



SMIF

CAL POLY POMONA

DECEMBER 6, 2019

RESPONSE TO REQUEST FOR PROPOSAL
CFAOC Student Managed Investment Fund
CFAOC RFP Competition

Cal Poly Pomona SMIF

Cal Poly Pomona

- 25,000+ Students
- Leading University in Western U.S.
- #2 “Top Public Schools” focused on Undergrads in the West
- #8 in diversity among regional universities
- #10 in the nation for Social Mobility

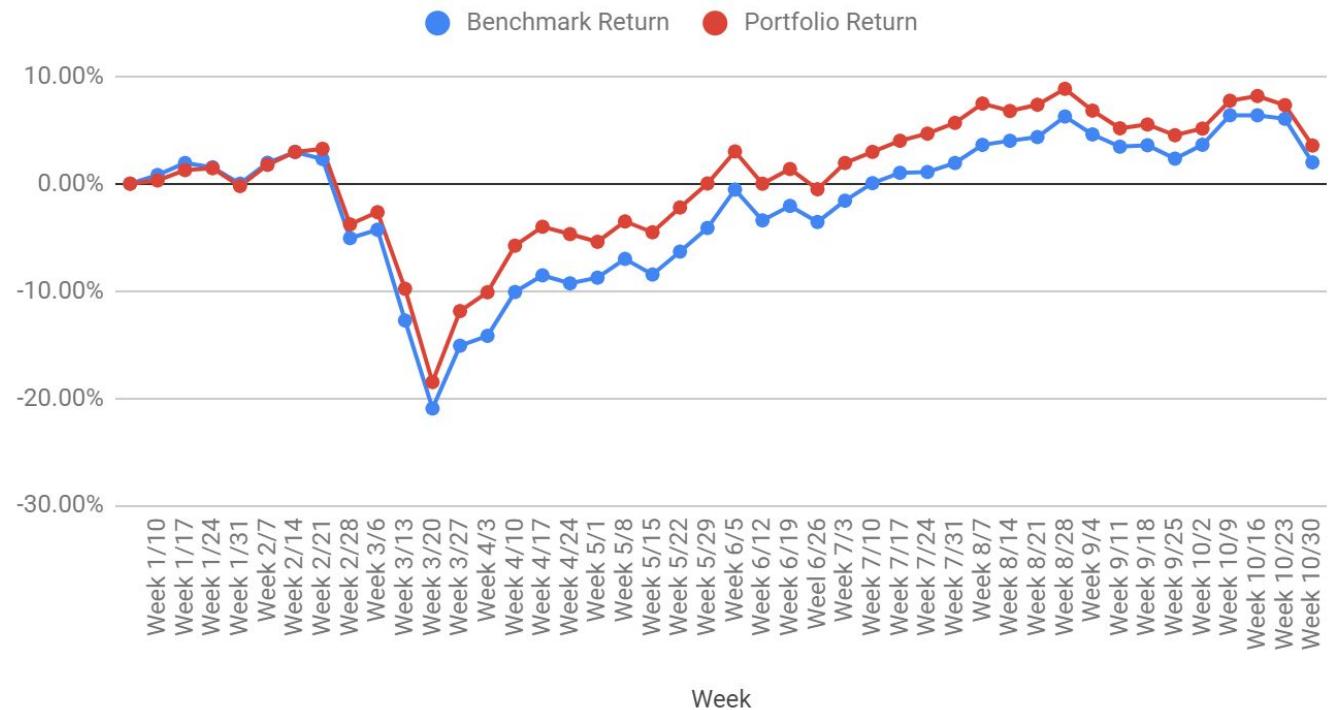
Student Managed Investment Fund

- Client First
- Fundamental Research Based
- Facts Driven
- High Academic Achievers
- Enthusiastic
- Diligent
- Ethically Grounded

Portfolio Update (As Of October 30th, 2020)

Benchmark Return	1.986%
Portfolio Return	3.559%
Portfolio Comparison	+1.573%

Benchmark Return and Portfolio Return



Performance Drivers

1. Asset Allocation (+2.479%)
2. Sector Allocation (-1.797%)
3. Stock Screening (+.891%)
4. Stop-Loss Measures
5. Staying Invested In ETFs

A Portfolio Outperformer: Regeneron (REGN)

- A leading biopharmaceutical company
- We believe this outperformance was due to the company being a major manufacturer and researcher in developing treatments for the COVID-19 virus that has plagued the entire world.
- Sector Delta: +45.11%

REGENERON

A Portfolio Underperformer: Performance Food Group Company (PFGC)

- Marketer and distributor of food and food-related products in the “food away from home” industry.
- When restaurants, school cafeterias, and many other public eating establishments closed due to the COVID-19 pandemic, demand for the company’s product plummeted and has yet to fully recover.
- Sector Delta: -32.75%



Investment Philosophy

CPP SMIF's goal is to maximize risk-adjusted returns for our clients while keeping their needs and expectations at the core of our investment decisions.

The portfolio construction and management processes are positively impacted by the selection of a diverse team to provide multiple perspectives.

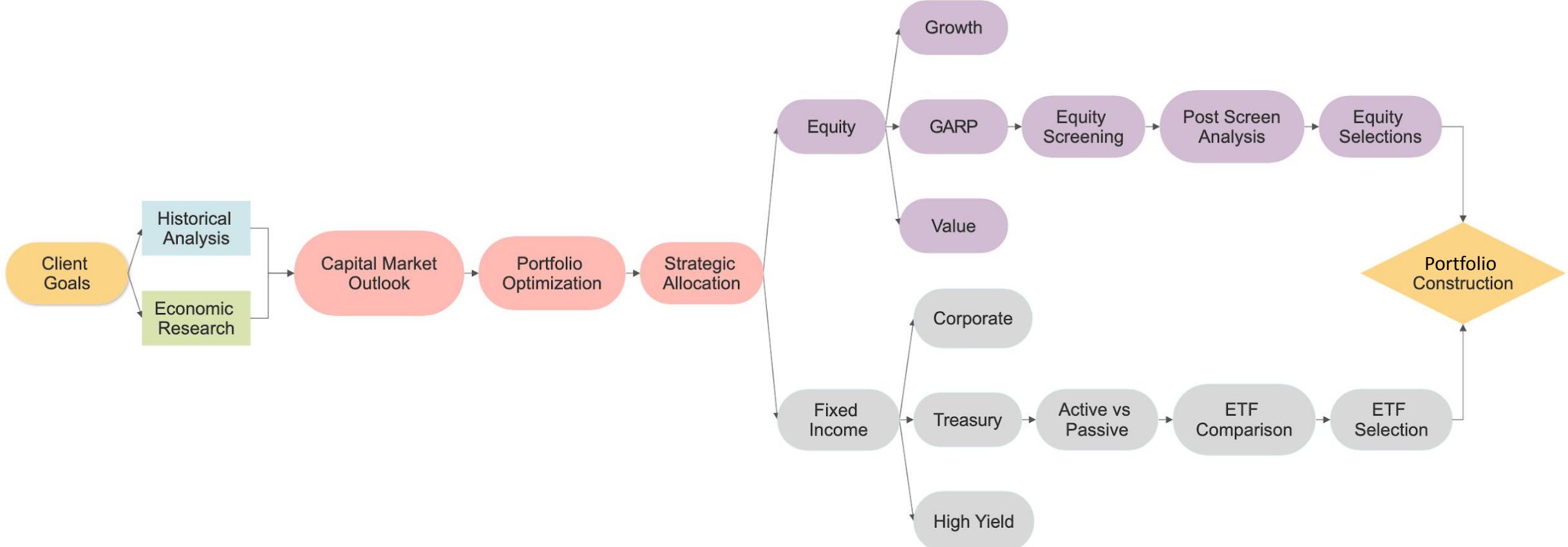
We believe markets are efficient in the long-term; however, short-term inefficiencies do occur. By utilizing an active management approach, we can capitalize on those opportunities to add additional value for our client.

Our approach will balance risk and reward with a conservative inclination

Overall, the Student Managed Investment Fund will embody Cal Poly Pomona's "Learn by Doing" philosophy

CPP SMIF will operate with competence, diligence, and in an ethical manner, by placing the interest of the client before our own

Portfolio Construction Process



CLIENT GOALS

& Historical Performance

Client Goals

CFA Society Orange County

- CFAOC Goal: 8.38% return objective with moderate risk and low liquidity need
 - Spending Rate: 6.0%
 - Tuition Inflation Rate: 2.38 %
- CPP recommended portfolio

	Expected Return	Standard Deviation	Sharpe Ratio
CPP SMIF	5.75%	8.9%	0.65
CFAOC Benchmark	5.38%	10.2%	0.53

Historical Performance

MAJOR ASSET CLASSES

Asset Class	Index	Historical Return (15Y)
Cash	T-Bill	1.31%
U.S Fixed Income	AGG	4.33%
U.S Equities	R3000	9.61%
Emerging Markets	M1EF	9.23%
Developed Markets	M1EA	5.65%
International Ex US	MSCI ACWI ex US	4.80%

ECONOMIC OUTLOOK

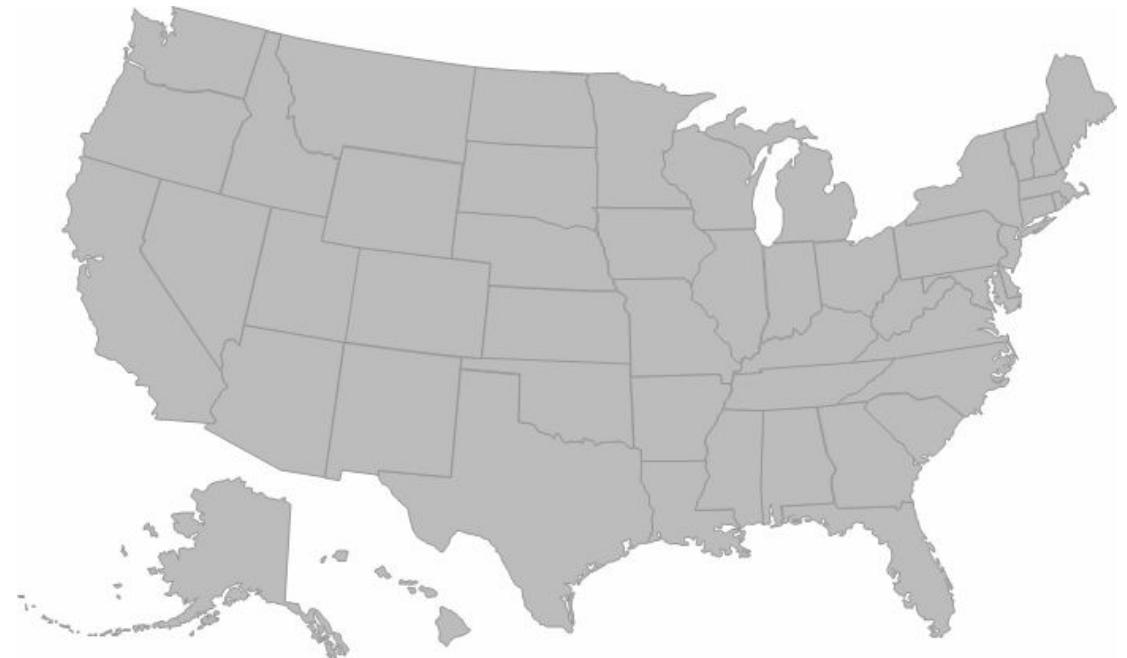
United States

Economic Outlook

UNITED STATES

Based on analysis of key economic growth drivers:

