El Camino Health

AGENDA
INVESTMENT COMMITTEE OF THE EL CAMINO HOSPITAL BOARD OF DIRECTORS

Monday, February 10, 2020 – 5:30 pm
El Camino Hospital | Conference Room A (ground floor)
2500 Grant Road Mountain View, CA 94040

Jack Po will be participating via teleconference from 901 Massachusetts Ave NW, Washington, DC 20001.

PURPOSE: To develop and recommend to the El Camino Hospital Board of Directors the organization's investment policies, maintain current knowledge of the management and investment of the invested funds of the hospital and its pension plan(s), provide guidance to management in its investment management role, and provide oversight of the allocation of the investment assets.

	AGENDA ITEM	PRESENTED BY		ESTIMATED TIMES
1.	**CALL TO ORDER / ROLL CALL**	Gary Kalbach, Chair		**5:30 – 5:31**
2.	**POTENTIAL CONFLICT OF INTEREST DISCLOSURES**	Gary Kalbach, Chair		**information** **5:31 – 5:32**
3.	**PUBLIC COMMUNICATION** a. Oral Comments *This opportunity is provided for persons in the audience to make a brief statement, not to exceed three (3) minutes on issues or concerns not covered by the agenda.* b. Written Correspondence	Gary Kalbach, Chair		**information** **5:32 – 5:35**
4.	**CONSENT CALENDAR** *Any Committee Member may remove an item for discussion before a motion is made.* ***Approval*** a. Minutes of the Open Session of the Investment Committee Meeting (11/11/2019) b. Minutes of the Open Session of the Joint Special Meeting of the Finance and Investment Committee (01/27/2020) ***Information*** c. Article of Interest d. CFO Report Out – Open Session FC Materials e. Progress Against FY20 IC Goals f. FY20 Pacing Plan	Gary Kalbach, Chair	*public comment*	**motion required** **5:35 – 5:38**
5.	**REPORT ON BOARD ACTIONS** **ATTACHMENT 5**	Gary Kalbach, Chair		**information** **5:38 – 5:43**
6.	**ROTATING TOPICS** a. Capital Markets Review and Portfolio Performance b. Tactical Asset Allocation Positioning and Market Outlook	Antonio DiCosola and Chris Kuhlman, Pavilion, a Mercer Practice		**information** **5:43 – 6:42**
7.	**PROPOSED FY21 GOALS/ PACING/MEETING DATES** **ATTACHMENT 7**	Iftikhar Hussain, CFO	*public comment*	**possible motion** **6:42 – 7:02**
8.	**ADJOURN TO CLOSED SESSION**	Gary Kalbach, Chair	*public comment*	**motion required** **7:02 – 7:03**

A copy of the agenda for the Regular Meeting will be posted and distributed at least seventy-two (72) hours prior to the meeting. In observance of the Americans with Disabilities Act, please notify us at 650-988-7504 prior to the meeting so that we may provide the agenda in alternative formats or make disability-related modifications and accommodations.

	AGENDA ITEM	PRESENTED BY		ESTIMATED TIMES
9.	**POTENTIAL CONFLICT OF INTEREST DISCLOSURES**	Gary Kalbach, Chair		**information** **7:03 – 7:04**
10.	**CONSENT CALENDAR** *Any Committee Member may remove an item for discussion before a motion is made.* ***Approval*** *Gov't Code Section 54957.2*: a. Minutes of the Closed Session of the Investment Committee Meeting (11/11/2019) b. Minutes of the Closed Session of the Joint Finance and Investment Committee Meeting (01/27/2020)	Gary Kalbach, Chair		**motion required** **7:04 – 7:06**
11.	**ADJOURN TO OPEN SESSION**	Gary Kalbach, Chair		**motion required** **7:06 – 7:07**
12.	**RECONVENE OPEN SESSION / REPORT OUT**	Gary Kalbach, Chair		**information** **7:07 – 7:08**
	To report any required disclosures regarding permissible actions taken during Closed Session.			
13.	**ADJOURNMENT**	Gary Kalbach, Chair	*public comment*	**motion required** **7:08 – 7:09**

Upcoming Meetings:

Regular Meetings: May 11, 2020
Education Sessions: April 22, 2020

El Camino Health

Minutes of the Open Session
of the Investment Committee
of the El Camino Hospital Board of Directors
Monday, November 11, 2019
El Camino Hospital | Conference Room A (ground floor)
2500 Grant Road, Mountain View, CA 94040

Members Present
John Conover
Gary Kalbach, Chair
Julia E. Miller
Brooks Nelson
Jack Po, MD, PhD**

