,131**

Ongoing fees as of May 01, 2019. The fees illustrated above do not reflect any additional account-related fees and charges

Historical Expense Ratio %



	2016	2017	2018	2019	2020
Fund	0.610	0.590	0.570	—	—
Category Average	1.002	0.981	0.945	0.974	—
Comparison Group	1.150	1.110	1.090	1.070	1.070

Expense Ratio: Annual Report | Fee Level Comparison Group: Large Cap Front Load

Other Fees

Management Actual
0.05%

12b-1 Maximum
0.24%

Management Maximum
0.00%

Administrative Maximum
0.10%

Expense Waivers
—

Taxes

3-Year Tax Cost Ratio

Fund	Category
1.73	1.71

Potential Capital Gains Exposure
40%

As of Feb 29, 2020

1.73% of the annual return goes to taxes—this is not tax efficient

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

	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	www.dws-investments.com

Review Other Classes SXPAX

Fund Name	Front Load	ferred Load	xpense 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 old 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)

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

Gold

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.

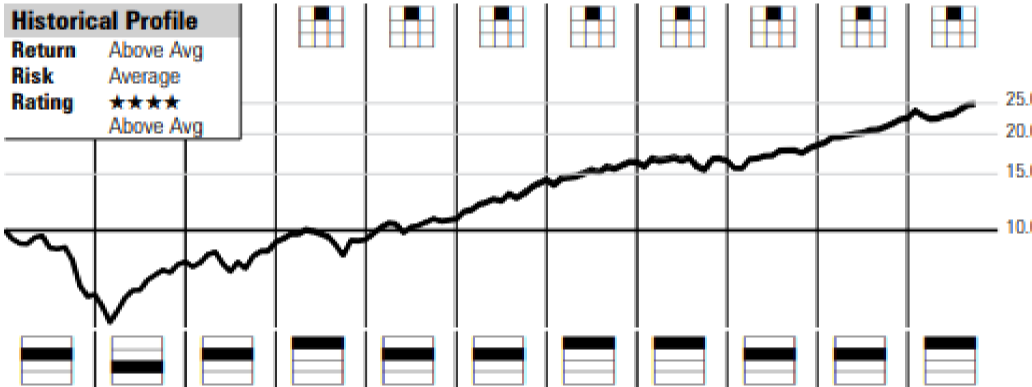
Analyst Rating Spectrum
Gold Silver Bronze Neutral Negative

Pillar Spectrum
Positive Negative Neutral

Historical Profile

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

Investment Style
Equity



Performance Quartile (within Category)

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

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 1	+/- Bmark 2	%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

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.

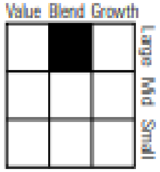
Address:	Vanguard Index Funds Valley Forge, PA 19482 800-662-7447		
Web Address:	www.vanguard.com		
Inception:	08-31-76		
Advisor:	Vanguard Group Inc		
Subadvisor:	None		

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		

⊕ Pfizer Inc	Hlth Care	—	0.96
⊕ 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

Value Blend Growth



Large Mid Small

Market Cap	%
Giant	56.7
Large	34.3
Mid	9.0
Small	0.0
Micro	0.0
Avg $mil: 109,481	

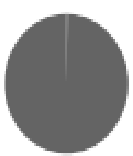
Value Measures		Rel Category
Price/Earnings	18.05	1.06
Price/Book	3.15	1.06
Price/Sales	2.33	1.14
Price/Cash Flow	13.61	1.10
Dividend Yield %	1.85	0.98

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

Sector Weightings	% of Stocks	Rel Bmark 1
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
Industrl	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

Composition - Net



Cash	0.4
Stocks	99.6
Bonds	0.0
Other	0.0
Foreign (% of Stock)	0.5

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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

Gold

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 1	+/- Bmark 2	%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

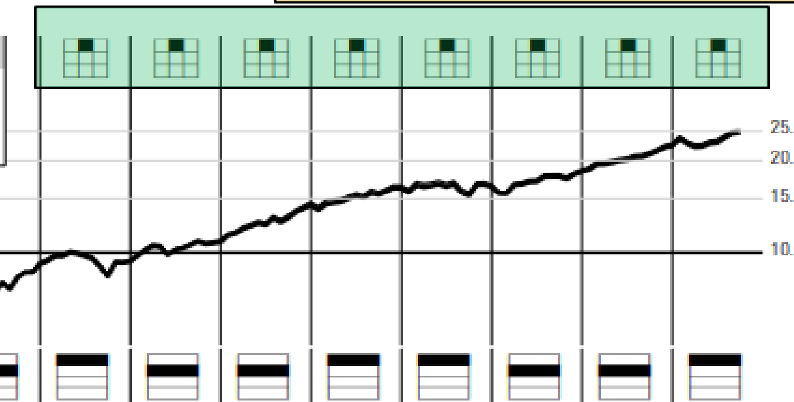
Tax Analysis	Tax Adj Rtn%	%Rank Cat	Tax-Cost Rat	%Rank Cat
3 Yr (estimated)	16.49	9	0.56	22
5 Yr (estimated)	13.10	7	0.61	20
10 Yr (estimated)	11.29	13	0.48	15

Potential Capital Gain Exposure: 47% of assets

Historical Profile

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

Investment Style
Equity



Growth of $10,000
— Investment Values of Fund
— Investment Values of Benchmark 1

Performance Quartile (within Category)

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.

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		

⊕ Pfizer Inc	Hlth Care	—	0.96
⊕ 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

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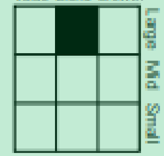
Value Blend Growth



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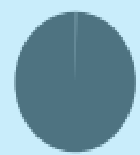
Composition - Net



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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:								