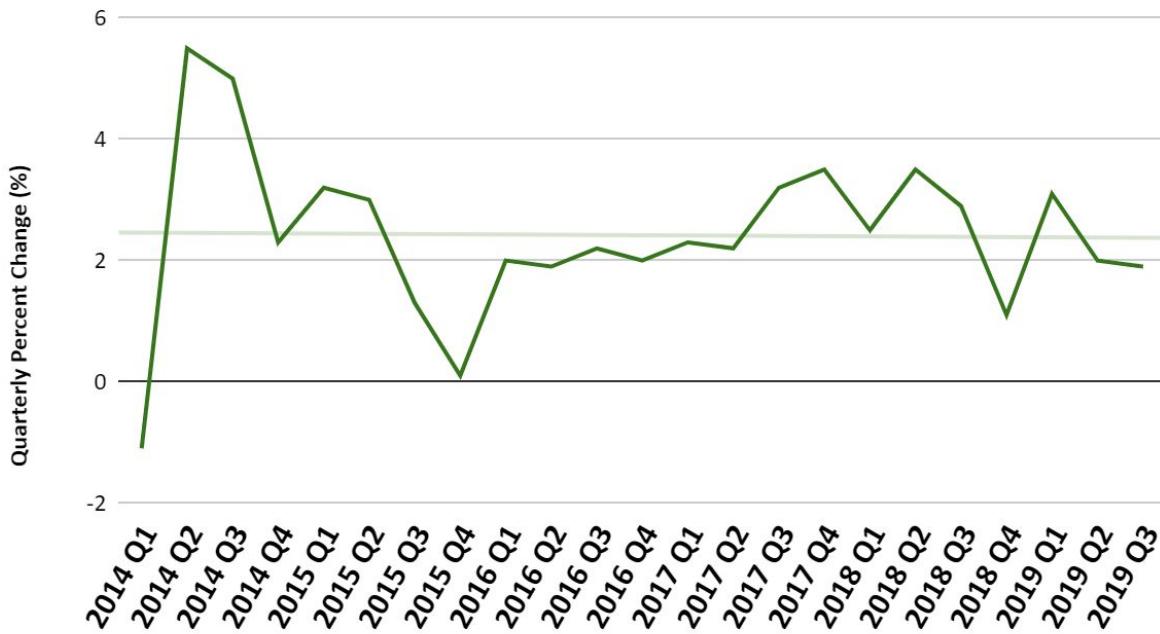
- GDP growth trajectory
- Interest Rates
- Retail and Auto Sales
- Consumer Spending
- Housing Starts
- Manufacturing PMI
- Services PMI



Economic Outlook

UNITED STATES GDP

Real Gross Domestic Product % Change



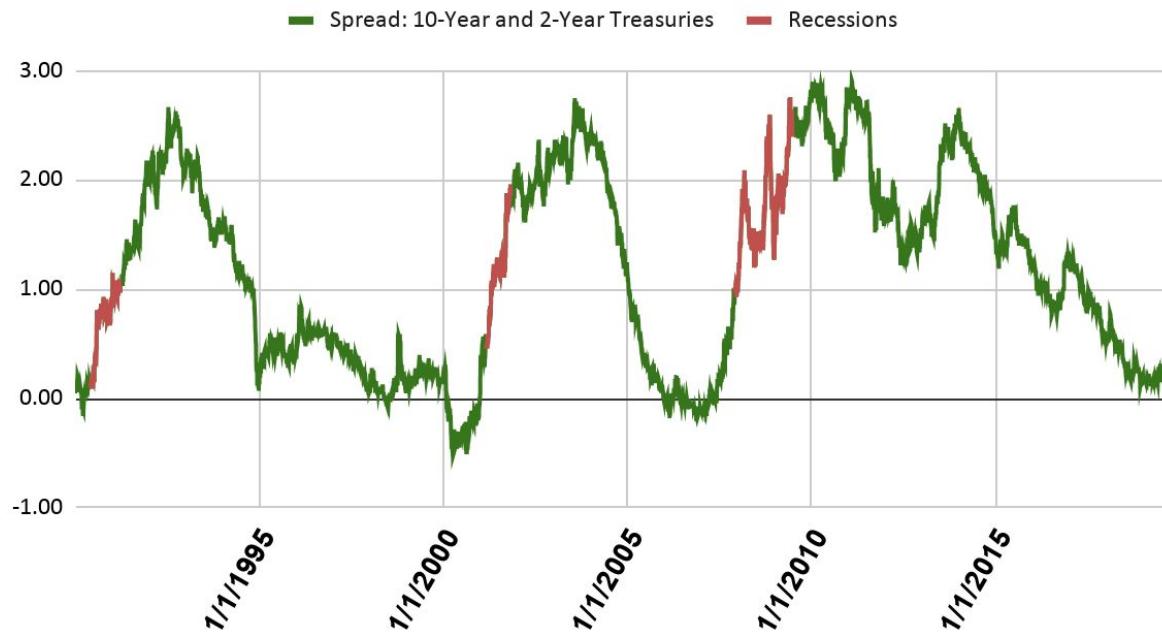
Source: Bureau of Economic Analysis

- Recent trend in GDP change indicates loss of momentum

Economic Outlook

UNITED STATES RATES

Spread: 10-Year and 2-Year Treasuries and Recessions



Source: Federal Reserve Bank of St. Louis

- Yield Inversions are a recession warning signal

Economic Outlook

UNITED STATES RETAIL AND AUTO SALES

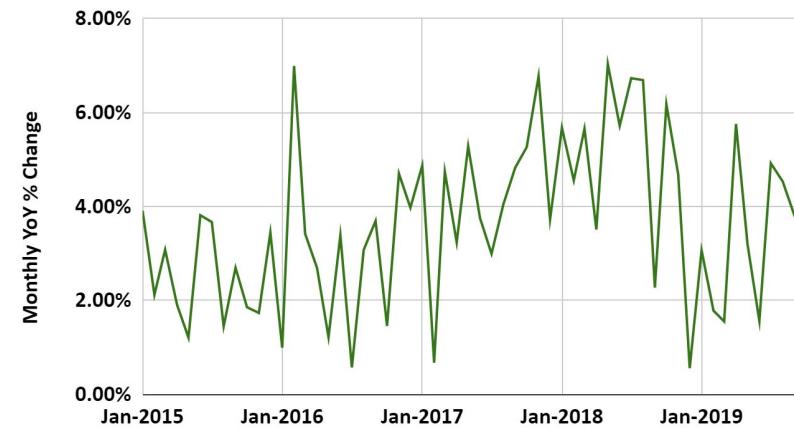
Auto Trucks & Vehicle Sales



Source: U.S. Census Bureau

- Auto sales are continuing to slow

Retail Sales Monthly YoY % Change



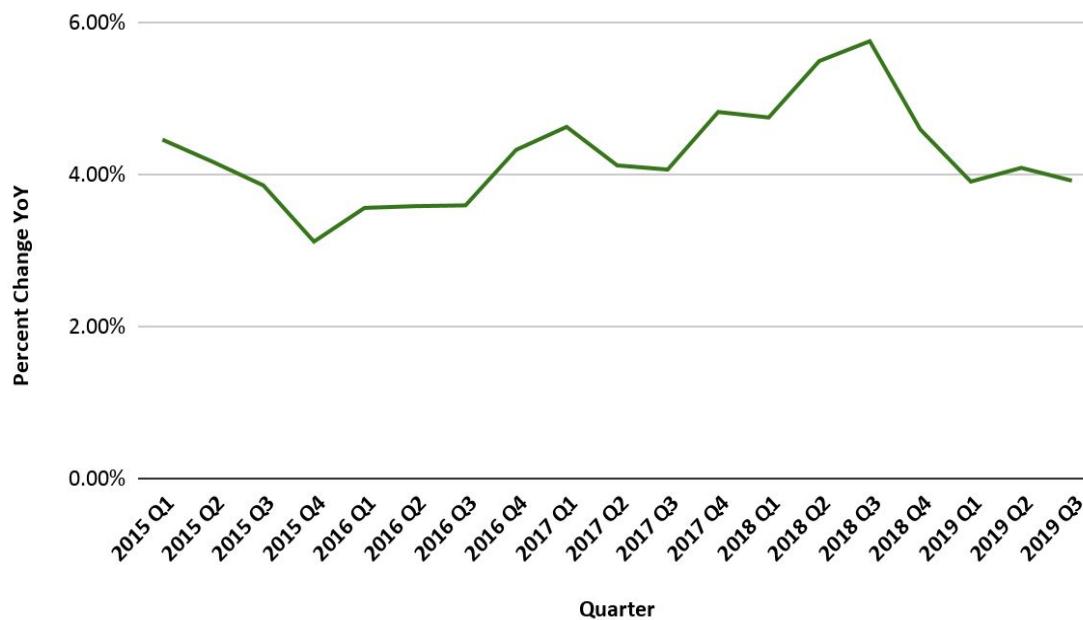
Source: Bureau of Economic Analysis

- Retail sales are decelerating

Economic Outlook

UNITED STATES CONSUMER SPENDING

Percent Change YoY vs. Quarter



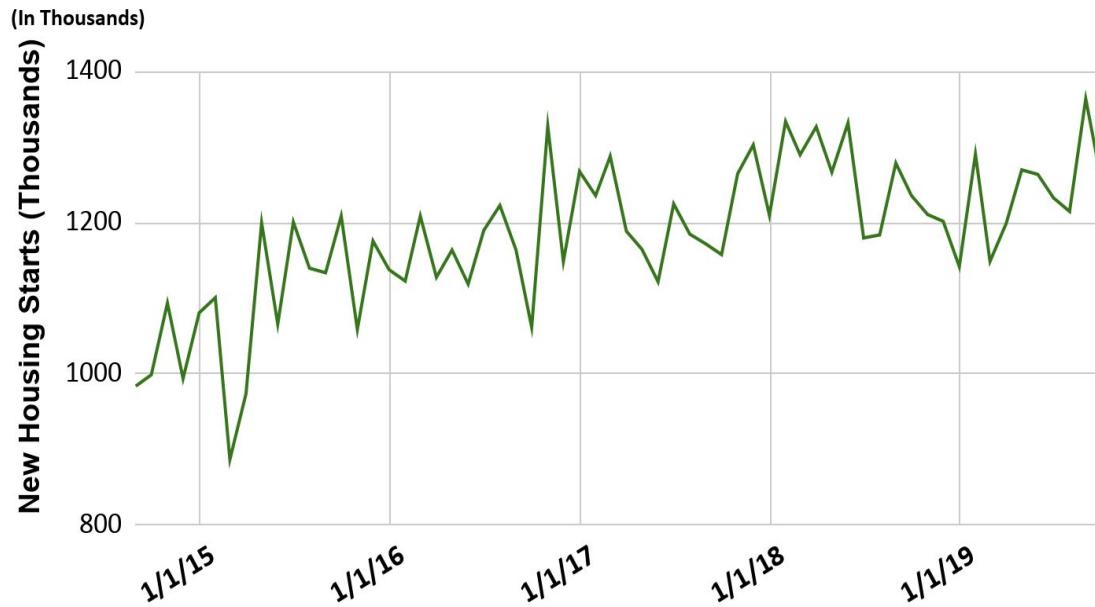
Source: Bureau of Economic Analysis

- Consumer spending is the largest contributor to U.S. economy (~70%)
- Even with low unemployment and better wage growth, spending is flattening to decelerating

Economic Outlook

UNITED STATES HOUSING STARTS

US New Privately Owned Housing Units Started by Structure Total



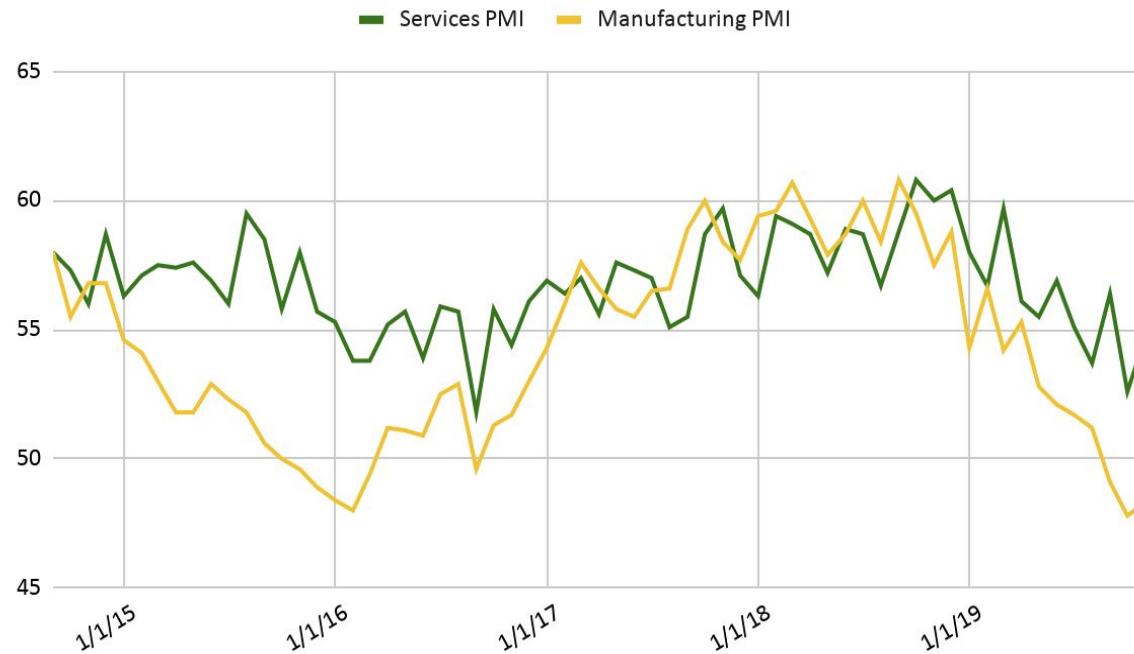
Source: Bureau of Economic Analysis

- Low rates has provided support to strong housing sector

Economic Outlook

UNITED STATES SERVICES AND MANUFACTURING PMI

Services PMI and Manufacturing PMI



Source: Bloomberg

- Both purchasing managers indexes are in decline, limiting growth potential

Economic Outlook

UNITED STATES SUMMARY

	Real GDP (%)			CPI (%)			Unemployment (%)			10-Year Treasury Bonds (%)		
	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021
Bloomberg	2.3	1.7	1.8	1.8	2	2.1	3.7	3.8	3.9	1.69	1.95	2.31
WSJ	2.2	1.8	1.8	2	1.9	2.1	3.6	3.9	4	2.01	2.19	2.39
IMF Report	2.4	2.1	1.7	1.8	2.3	2.4	3.7	3.5	3.5	-	-	-
EU Commission	2.4	1.9	-	2	2	-	3.8	3.7	-	-	-	-
Average	2.33	1.88	1.77	1.90	2.05	2.20	3.70	3.73	3.80	1.85	2.07	2.35