Members Absent
Nicola Boone, Vice Chair

**via teleconference

Agenda Item	Comments/Discussion	Approvals/ Action
1. CALL TO ORDER/ ROLL CALL	The open session meeting of the Investment Committee of El Camino Hospital (the "Committee") was called to order at 5:30pm by Chair Gary Kalbach. A verbal roll call was taken. Committee member Jack Po, MD, PhD joined the meeting via teleconference at 6:00pm during agenda item 6 and Nicola Boone was absent. All other Committee members were present at roll call.	
2. POTENTIAL CONFLICT OF INTEREST DISCLOSURES	Chair Kalbach asked if any Committee members had a conflict of interest with any of the items on the agenda. No conflicts were noted.	
3. PUBLIC COMMUNICATION	None.	
4. CONSENT CALENDAR	Chair Kalbach asked if any member of the Committee or the public wished to remove an item from the consent calendar. No items were removed. **Motion:** To approve the consent calendar: Minutes of the Open Session of the Investment Committee Meeting (8/12/2019); Minutes of the Open Session of the Joint Special Meeting of the Finance and Investment Committees (10/21/2019); and for information: FY20 Pacing Plan; CFO Report Out – Open Session Finance Committee Materials; Progress Against FY20 IC Goals. **Movant:** Nelson **Second:** Conover **Ayes:** Conover, Kalbach, Miller, Nelson **Noes:** None **Abstentions:** None **Absent:** Boone, Po **Recused:** None	***Consent calendar approved***
5. REPORT ON BOARD ACTIONS	Chair Kalbach referred to the recent Board approvals as further detailed in the packet. Cindy Murphy, Director of Governance Services, reported that the Board approved Resolution 2019-12 Authorizing Forward Starting Interest Rate Hedge at its November 6, 2019 meeting.	
6. ROTATING TOPICS	**Capital Markets Review and Portfolio Performance & Tactical Asset Allocation Positioning and Market Outlooks** Antonio DiCosola and Chris Kuhlman from Pavilion, a Mercer Practice, reported the following: As a follow up to the last meeting, Mr. Kuhlman reported that there is some ability to screen companies involved in the manufacture of opioids	

from ECH's investment portfolio. He explained that, specific to the El Camino Surplus Cash Total Equity Composite, companies involved in the manufacture, distribution or retail sale of opioids represent ~1.5% of the $422 million as of June 30, 2019 and the exposure is primarily in the Vanguard S&P 500 mutual fund, which securities cannot be screened. He also reported that two securities, Johnson & Johnson and CVS Health Corp, are separate account holdings that could be screened and they account for 0.4% of the Surplus Cash Total Equity Composite. He also noted that the international and emerging markets equity mutual funds have no exposure.

The Committee members discussed whether the Committee should recommend a revision to the Investment Policy that would require screening of these types of investments. Mr. Conover commented that it would be important not only to consider the percentage of ECH's portfolio invested in these types of companies, but also to consider the percentage of the company's revenue that is attributed to opioid manufacture, distribution or retail sale. Chair Kalbach commented that he would take a report to the Board in December and bring back information to the Committee at its next meeting regarding the Board's interest in screening these types of investments.

Mr. Kuhlman agreed to follow up at the next meeting about the operations (percentage of the company's revenue that is attributed to opioid, manufacture, distribution or retail sale) of Johnson and Johnson and CVS Health Corp.

Next, Mr. Kuhlman reviewed the Performance Summary for Q3 CY 2019 noting that U.S. large-cap equities and fixed income were strong performers, and explained that the drop in interest rates has been beneficial to fixed income. He also reported the main performance drivers continue to be a slowdown in global growth, dropping interest rates and geopolitical uncertainty. Moving to the Investment Scorecard Mr. DiCosola reported that the Cash Balance Plan is down 40 basis points and the Surplus Cash Fund is up 20 basis points for the quarter in relation to their respective benchmarks, but both continue to perform better than benchmark since inception. Mr. Kuhlman reviewed the Manager Asset Allocation and Performance. The Committee members discussed the volatility associated with Sands Large Cap Growth (Touchstone) and concluded that they should reassess if the tracking error is worth the return profile.

Mr. DiCosola reviewed the asset class diversification with the Committee, noting that global growth is holding a positive but falling trend with manufacturing broadly contracting and services remaining in expansion. He also noted that the US/China trade war escalation spurred a flight to quality across markets and pushed the 30-year Treasury yield to all-time lows. In response to questions from the Committee, Mr. DiCosola reported that one can't draw any conclusion about what effect impeachment of the U.S. President might have on the financial markets.

In response to Mr. Conover's question about investment in dividend paying companies, Mr. DiCosola indicated they would bring back information to support a discussion about that at the Committee's next meeting. There was also some discussion about the positive impact of the current full employment on the market.

Mr. DiCosola reported that the Direct Hedge Fund Portfolio has been a

	very positive performer in Q3 returning a positive 1.4%.	
7. INVESTMENT POLICY REVIEW	Iftikhar Hussain, CFO recommended no change to the Investment Policy at this time, pending the Board's discussion about investing in companies involved in the manufacture, distribution or retail sale of opioids at the December 11, 2019 meeting.	
8. ADJOURN TO CLOSED SESSION	**Motion:** To adjourn to closed session at 6:29pm. **Movant:** Conover **Second:** Nelson **Ayes:** Conover, Kalbach, Miller, Nelson **Noes:** None **Abstentions:** **Absent:** Boone **Recused:** None Dr. Po was listening on the telephone conference but the rest of the Committee was not able to hear him and his vote, if any, was not counted.	***Adjourned to closed session at 6:29pm***
9. AGENDA ITEM 12: RECONVENE OPEN SESSION/ REPORT OUT	Open session was reconvened at 6:30pm. Agenda items 9-11 were addressed in closed session. During the closed session, the Committee approved the Minutes of the Closed Session of the Investment Committee Meeting (8/12/2019) by a unanimous vote in favor of all members present (Conover, Kalbach, Miller, Nelson. Dr. Po was listening on the telephone conference but the rest of the Committee was not able to hear him and his vote, if any, was not counted).	
10. AGENDA ITEM 13: ADJOURNMENT	**Motion**: To adjourn at 6:30pm. **Movant:** Nelson **Second:** Conover **Ayes:** Conover, Kalbach, Miller, Nelson **Noes:** None **Abstentions:** None **Absent:** Boone **Recused:** None Dr. Po was listening on the telephone conference but the rest of the Committee was not able to hear him and his vote, if any, was not counted	***Meeting adjourned at 6:30pm***