- Concerns
 - Loss of growth momentum
 - Deceleration in consumer related measures
 - Weak PMIs
- Conclusions
 - Slowdown to continue, GDP growth to be 25 to 50 basis points below consensus
 - Interest rates at or below current levels
 - Housing & low rates will provide support to the U.S. economy
 - No recession in 2020

ECONOMIC OUTLOOK

Foreign & Global Summary

Economic Outlook

EUROPE

- Manufacturing is contracting
- Services are relatively stable
- Exports trending weaker



EU Manufacturing PMI and EU Services PMI



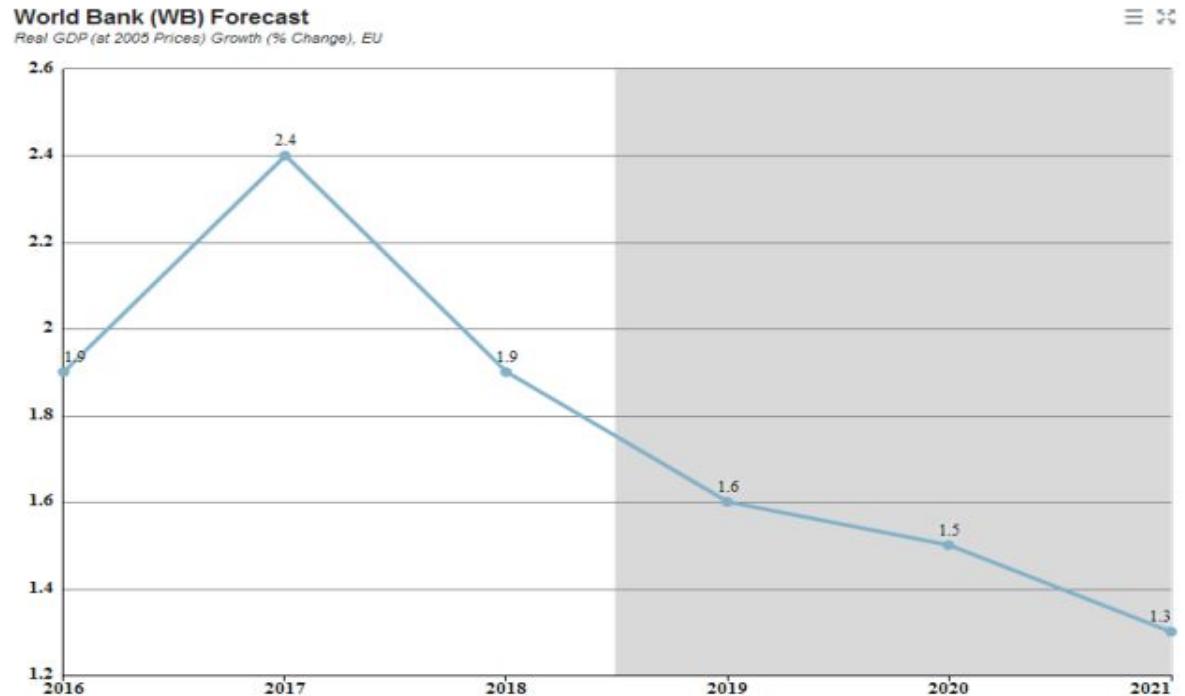
European Union Total Exports



Economic Outlook

EUROPE (CONT.)

- European Economy is Slowing
 - BREXIT
 - Geo-political issues
 - US/China Trade War
- Aligns with Global slowdown



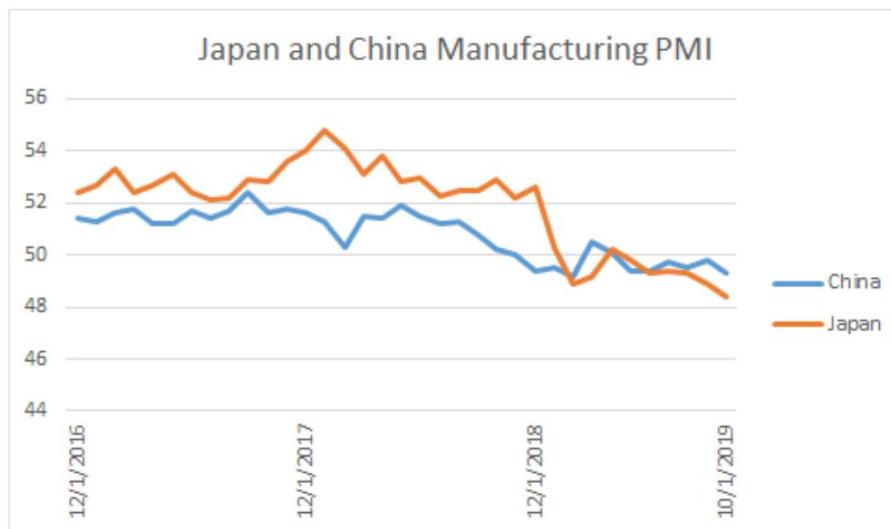
Economic Outlook



ASIA REGION

Projected to have slowing growth but no recession.

- US-China trade war
- China export slowing
- Japanese export growth stable



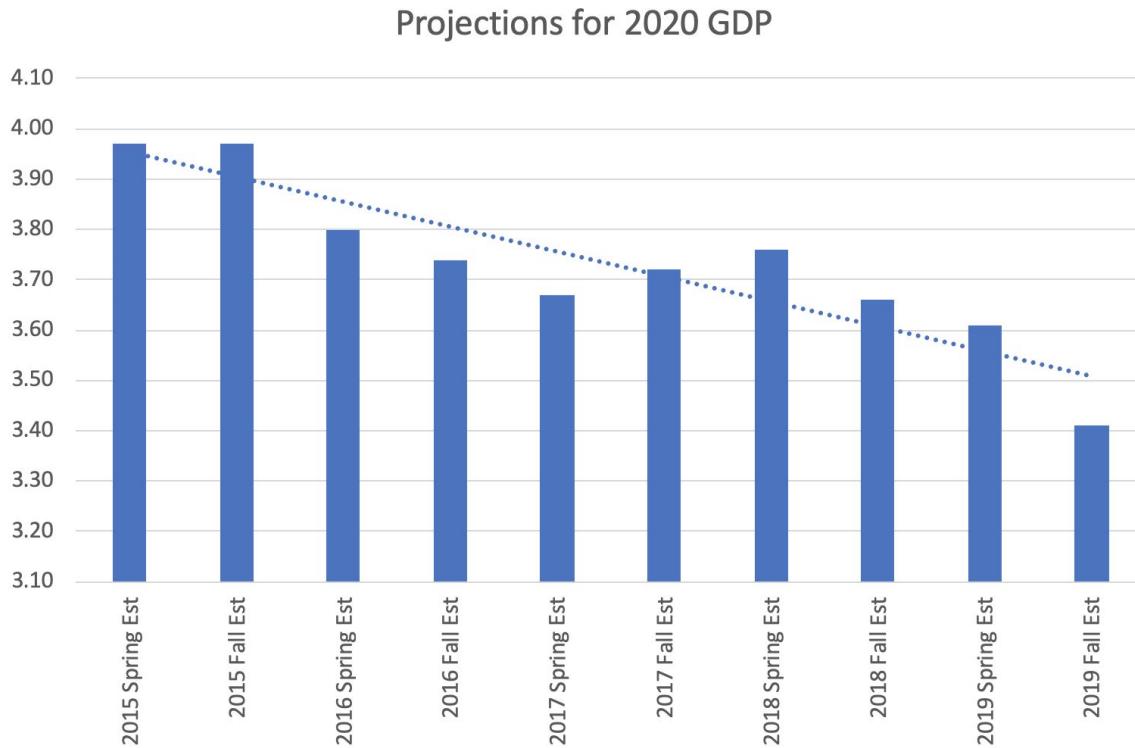
Source: Bloomberg

	GDP Annual Growth (YoY)			10-Year Government Bond Interest (Rate)		
	2019	2020	2021	2019	2020	2021
China	6.1	5.9	5.8	3.05	2.74	2.83
Japan	0.9	0.3	0.8	-0.21	-0.08	-0.04
India	6.2	6.1	6.7	6.47	6.53	6.88

	Inflation Rate (CPI YoY)			Unemployment Rate (Rate)		
	2019	2020	2021	2019	2020	2021
China	2.5	2.4	2.2	3.9	4.0	4.0
Japan	0.7	1.0	0.9	2.4	2.4	2.4
India	3.4	3.6	3.9	-	-	-

Global Outlook

Expectations Continue to Slide



"We are, once again, downgrading growth for 2019 to 3 percent, its slowest pace since the global financial crisis" - IMF

- Growth continues to be weakened by rising trade barriers and growing geopolitical tensions.
- China trade tensions will cumulatively reduce the level of global GDP by 0.8 percent by 2020.
- Growth is also being weighed down by country-specific factors such as:
 - Low productivity growth
 - Aging demographics in advanced economies

CAPITAL MARKET OUTLOOK

& Portfolio Optimization

Capital Market Outlook

EQUITIES

- Based on a slowing global economy
- Using Damodaran Model for U.S.
- CAPM model for all other equities.
- Model assumptions:
 - Current level of S&P 500 (\$3,120)
 - Index Cash Yield (Dividends & Buybacks): Average Yield (Last 5 years) = 5.04%
 - EPS growth rate for the next 5 years: 2.5%
 - Expected growth rate in the long term 1.83% (10Y T-bond)

Asset Class	Beta Index	Historical Return (15Y)	Expected Return	Expected Return Models & Assumptions
U.S Fixed Income	AGG	4.33%	2.73%	YTM
U.S Equities	R3000	9.61%	6.90%	Damodaran model Slowing Economy
Emerging Markets	M1EF	9.23%	6.22%	CAPM
Developed Markets	M1EA	5.65%	6.01%	CAPM
International Ex US	MSCI ACWI ex US	4.80%	7.32%	CAPM

Capital Market Outlook

FIXED INCOME

- Rates to remain flat or slightly decrease within the U.S.
- Debt in many international markets carry negative rates
- US economy to continue growing at a decelerating rate

Asset Class	Beta Index	Historical Return (15Y)	Expected Return	Expected Return Models & Assumptions
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International Ex US	MSCI ACWI ex US	4.80%	7.32%	CAPM

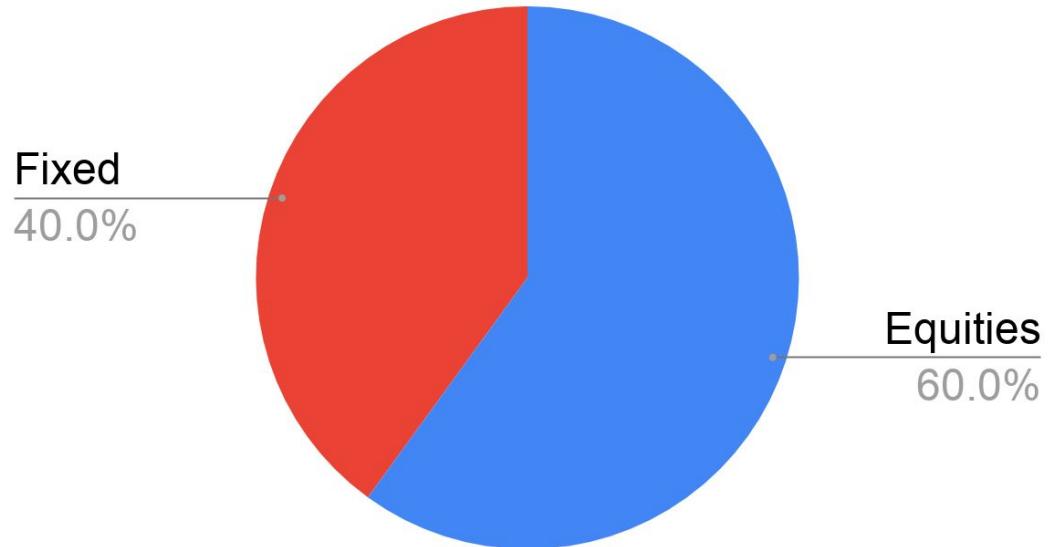
Portfolio Optimization

- Optimized based on capital market outlook
- Asset Classes
 - Russell 3000
 - Developed Markets Index
 - Emerging Markets Index
 - Bloomberg Barclay AGG
 - 3-month T-bill
- Optimized to max sharpe ratio

- Results

- 60% Domestic Equities
- 40% Fixed Income

Target Asset Allocation



FIXED INCOME

Strategy, Selection

Fixed Income Strategy

- Avoid Preferred Stocks:
 - Poor returns and with high risk
- Avoid Intermediate Term Bonds
 - Minimal added yield, Higher Volatility
- CPP Strategy:
 - Balance Safety and Yield
 - Additional Yield from "junk" bonds
 - Allow some Duration exposure to reflect potential rates decline
 - Diversify through ETFs

Bond Class	Historical Returns (%)	YTM (TTM) (%)	Historical Std. Deviation (%)
Short Term Treasury	3.66	1.7	1.55
Intermediate Term Treasury	5.37	1.8	3.10
Long Term Treasury	9.02	2.3	10.77
Short Term Corporate	0.77	2.2	1.86
Intermediate Term Corporate	2.02	2.7	4.37
Long Term Corporate	3.27	3.6	8.08
High Yield	9.76	5.2	8.22
Preferred Stocks	-0.40	5.6	15.53

Fixed Income Strategy

Why ETFs for Fixed Income

- Individual Bond Spread too large; lowers returns
- More efficient use of firm resources
 - Credit risk is time and expertise intensive
 - Allocate time to researching ETFs and equities in our portfolio
- Low Expense Ratio

Allocations - According to our economic research

- Corporate: 45%
 - *Short Term*: Higher yield vs. Treasury, low risk
 - *Long Term*: No recession, rates may drop, adding Duration exposure
- Treasury: 40%
 - *Short Term*: Safety to balance risk
 - *Long Term*: No recession, rates may drop, adding Duration exposure
- High Yield: 15%
 - Higher yield
 - Utilize actively managed fund
 - Limited default risk, economy still growing

Fixed Income

FIXED INCOME ETF SELECTION METRICS



Fixed Income ETF Selection

	Ticker	Weight	Name	AUM	Tracking Error	YTM	Duration	Expense Ratio
ST Treasury	SCHO	25%	Schwab Short Term Treasury ETF	1,106,774	0.03	1.68	1.78	0.06%
LT Treasury	SPTL	15%	SPDR Portfolio Long Term Treasury Bond ETF	485,656	0.23	2.28	17.51	0.06%
ST Corp	IGSB	15%	iShares Short Term Corporate Bond ETF	1,806,172	0.06	2.31	2.55	0.06%
LT Corp	SPLB	30%	SPDR Portfolio Long Term Corporate Bond ETF	124,915	0.21	3.74	13.80	0.07%
High Yield	JPHY	15%	JP Morgan High Yield Research Enhanced ETF	38,043	0.13	5.20	3.20	0.24%

Fixed Income Allocation

40%

Treasury Bonds

- Short Term (25%)
- Long Term (15%)

- Safety net to hedge against risk of the growth aspect of our equity selections

45%

Corporate Bonds

- Short Term (15%)
- Long Term (30%)

- High Sharpe Ratios aligning with our investment philosophy of maximizing risk-adjusted returns

15%

High Yield Corporate Bonds

- Attempt to increase overall portfolio returns

EQUITIES

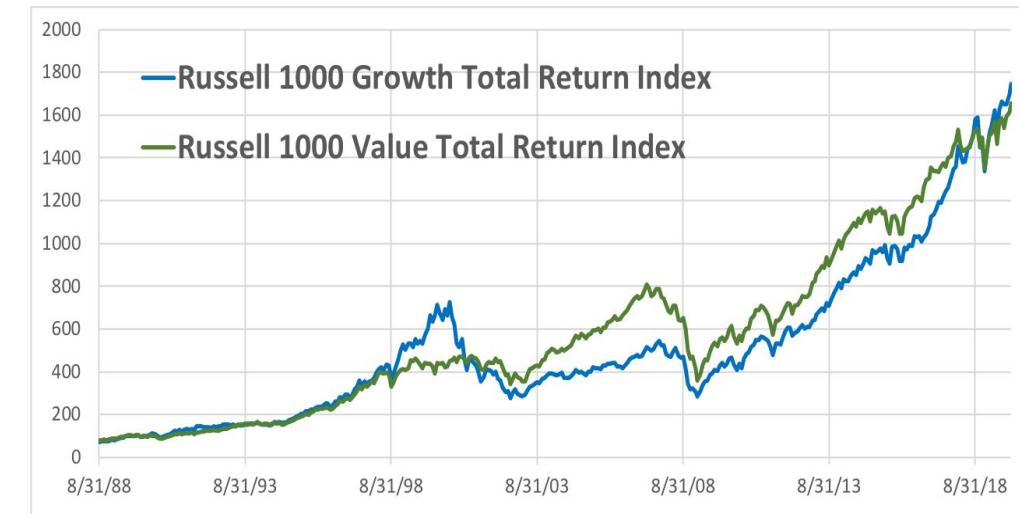
Strategy, Allocation, ETF Selection

Equity Strategy

VALUE vs GROWTH RESEARCH

- S&P 500 Factors
 - Price-to-Book
 - Price-to-Earnings
 - Price-to-Sales
- Russell 1000 Factor
 - Price to Book
- Result
 - Last decade: Growth outperformed
 - Given slowing U.S. economy, outperformance not expected to continue
 - Growth outperformance historically not consistent

S&P 500 Value vs. Growth Total Return, Source: Bloomberg



Equity Strategy

VALUE VS GROWTH

- Go for Value and Growth
- Align with economic cycle*
- Screen equities using Fundamental Drivers
- Diversify
- Analyst Driven Security Selection

	Early cycle Rebounds	Mid cycle Peaks	Late cycle Moderates	Recession cycle Contracts
Financials	+			
Real Estate	++			--
Consumer Discretionary	++	-	--	
Information Technology	+	+	--	--
Industrials	++			--
Materials	+	--	++	
Consumer Staples			++	++
Health Care	--		++	++
Energy	--		++	
Communication Services		+		-
Utilities	--	-	+	++

Source: Fidelity Investment Research

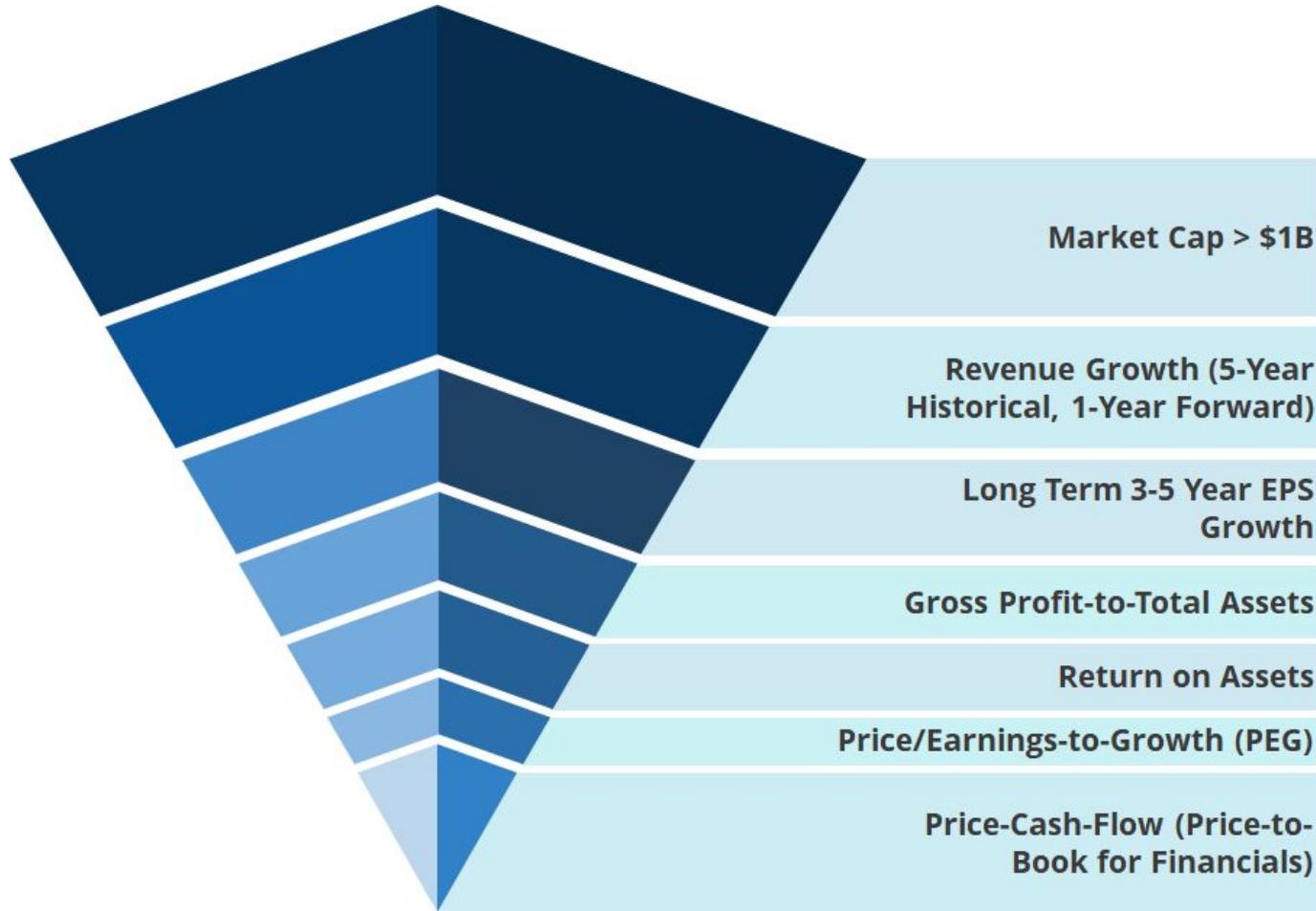
* Deviations will be based on business cycle changes

Sector Allocation

SECTOR	Fidelity Weight		SMIF Weight	Explanation
	(Late Stage)	RUS3000 Weight		
Technology	--	21.3	20.2	Only a small decrease because technology is a large part of the economy now
Consumer Discretionary	--	10.4	8.8	
Consumer Staples	++	6.4	7.2	High valuation sector. High P/E ratio. Not a growth sector.
Utilities	+	3.2	3.2	High Valuation
Healthcare	++	14	15.6	
Energy	++	4.7	5	Peak oil demand?
Industrials	Neutral	10.2	10.2	
Materials	++	3	3	Affected by slowing economy
Financials	Neutral	13.6	13.6	
Communication	Neutral	9.2	9.2	
Real Estate	Neutral	4	4	

Equity Strategy

SECTOR SCREENING PROCESS



Gross Profit Metric

SCREEN RESEARCH - GROSS PROFITABILITY (NOVY-MARX)

Gross Profitability Ratio

- Profitability strategy found to generate significant excess returns
- Reduced strategy's overall volatility despite increasing exposure to risky assets
- Excludes expenses on beneficial actions to find “cleanest accounting measure of profitability”