Attest as to the approval of the foregoing minutes by the Investment Committee of El Camino Hospital.

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Gary Kalbach
Chair, Investment Committee

El Camino Health

Minutes of the Open Session of the Joint Meeting
of the Finance Committee and the Investment Committee
of the El Camino Hospital Board of Directors
Monday, January 27, 2020
El Camino Hospital | Conference Room A&B
2500 Grant Road, Mountain View, CA 94040

Members Present

Finance Committee
John Zoglin, Chair
Gary Kalbach
Don Watters
Joseph Chow
Boyd Faust**
Richard Juelis

Investment Committee
Gary Kalbach, Chair
Julia E. Miller
Jack Po, MD
Nicola Boone
John Conover
Brooks Nelson

Members Absent

**via teleconference

Agenda Item	Comments/Discussion	Approvals/ Action
1. CALL TO ORDER/ ROLL CALL	The open session of the Joint Meeting of the Finance Committee and Investment Committee of El Camino Hospital was called to order at 5:30pm by Finance Committee Chair John Zoglin. Roll call was taken. Boyd Faust participated via teleconference. Allother members were present.	
2. POTENTIAL CONFLICT OF INTEREST	Chair Zoglin asked if any Committee members had a conflict of interest with any of the items on the agenda. No conflicts were reported.	
3. PUBLIC COMMUNICATION	There were no comments from the public.	
4. ADJOURN TO CLOSED SESSION	**Motion:** To adjourn to closed session at 5:33pm. **Movant:** Kalbach **Second:** Po **Ayes:** Zoglin, Watters, Chow, Faust, Juelis, Miller, Boone, Conover, Nelson, Kalbach, Po **Noes:** None **Abstentions:** None **Absent:** None **Recused:** None	***Adjourned to closed session at 5:33pm***
5. AGENDA ITEM 8: RECONVENE OPEN SESSION/ REPORT OUT	The open session reconvened at 6:22pm. Agenda Items 5-7 were covered in closed session. There were no actions taken in the closed session.	
6. AGENDA ITEM 9: CLOSING COMMENTS	None.	

7.	**AGENDA ITEM 10: ADJOURNMENT**	**Motion:** To adjourn at 6:22pm. **Movant:** Kalbach **Second:** Miller **Ayes:** Zoglin, Watters, Chow, Faust, Po, Juelis, Boone, Conover, Nelson, Kalbach, Miller **Noes:** None **Abstentions:** None **Absent:** None **Recused:** None	***Meeting adjourned at 6:22pm***

Attest as to the approval of the foregoing minutes by the Finance and Investment Committees of El Camino Hospital:

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John Zoglin
Chair, Finance Committee

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Gary Kalbach
Chair, Investment Committee

Eye on the Market Outlook 2020

J.P. MORGAN PRIVATE BANK

Ghosts of Christmas Past. After a very positive year for investors in 2019, we expect lower positive returns on financial assets in 2020 as some Ghosts of Christmas Past reappear. We don't expect a global or US recession, and anticipate a modest growth and profits rebound now that worst case trade outcomes may be avoided. Even so, high valuations, reduced effectiveness of monetary easing, the repricing of unprofitable companies and rising corporate cost pressures will likely constrain the equity market's advance. The two big risks that could cause problems for investors: (a) a spike in inflation that forces the Fed to make a U-turn on policy rates, and (b) a comprehensive progressive restructuring of the US economy after the 2020 election.

J.P.Morgan

Our *Ghosts of Christmas Past* cover

This year's cover depicts *Ghosts from Christmas Past*, all of whom have returned to either celebrate or bemoan some notable trends for the year 2020:

Franklin D. Roosevelt, the most progressive President of the 20th century who once proposed a 100% income tax and whose reforms shifted economic power from Wall Street to Washington, is celebrating the even more progressive proposals of Elizabeth Warren

Richard Nixon, who bullied Federal Reserve Chair Arthur Burns in the early 1970s into lowering policy rates through a series of trademark "dirty tricks" and false press reports, is enjoying the sight of Donald Trump doing some of the same to Fed Chair Jerome Powell. Policy rates net of inflation are once again around zero despite a growing economy at full employment

Henry VIII, who in 1533 made England a sovereign, independent nation not subject to externally imposed laws through *The Act in Restraint of Appeals*, is pleased about a possible Brexit. Henry is joined by Prime Minister **Margaret Thatcher**. In our reincarnation, we depict the Margaret Thatcher that raised concerns about a European superstate exercising dominance from Brussels, and who told biographer Charles Moore in her later years that Britain should leave the EU. While Boris Johnson's victory in December reduces some Brexit/referendum uncertainty, Conservatives maintain they will not soften Brexit terms and will not seek an extension at the end of 2020; whether the EU agrees is another matter entirely