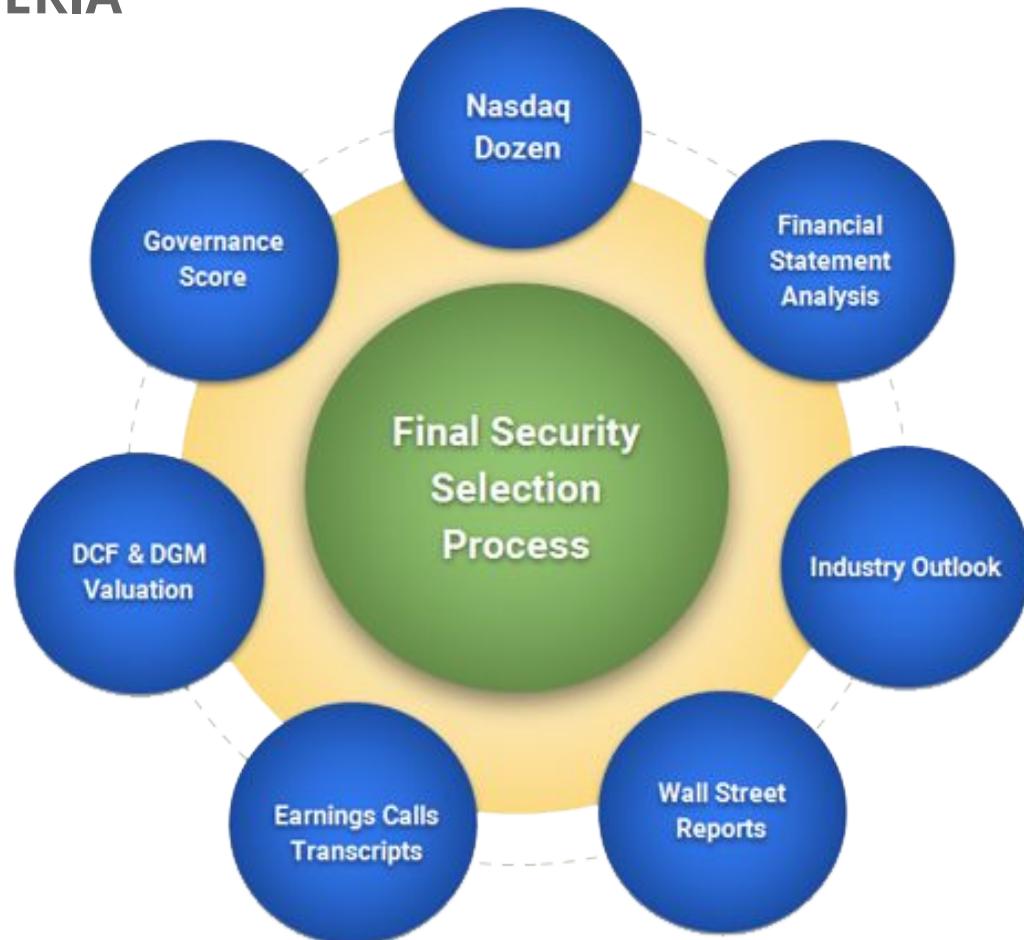
$$\frac{\text{Total Revenue} - \text{Cost of Goods Sold}}{\text{Total Assets}}$$

Novy-Marx, Robert. "The Other Side of Value: Good Growth and the Gross Profitability Premium." 2010

Analyst Driven Stock Selection

FINAL SELECTION CRITERIA

Analyst Driven



Equity ETF Selection

Equity ETFs:

- What Sectors: Less than 5% weighting in our proposed portfolio
- Purpose: Lower idiosyncratic risk within sectors

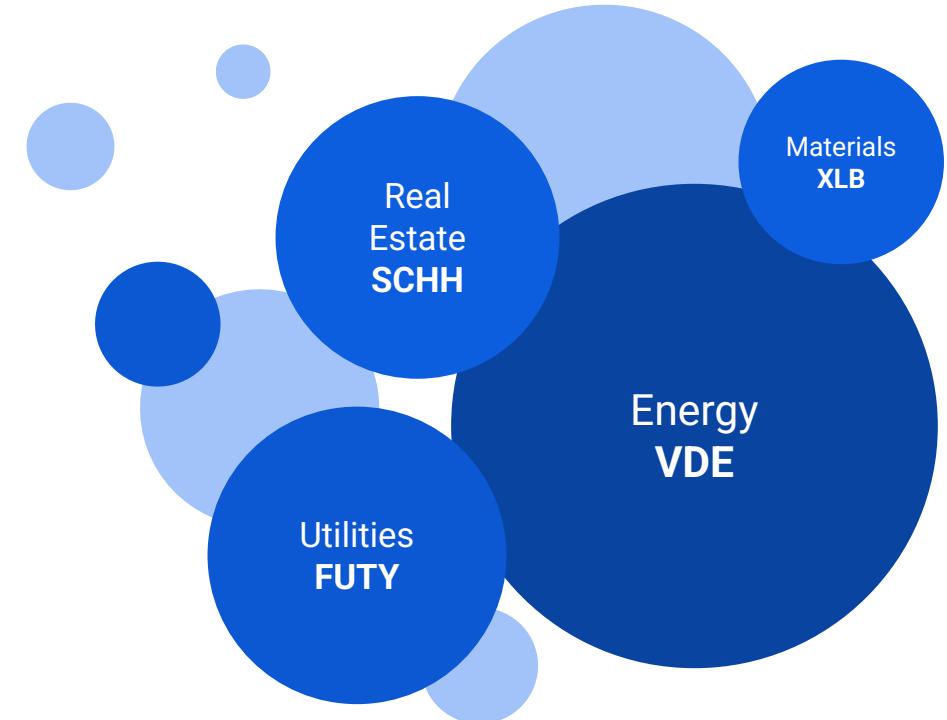
Selection:

- Five largest ETFs
- Diversified fund
- Concentration in top 10 assets
- Sharpe ratio
- Liquidity
- 1-Year NAV Tracking Error
- Expense Ratio

Equity ETF Selection

ETF SELECTION SUMMARY

Name	Symbol	AUM	Expense Ratio	# of Holdings
Schwab U.S. REIT ETF	SCHH	\$6,018 Million	0.07%	100
Fidelity MSCI Utilities Index ETF	FUTY	\$893 Million	0.08%	66
Materials Select Sector SPDR Fund	XLB	\$3,523 Million	0.13%	28
Vanguard Energy ETF	VDE	\$3,500 Million	0.10%	134



STOCK SELECTION EXAMPLES

CPP SMIF Recommendation: Buy

Company Overview

- Market Cap: \$9.1 Billion
- Sector: Industrials
- Current Price: \$154.25
- DCF Valuation: 184.80

	CSL		CSL
Past 5 Years Sales CAGR	8.77%	Price/CF (TTM)	13.95
Past 5 Years EPS CAGR	14.14%	PE (Forward)	18.46
3-5 Y FWD EPS CAGR	5.63%	Value DCF	\$185
Dividend Yield	1.24%	Value DGM	\$191

Executive Summary

- Strong growth with increasing profit margins in main business segments.
- Strong quality cash flows.
- Competitive wins through strategic acquisitions and restructuring.
- Healthy balance sheet.
- Reasonable valuation with upside potential.



CSL DCF Valuation

DCF Valuation Model: Shareholder Perspective: Fall 2019							DCF Valuation:	184.80
	2018	2019	2020	2021	2022	2023	Perpetuity	
Assumptions								
Sales Growth	9.5%	7.3%	6.0%	5.0%	4.0%	4.0%	3.0%	
EBIT Margin	17.8%	14.0%	14.0%	14.0%	14.0%	14.0%	14.0%	
CAPM Ke		7.01%						
Income Statement								
Sales	4,480	4,806.50	5,094.89	5,349.64	5,563.62	5,786.17	5,959.75	
Net Income	611	483	515	542	566	590	586	
Cash Flow Statement								
Free Cash Flow	957	309	361	407	452	472	498	
Cumulative PV		289	604	936	1,281	1,617	10,469	
Valuation/Share							184.80	

CPP SMIF Recommendation: Buy

Company Overview

- Mkt Cap: \$14.1 B
- Sector: Consumer Discretionary
- Current Price: \$239.60
- DCF Valuation: \$321.07

	ULTA		ULTA
Past 5 Years Sales CAGR	20.26%	Price/CF (TTM)	13.25
Past 5 Years EPS CAGR	28.25%	PE (Forward)	24.12
3-5 Y FWD EPS CAGR	11.19%	Value DCF	\$321.07
Dividend Yield	0%	Value DGM	NA

Executive Summary

- Historically Increasing ROE
- Significant Outperformance of Competitors
- Employs Influencers to remain relevant
- Strong Store Expansion conducted with consistent margins
- Regular Product Launches: Premium and Drugstore
- Significant Upside to Investing Based on DCF



ULTA DCF Valuation

DCF Valuation Model: Shareholder Perspective: Fall 2019							DCF Valuation:	321.07
	2019 (Actual)	2020	2021	2022	2023	2024	Perpetuity	
Assumptions								
Sales Growth	14.1%	10.5%	9.2%	8.80%	10.0%	10.8%	2.8%	
EBIT Margin	12.8%	10%	10%	10%	12%	13%	14%	
CAPM Ke		7.67%						
Income Statement								
Sales	6,717	7,421.84	8,104.65	8,817.86	9,699.65	10,747.21	11,048.13	
Net Income	664	579	632	689	912	1,096	1,214	
Cash Flow Statement								
Free Cash Flow	637	(1)	400	446	612	740	1,112	
Cumulative PV		(1)	344	702	1,157	1,668	17,440	
Valuation/Share							321.07	

PORTFOLIO MANAGEMENT

**Risk, Monitoring, Sell-Discipline,
Final Portfolio**

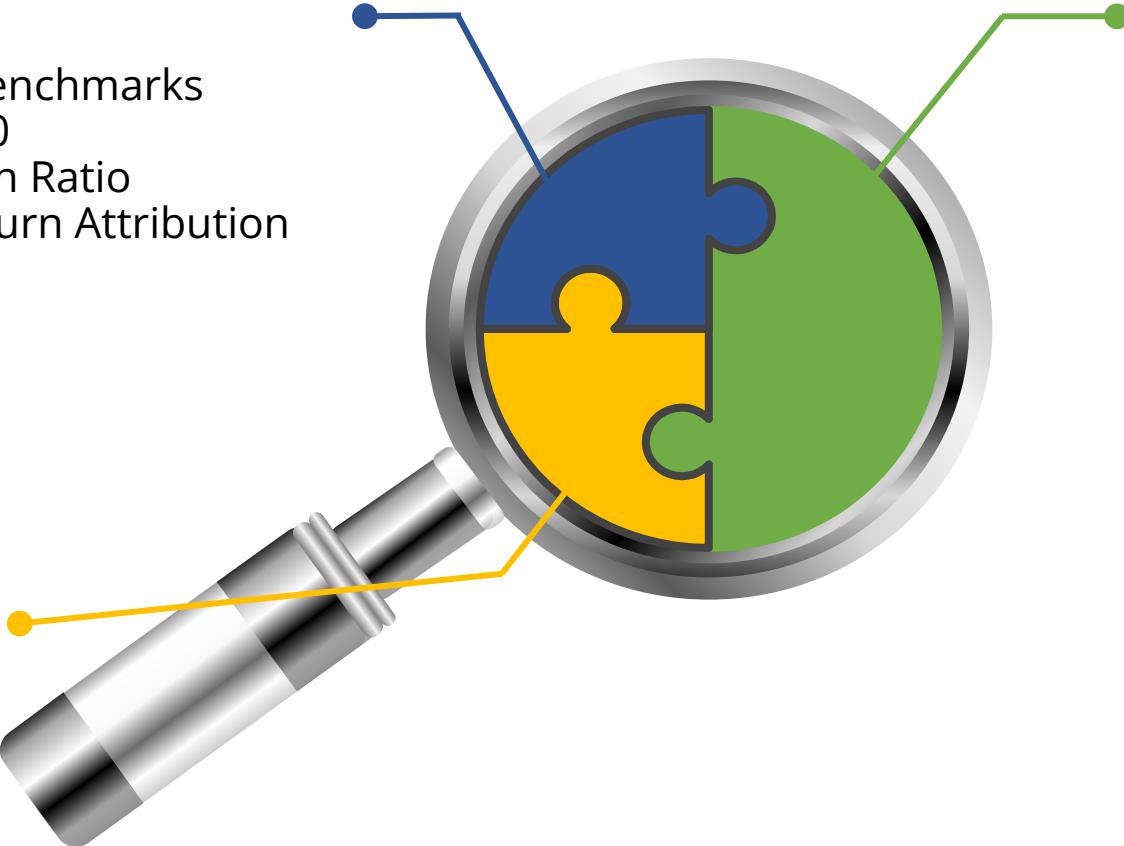
Risk Management

How We View Risk

- Actual Return vs. Benchmarks
 - CFAOC & 60/40
- Monitor Information Ratio
- Actual Portfolio Return Attribution

Portfolio Beta

- 1.13



How We Manage Risk

- Mix of Asset Classes
- Diversify within Asset Classes
 - Invested in all 11 Sectors
 - Diversify Within Fixed Income
 - Corporate
 - Treasury
 - High Yield Bonds
- Weekly Monitoring
- Stop Loss

Monitoring & Selling Discipline

Monitoring

- Weekly – Academic Session
- Bi-weekly – Non-Academic Session
- Benchmark Comparisons
- Information Ratio
- Performance Attribution

Sell Discipline

Equities:

- Intrinsic value reached
- 10% of the equity portfolio
- 30% stop-loss limit
- Significant change in underlying equity fundamentals
- Change in business cycle

ETFs:

- Underperforms benchmark for at least a month by 50 basis points

Proposed Portfolio

51%

Domestic Equity

Higher historical returns for a given risk vs. international

- Allocation among 24 securities

9%

Passively Managed Equity ETF

Well diversified exposure to select sectors, while effectively replicating price and yield

- Materials SPDR ETF
- Real Estate SPDR ETF
- Energy SPDR Vanguard ETF
- Utilities Fidelity MSCI Index ETF

34%

Passively Managed Fixed Income ETF

Low cost, efficient and well diversified investment grade bonds

- SPDR LT Treasury
- Schwab ST Treasury
- SPDR LT Corporate Bond ETF
- iShares ST Corporate Bond ETF

6%

Actively Managed Fixed Income ETF

Efficient in credit research and replicating its benchmark risk profile

- JP Morgan High Yield Research Enhanced ETF

Cal Poly Pomona Portfolio

Return: 5.75%
Std. Deviation: 8.91%

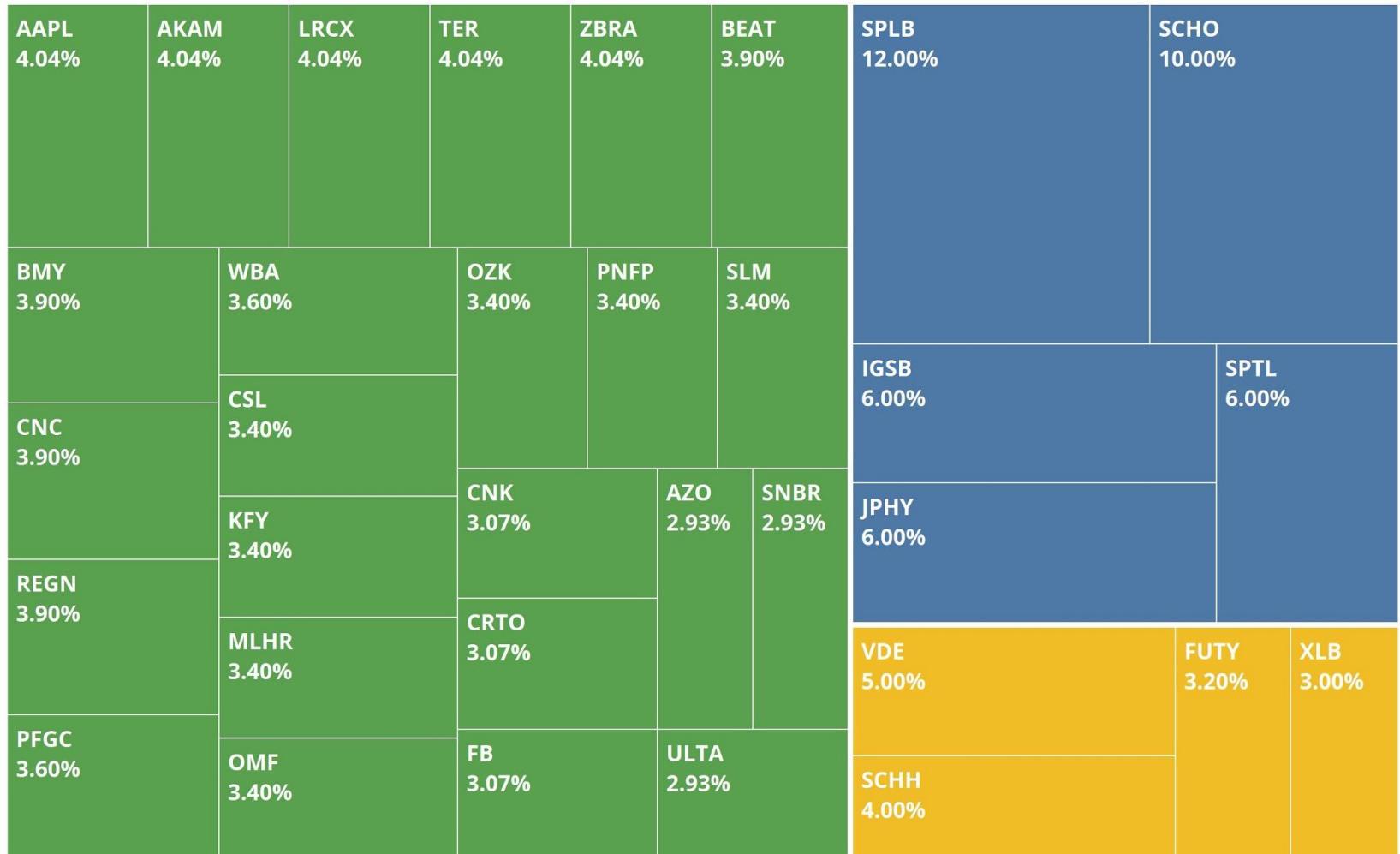
- Sharpe Ratio: 0.65

CFAOC Benchmark

Return: 5.38%
Std. Deviation: 10.21%

- Sharpe Ratio: 0.53

Final CPP SMIF Portfolio



Asset Classes

- EQUITY
- EQUITY ETF
- FIXED INCOME

Tickers and sum of Allocations. Color shows details about Asset Classes. Size shows sum of Allocations. The marks are labeled by Tickers and sum of Allocations. The view is filtered on Asset Classes, which excludes Null.

Why CPP SMIF?

01

Put Our Client First

02

True to Our Investment Philosophy

03

Diverse Perspective

04

Fundamentals Focused & Data Driven

05

Actively Monitored by Dedicated Students

06

Ethically Grounded



Q&A



Appendix

Quick Links

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- [Foreign Summary](#)
- [Equity Outlook](#)
- [Fixed Income Outlook](#)
- [Optimization](#)
- [Fixed Income Selections](#)
- [Fidelity Late Stage](#)
- [Screening Process](#)
- [Equity ETF Selections](#)
- [Portfolio Segments](#)
- [Portfolio Grid](#)
- [CSL DCF](#)
- [ULTA DCF](#)

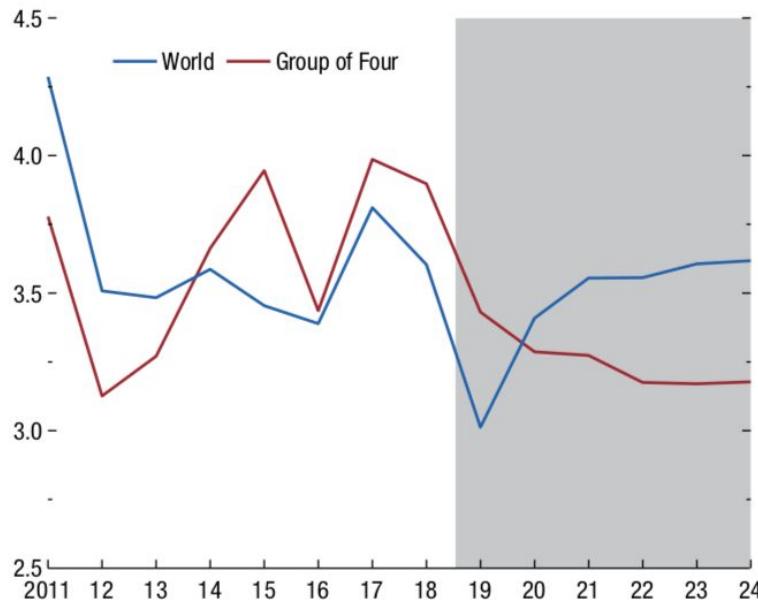
More References

- [Global GDP Growth Comparison](#)
- [Trade War](#)
- [Sector P/E's](#)
- [Below Consensus](#)
- [Asset Class Outlook](#)
- [Fixed Income Table - Full](#)

Appendix

**Figure 1. GDP Growth: World and Group of Four
(Percent)**

The global growth pattern reflects a major downturn and projected recovery in a group of emerging market economies. By contrast, growth is expected to moderate into 2020 and beyond for a group of systemic economies.



Source: IMF staff estimates.

Note: Group of Four = China, euro area, Japan, United States.