Mao Zedong, who ruled Communist China from its establishment in 1949 until his death in 1976, is delighted to see Xi Jinping proclaimed "President for Life" as China scraps the two-term limit it had imposed on presidents since the 1980s. President Xi has cited Mao's "long march" struggle against the Kuomintang as precedent for China's current strategic conflict with the US, which indicates a limit to which China will compromise on mercantilist policies that it sees in its own self-interest

Herbert Hoover sees his reflection in Trump, who also imposes tariffs on imported goods and deports immigrants. After the recent Phase I deal, tariffs are still at the highest level in 40 years and could rise again depending on Chinese compliance. On immigration, Hoover's Administration launched the "American Jobs for Real Americans" campaign and reimbursed state and local governments for deportation measures. Hoover's deportations took place when unemployment was 15%-20% compared to 3.5% today

Charlemagne's reunited Western Roman Empire stretched from the English Channel to the Balkan Peninsula, but disintegrated shortly after his death in 814 A.D. in a series of civil wars. As a force for a united Europe, Charlemagne is unhappy to see the Eurozone project floundering yet again with low growth, trillions in negative yielding government debt, political fragmentation and limited progress on Federalism

The Pets.com Sock Puppet has become a metaphor for the dot.com era: In 1999, Pets.com made $620K in revenue and had operating losses of $20 million, since it was selling merchandise for roughly one-third of what it cost the company to buy it. The puppet is wagging his tail, since while we have not reached the excesses of the late 1990s, the share of US market capitalization and corporate spending from young, unprofitable companies is at its highest level since then. To bookend the Pets.com saga, SoftBank has now abandoned its investment in the dog-walking app Wag, which it had valued at over $600 million

MARY CALLAHAN ERDOES
Chief Executive Officer
J.P. Morgan Asset & Wealth Management

As we welcome a new year and a new decade, I want to thank you for the continued trust and confidence you place in J.P. Morgan. We are indeed privileged to serve as your trusted advisor.

For the past 17 years, my investment partner Michael Cembalest has thoughtfully shared market insights to take into the coming year. It's always an enlightening and entertaining read, and this year is no different. In "**Ghosts of Christmas Past**," Michael and his team discuss their expectations for another year of global expansion, but also take a close look at how Fed policy and a possible progressive overhaul of the U.S. economy could affect global growth and investment portfolios.

As always, helping you better position your portfolios for the future is our top priority. We hope you enjoy this piece and we wish you good health, happiness and success in the coming year.

Most sincerely,

Mary C. Erdoes

Ghosts of Christmas Past

January 1, 2020

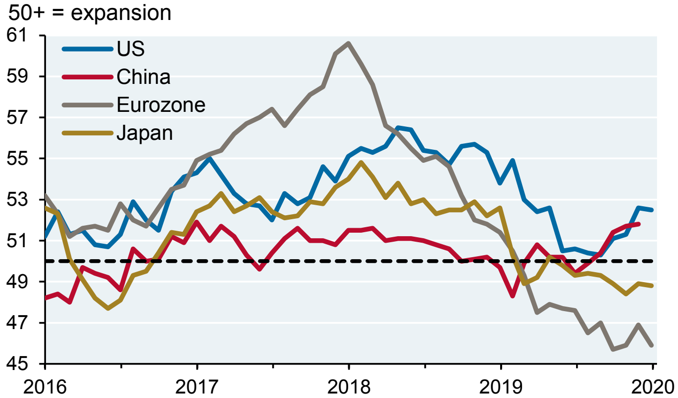
Executive Summary

Now that worst case trade war outcomes *look* like they will be avoided[1], we feel a bit better about the global economic outlook for 2020. Our best estimate is that tariffs and other trade sanctions reduced 2019 S&P 500 earnings growth potential by 7%-8%, and were the primary factors driving global growth from its 4.1% peak in early 2018 to 2.9% by Q3 2019. The charts below show the trade war impact not just on trade itself, but also on global manufacturing, corporate earnings, and capital spending.

What's interesting about the US-China trade war: as shown in the first chart, Europe and Japan bore the harsher brunt of it, given their greater reliance on exports and precarious growth trends in the first place. While there wasn't a *GDP growth* recession last year, there was an *earnings* recession in the US, Europe and Japan. While we expect earnings to rebound in 2020, that's priced into most equity markets.

Regional manufacturing business surveys

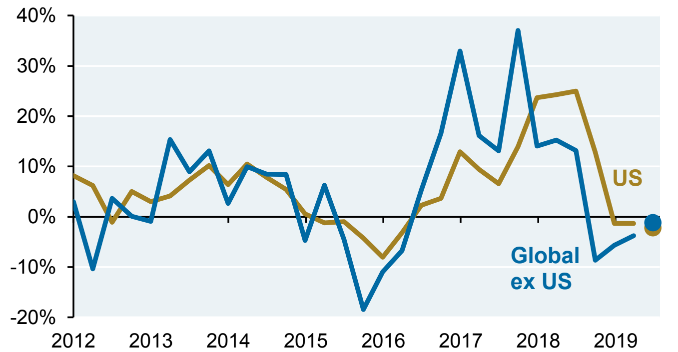
50+ = expansion



Source: Markit PMI. December 2019.

Global and US corporate earnings

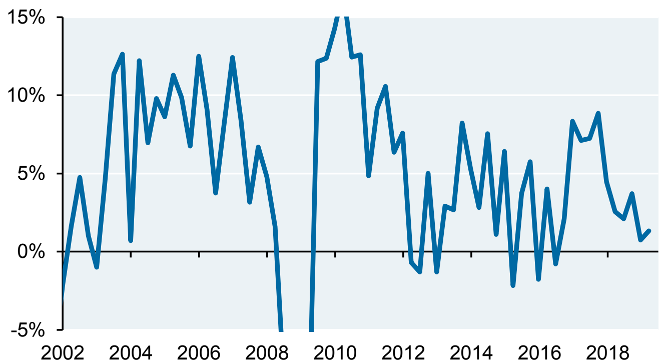
y/y %, quarterly earnings growth excluding buybacks



Source: Factset, Morgan Stanley. MSCI ACWI ex US & S&P500. Dec 16 '19.

Global capital spending stuck in neutral

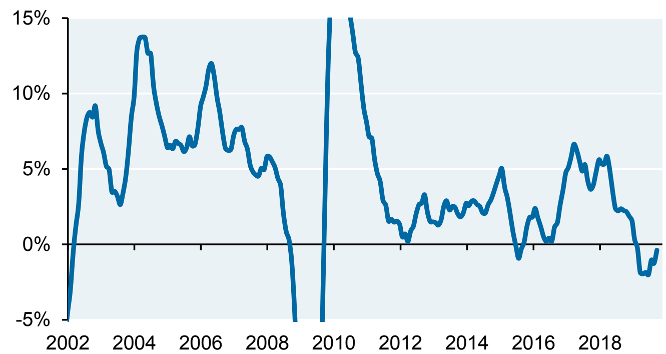
q/q %, seasonally adjusted annual rate



Source: J.P. Morgan Global Economic Research. Q2 2019.

Trade stagnating after 50 years of globalization

6m/6m %, seasonally adjusted annual rate



Source: Netherlands Bureau for Economic Policy Analysis. October 2019.

[1] There's still plenty of **uncertainty** about exactly what was agreed to and whether the two sides will agree on enforcement provisions, creating risks that the Trade War reignites again in 2020. See footnote on page 7.

We expect a modest growth and profits rebound in 2020 (outside of Japan[2]), in part due to a surge in coordinated central bank easing which typically leads to a manufacturing boost 7-9 months later. Emerging Market central banks are an important part of this process. EM inflation has reached an all-time low of 3.5%-4.0% (down from 10% in the late 1990's and 6% over the last decade), indicating that EM central banks have more room to ease if necessary. A modest upturn in global new orders combined with a decline in the inventory overhang suggests improved growth in 2020, and as shown on the prior page, manufacturing surveys are already picking up in the US and China.

We expect 5%-7% earnings growth in the US in 2020; this number would be higher, but is dragged down by the energy sector and by problems at Boeing. We expect roughly the same earnings growth in Europe, although we do not expect a substantial narrowing of the performance gap between the two regions (see page 13 for more on the remarkable outperformance of US equities vs developed markets).

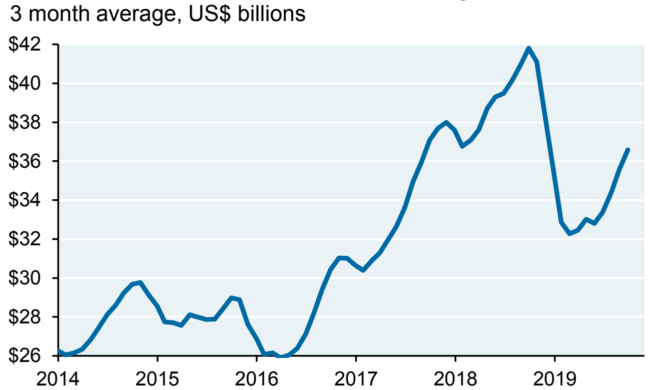
Central banks rate cuts lead global manufacturing
50+ = expansion

Source: Country Central Banks, Markit PMI, Bloomberg. November 2019.

Rising new orders and falling inventory overhang point to 2020 rebound, Business surveys, 50+ = expansion

Source: Markit PMI. November 2019.

Global semiconductor sales recovering
3 month average, US$ billions



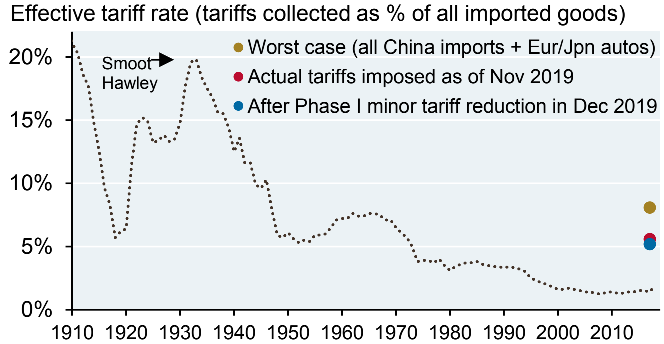
Source: Semiconductor Industry Association. October 2019.