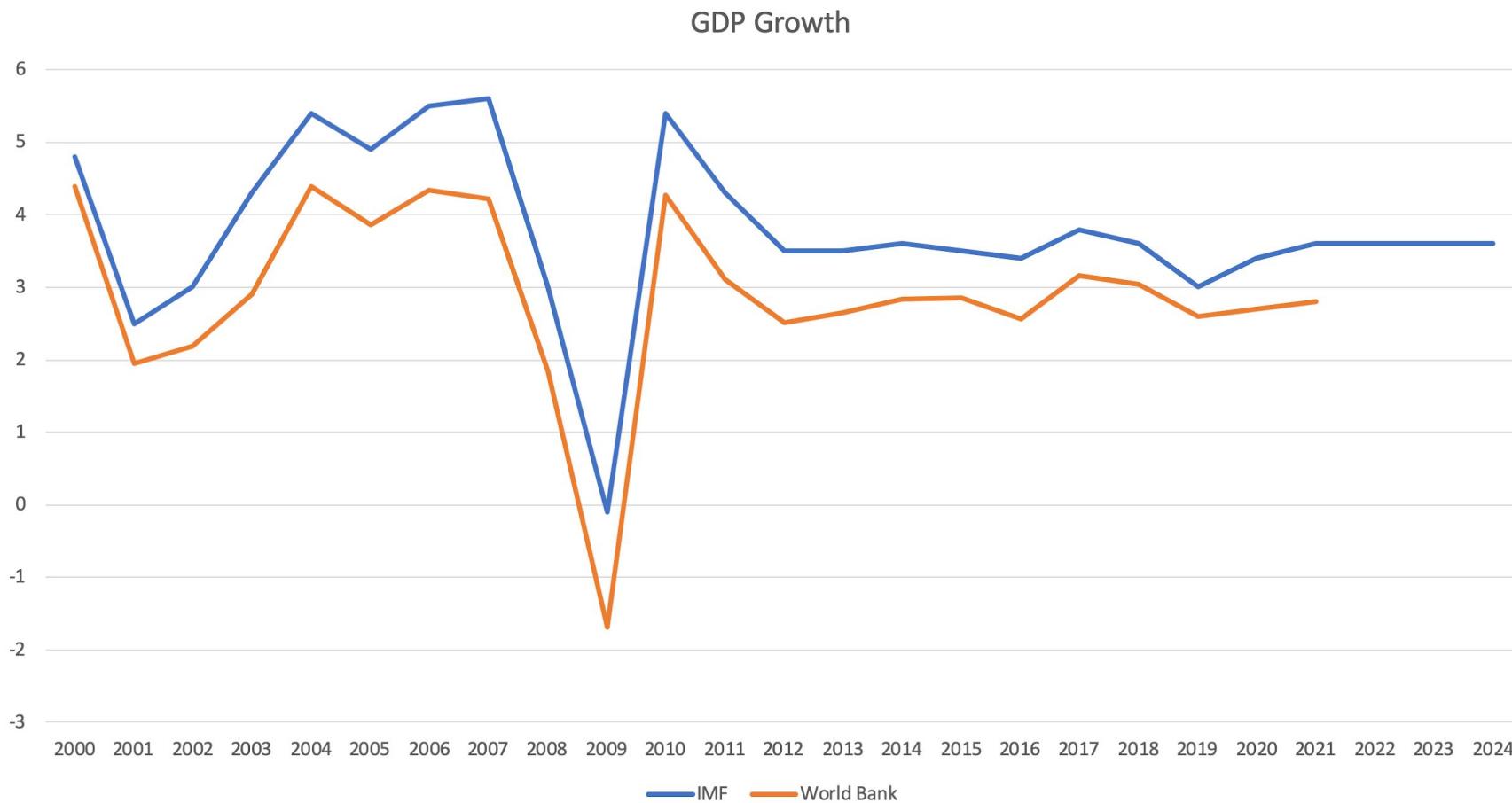
	Average 2001–10	Projections									
		2011	2012	2013	2014	2015	2016	2017	2018	2019	2024
World	3.9	4.3	3.5	3.5	3.6	3.5	3.4	3.8	3.6	3.0	3.6
Advanced Economies	1.7	1.7	1.2	1.4	2.1	2.3	1.7	2.5	2.3	1.7	1.6
United States	1.7	1.6	2.2	1.8	2.5	2.9	1.6	2.4	2.9	2.4	2.1
Euro Area	1.2	1.6	-0.9	-0.3	1.4	2.1	1.9	2.5	1.9	1.2	1.3
Japan	0.6	-0.1	1.5	2.0	0.4	1.2	0.6	1.9	0.8	0.9	0.5
Other Advanced Economies ²	2.8	3.0	2.0	2.4	2.9	2.1	2.1	2.7	2.2	1.5	2.1
Emerging Market and Developing Economies	6.2	6.4	5.4	5.1	4.7	4.3	4.6	4.8	4.5	3.9	4.8
Regional Groups											
Emerging and Developing Asia	8.5	7.9	7.0	6.9	6.8	6.8	6.7	6.6	6.4	5.9	6.0
Emerging and Developing Europe	4.4	5.8	3.0	3.1	1.9	0.8	1.8	3.9	3.1	1.8	2.5
Latin America and the Caribbean	3.2	4.6	2.9	2.9	1.3	0.3	-0.6	1.2	1.0	0.2	2.7
Middle East and Central Asia	5.3	4.6	4.9	3.0	3.1	2.6	5.0	2.3	1.9	0.9	3.3
Sub-Saharan Africa	5.9	5.3	4.7	5.2	5.1	3.1	1.4	3.0	3.2	3.2	4.2
Analytical Groups											
By Source of Export Earnings											
Fuel	5.5	5.2	5.0	2.6	2.2	0.3	2.2	0.9	0.8	-0.3	2.1
Nonfuel	6.4	6.7	5.4	5.7	5.3	5.2	5.1	5.6	5.3	4.7	5.3
Of Which, Primary Products	4.2	4.9	2.5	4.1	2.2	2.9	1.7	2.8	1.8	1.2	2.4
By External Financing Source											
Net Debtor Economies	5.1	5.3	4.4	4.7	4.5	4.1	4.1	4.8	4.6	4.0	4.6
Net Debtor Economies by Debt-Servicing Experience											
Economies with Arrears and/or Rescheduling during 2014–18	5.0	2.5	1.9	3.0	2.0	0.4	2.3	2.8	3.4	3.4	4.8
Other Groups											
European Union	1.6	1.8	-0.4	0.3	1.9	2.5	2.1	2.8	2.2	1.5	1.6
Low-Income Developing Countries	6.5	5.3	4.7	6.0	6.0	4.5	3.6	4.7	5.0	5.0	5.5
Middle East and North Africa	5.0	4.4	4.9	2.4	2.7	2.4	5.4	1.8	1.1	0.1	2.7
Memorandum											
Median Growth Rate											
Advanced Economies	2.2	1.9	1.0	1.4	2.5	2.2	2.4	3.0	2.7	1.8	1.7
Emerging Market and Developing Economies	4.6	4.7	4.2	4.1	3.8	3.3	3.2	3.5	3.5	3.2	3.5
Low-Income Developing Countries	5.3	6.0	5.1	5.2	5.4	3.9	4.2	4.5	4.0	5.0	4.8
Output per Capita³											
Advanced Economies	1.1	1.2	0.7	0.9	1.6	1.8	1.2	2.0	1.8	1.3	1.2
Emerging Market and Developing Economies	4.6	4.8	3.6	3.6	3.2	2.8	3.1	3.3	3.2	2.5	3.5
Low-Income Developing Countries	3.8	3.6	1.7	3.6	3.7	1.9	1.2	2.4	2.8	2.7	3.2
World Growth Rate Based on Market Exchange Rates	2.6	3.1	2.5	2.6	2.8	2.8	2.6	3.2	3.1	2.5	2.9
Value of World Output (billions of US dollars)											
At Market Exchange Rates	49,881	73,312	74,690	76,842	78,944	74,779	75,824	80,262	84,930	86,599	90,520
At Purchasing Power Parities	70,721	95,143	100,020	105,216	110,903	115,799	120,832	127,703	135,436	141,860	149,534
											111,569

¹Real GDP.

²Excludes the United States, euro area countries, and Japan.

³Output per capita is in international currency at purchasing power parity.

Appendix - Global GDP Growth



Trade War continues to affect the global economy

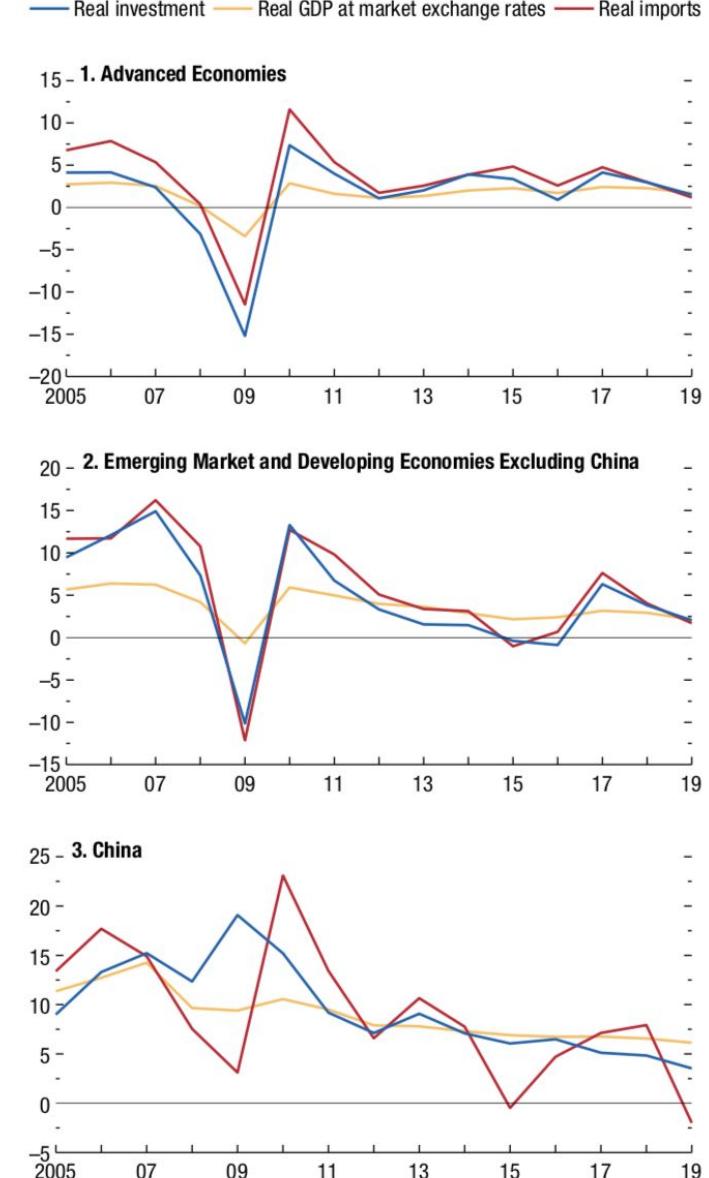
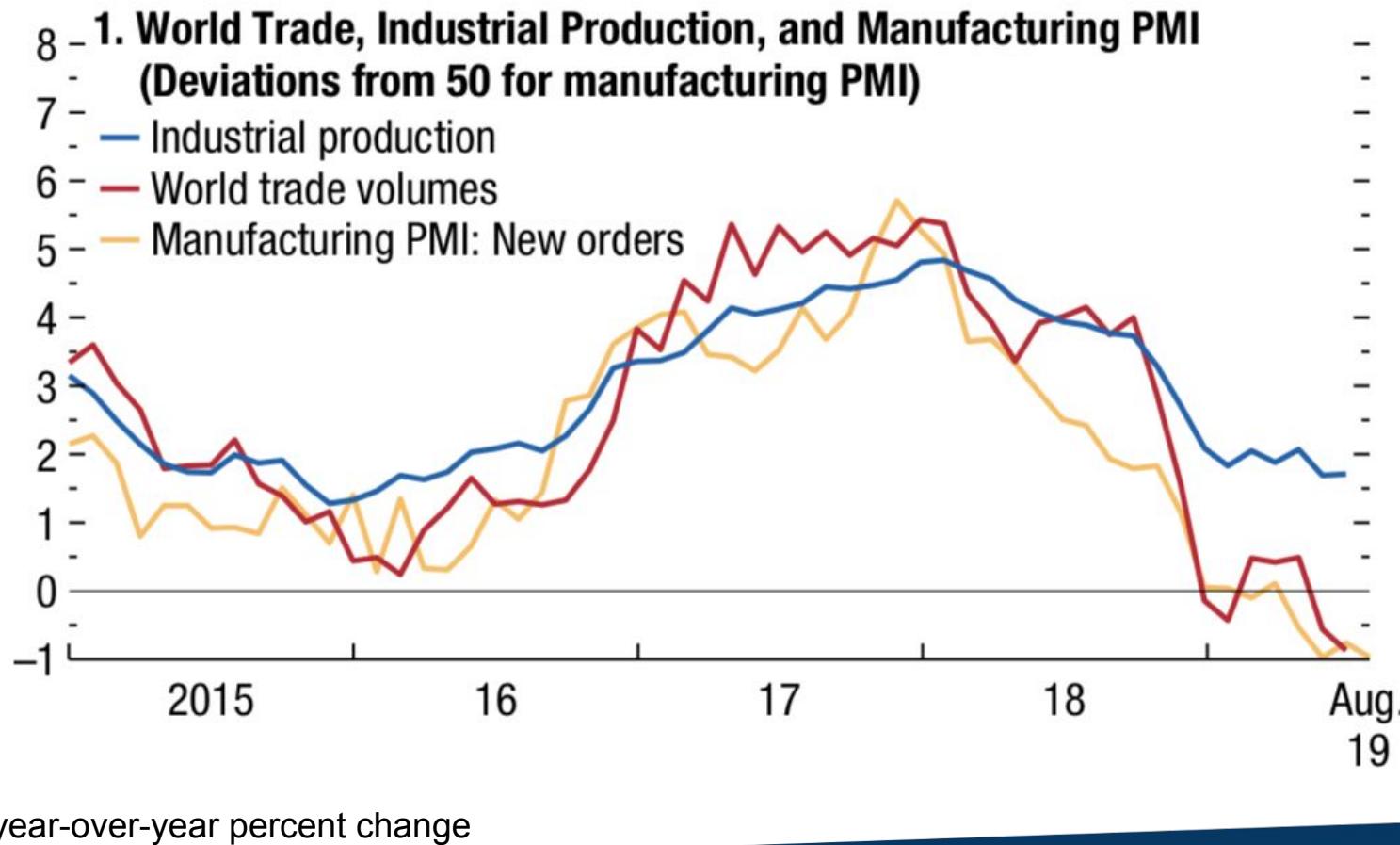
IMF lowered projections for 2020 GDP by 0.3% in October from earlier April Outlook.