[2] The positive turn in leading indicators does not extend to **Japan** given rising risks of recession. Japan's economy may shrink by 2.5% in Q4 2019, and October retail sales fell by -7.1% y/y after a sales tax hike. The Tankan manufacturing report fell to its lowest level in 6 ½ years, and service sector surveys are now falling as well.

However, even after the US/China Phase I deal, trade and investment barriers remain:

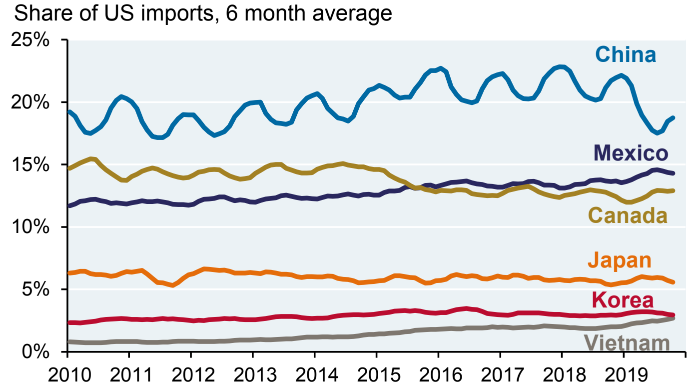
- The US Dep't of Commerce is preparing to release its **entity restriction list** and product export rules that involve limits on export of "emerging and foundational technologies". The scope of these rules will affect tech, industrials, agribusiness, etc, narrowing the range of permissible trade and investment. Bottom line: while US-China *trade* flows may normalize, bilateral foreign direct *investment* might not
- China is ramping up security regulations on hardware, software and data. China is also increasing domestic content requirements, and has passed a **Cryptography Law** which reportedly bans virtual private networks (all company email and data transfer will be required to use Chinese operated communication systems that are fully open to China's Cybersecurity Bureau)
- A November Senate report on China's "*Thousand Talents Plan*" detailed the resources it provides to Chinese researchers studying in the US (and funded by US taxpayers) who illicitly transfer intellectual property back to China[3]. These kinds of disclosures may create obstacles in future negotiations, which are already impacted by a growing understanding of China's extreme mercantilism (last chart)
- Trump may still impose penalties on $110 billion of US auto/parts imports from Europe and Japan (even though the deadline for imposing Section 232 tariffs has passed); the US is pursuing a Section 301 investigation against France for digital taxes, and may do the same against Italy, Turkey and Austria (see page 25); and there may be European retaliation for US tariffs on imported European goods (which the WTO approved as compensation for EU Airbus subsidies)

US tariff history and projections assuming no change in US import demand from targeted foreign exporters
Effective tariff rate (tariffs collected as % of all imported goods)



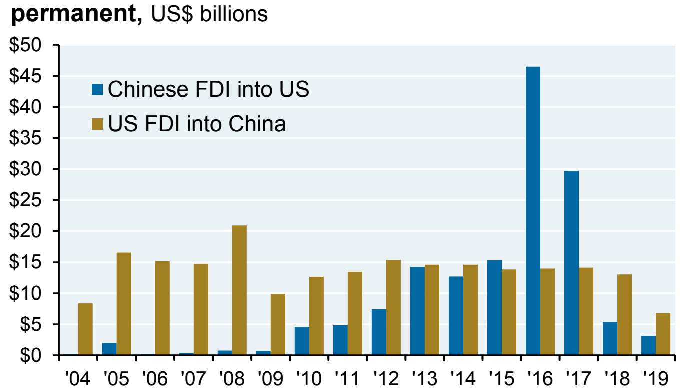
Source: Esteban Ortiz-Ospina and Max Roser "International Trade", US International Trade Commission, USITC, US Census, JPMAM. Nov 2019.

Trade war impact on US import counterparties
Share of US imports, 6 month average



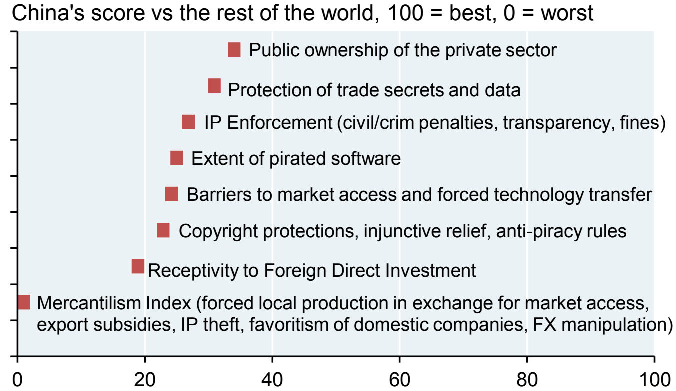
Source: US Census Bureau. October 2019.

Decline in bilateral foreign direct investment may be permanent, US$ billions



Source: Rhodium Group. 2019 data is YTD through Q2.

Points of dispute in the US-China trade war
China's score vs the rest of the world, 100 = best, 0 = worst

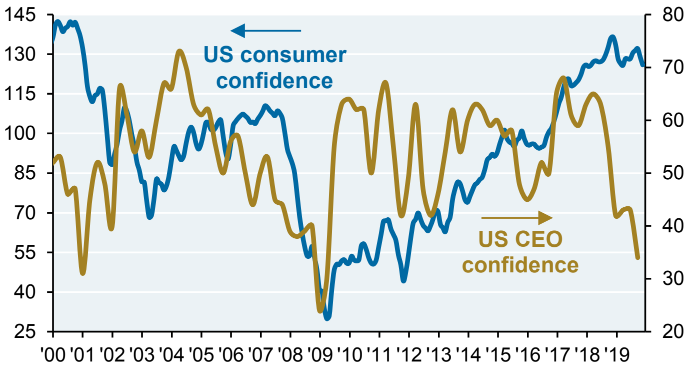


Sources: OECD, BSA, GIPC, ITIF, Fraser Institute, JPMAM. 2019.

[3] "*Threats to the U.S. Research Enterprise: China's Talent Recruitment Plans*", US Senate Subcommittee, November 2019. Examples include a US Dep't of Energy funded researcher that removed 30,000 electronic files from a national lab before leaving for China. Others took intellectual property and patent information to file similar patents in China.

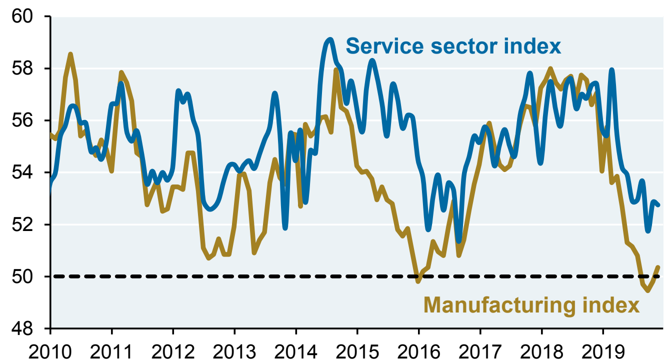
Part of our optimism for 2020 is based on the continued strength of the US consumer. US consumption is close to its highest share of global GDP since 2008 and consumers are still optimistic, in contrast to US CEOs. Part of the reason: while manufacturing is treading water, service sectors that make up a larger share of the economy are doing better. As shown on pages 9-10, most measures of US wages, labor markets, household debt, consumer delinquencies and housing look pretty healthy.

Consumer optimistic, CEOs retrenching
Index, 1985 = 100, 3m moving avg 50+ = positive outlook



Source: Conference Board. November 2019.

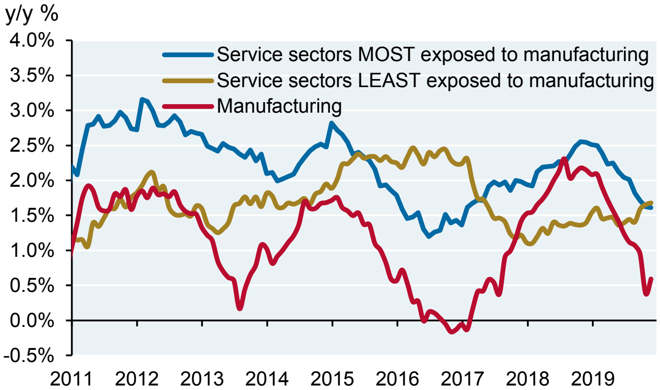
Services holding up better than manufacturing
50 += expansion



Source: Markit PMI, ISM PMI. November 2019.

It's clear from the data why Trump is looking for a way out of the trade war. US manufacturing employment growth weakened since the trade war began, and now service sector employment most exposed to manufacturing is slowing as well. With US growth temporarily boosted by unsustainable fiscal stimulus (i.e., largest budget deficit on record at a time of full employment), the Administration's trade war is arguably undercutting its own growth strategy fueled by tax cuts and deregulation.

Private employment growth by manufacturing exposure
y/y %

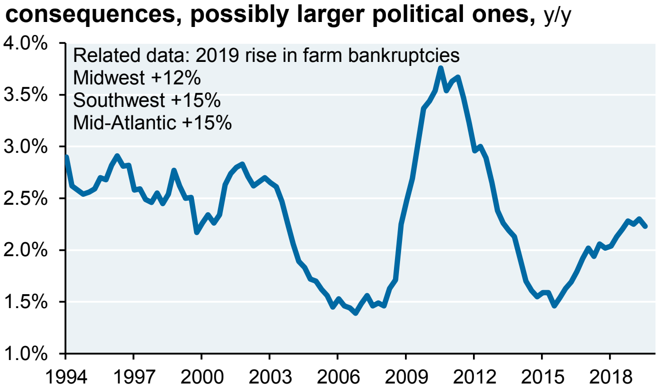


Source: J.P. Morgan Economic Research. November 2019.