World Bank also lowered projections for 2020 GDP by 0.3% in June from earlier January Outlook

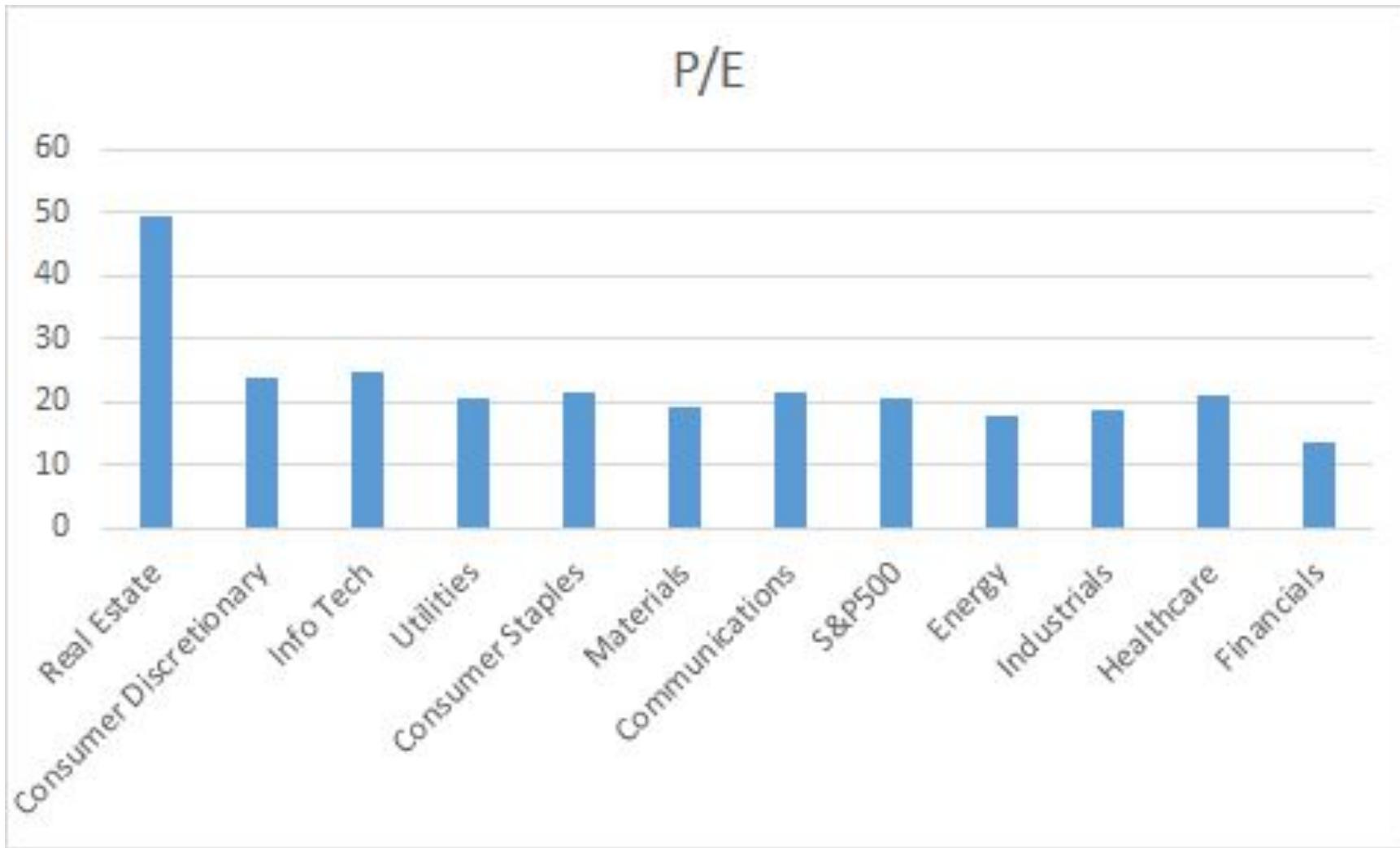
Global investment slowed in 2019, in line with reduced import growth.

Appendix - Trade War

Over the past 12 months there has been a geographically broad-based, notable slowdown in industrial output.



Appendix - Sector P/E's

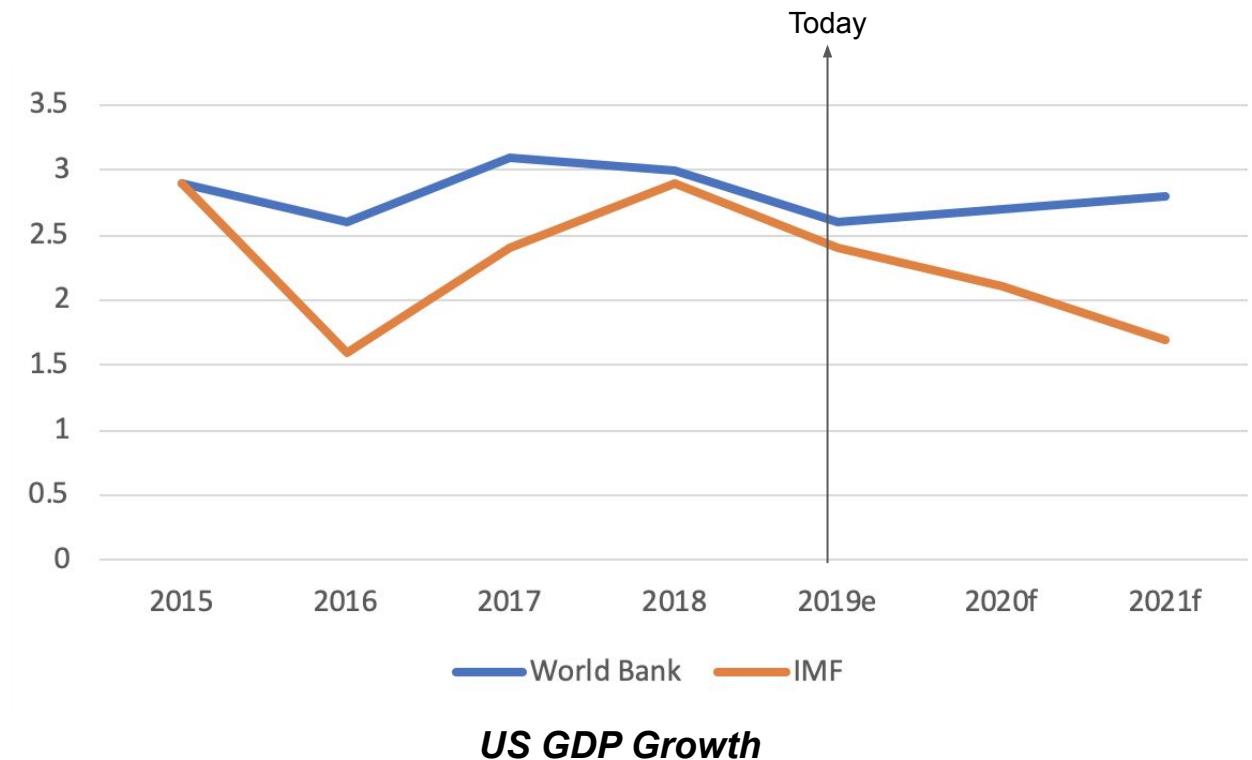


Appendix - Below Consensus

3 Major Reasons:

- Trending decline in GDP Growth Rate
- NY, STL, and ATL Fed forecast real time basis expected GDP for current quarter, trending at about 1.25%-1.3%
- given 2% last quarter we think it will go below this.

Our Conclusion: Global GDP Growth will not bounce back as soon as we think



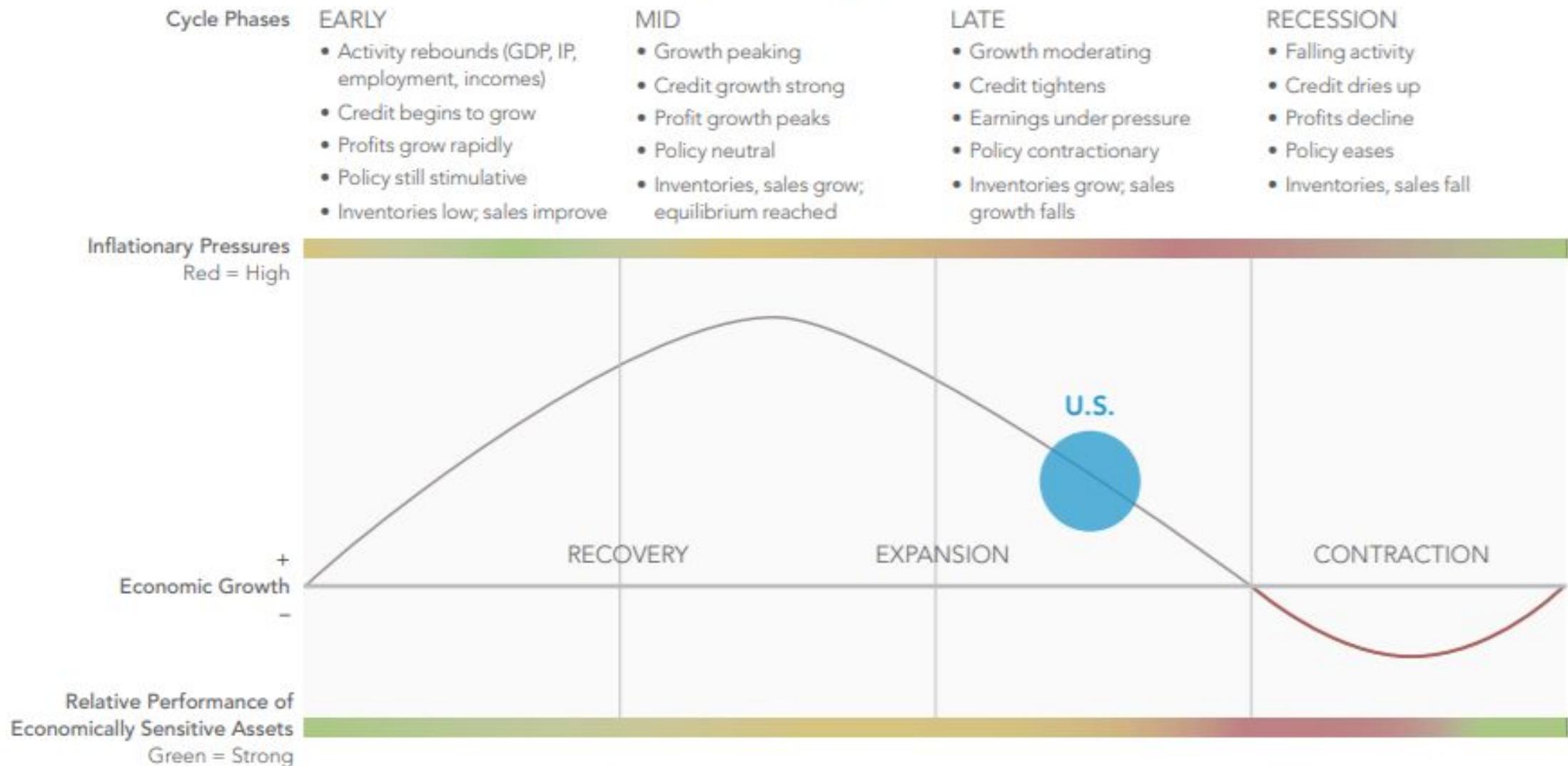
Appendix - Asset Class Outlook

Asset Class	Beta Index	Historical Return (15Y)	Standard Deviation
Cash	T-Bill	1.31%	.48%
U.S Fixed Income	AGG	4.33%	3.20%
U.S Equities	R3000	9.61%	14.41%
Emerging Markets	M1EF	9.23%	21.53%
Developed Markets	M1EA	5.65%	16.53%

Appendix - Fixed Income Table

	Ticker	Weight	Name	AUM	Expense Ratio	Credit Rating	Managers
ST Treasury	SCHO	25%	Schwab Short Term Treasury ETF	\$5.18B	0.06%	AAA	Matthew Hastings (9 yrs 1 mth) Mark McKissick (2 yrs 5 mths)
LT Treasury	SPTL	15%	SPDR Portfolio Long Term Treasury Bond ETF	\$1.87B	0.06%	AAA	Joanna Madden (4 yrs 11 mths) Cynthia Moy (2 yrs 11 mths) Orhan Imer (1 yr 11 mths)
ST Corp	IGSB	15%	iShares Short Term Corporate Bond ETF	\$13.21B	0.06%	A	Scott Radell (9 yrs 3 mths) James Muro (8 yrs 3 mths)
LT Corp	SPLB	30%	SPDR Portfolio Long Term Corporate Bond ETF	\$660.07M	0.07%	BBB	Kyre Kelly (6 yrs 11 mths) Christopher DiStefano (4 yrs 11 mths) Frank Miethe (2 yrs 11 mths)
High Yield	JPHY	15%	JP Morgan High Yield Research Enhanced ETF	\$163.32M	0.24%	B	Bill Morgan (3 yrs) James P Shanahan Jr (3 yrs)

The business cycle has four distinct phases. The U.S. is firmly in the late cycle as of 2019.



Novy-Marx Paper Additional Information

- Novy-Marx analysis range (1963-2009)
- Paper published in National Bureau of Economic Research in 2010
- Profitable firms less prone to distress
- Profitability strategies generate value-like average excess returns
 - Despite being a growth strategy
 - Provides hedge for value
- Gross profitability has power predicting long term growth in :
 - gross profits
 - earnings
 - free cashflows