Falling trucking employment: economic consequences, and possibly political ones as well, 6 month change, %

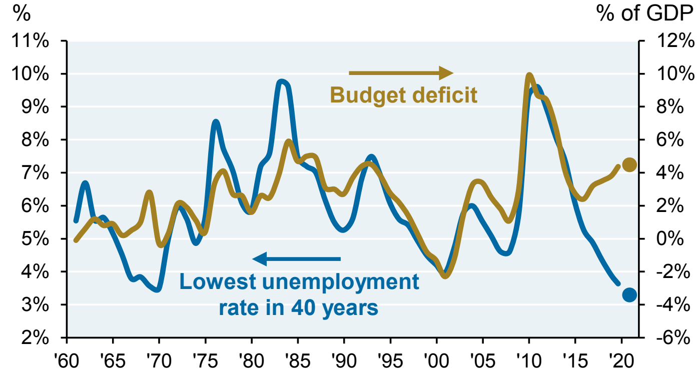
Source: Bureau of Labor Statistics. November 2019.

Rising farm loan delinquency rates: small economic consequences, possibly larger political ones, y/y



Source: Federal Reserve, US Farm Bureau. Q3 2019.

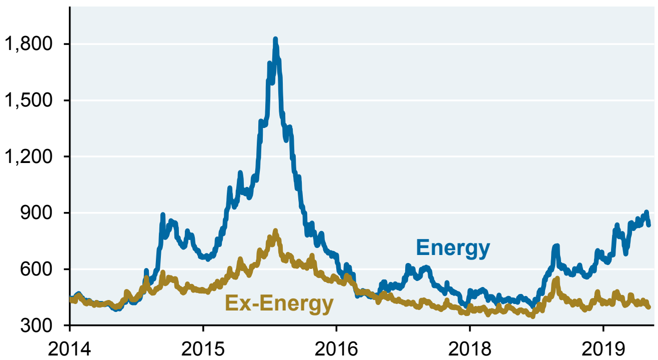
US unemployment rate and budget deficit decoupling
% % of GDP



Source: Bureau of Labor Statistics, US Treasury, J.P. Morgan Global Economic Research. Q3 2019. Dots are 2020 estimates.

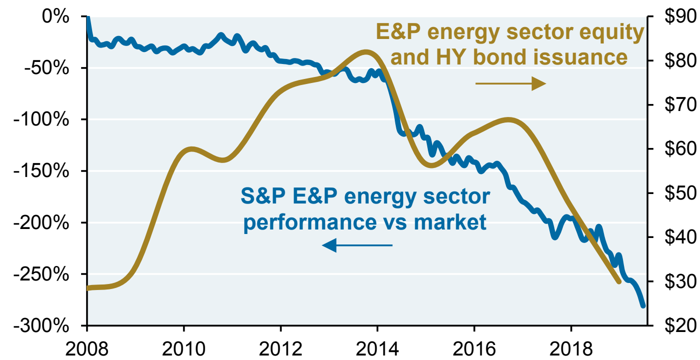
Another headwind for 2020: valuations are high, and we are starting to see cracks in risky and poorly underwritten investments. Valuations have been on the high side for a while given easy central bank money, but there are signs that investors are starting to be more discerning about risk and cash flow fundamentals. Example #1: energy. Credit spreads for energy companies are widening even as overall high yield spreads don't. Furthermore, after a decade of energy sector underperformance vs the overall market, there has been a collapse in energy-related debt and equity issuance.

US high yield spreads
Spread to worst



Source: Bloomberg, JPM HY Strategy team. December 11, 2019.

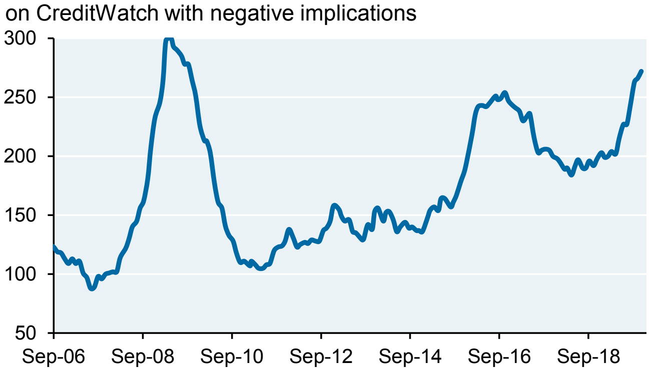
E&P sector relative performance and issuance
S&P 500 E&P energy sector - S&P 500 total return US$, billions



Source: Bloomberg. November 2019. Issuance data for 2019 annualized.

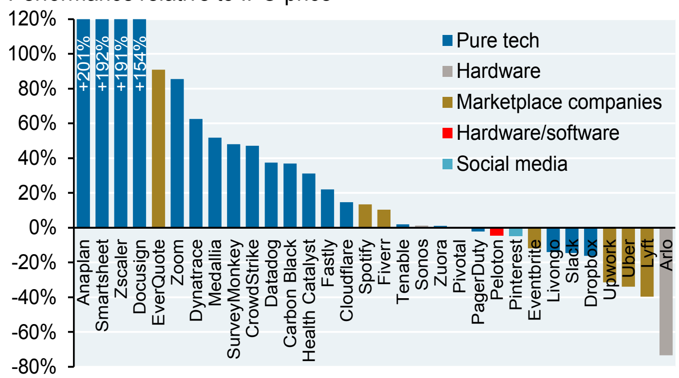
There has also been a spike in "weakest link" companies, which refers to companies rated B- or worse with negative outlooks (below, left). And as most investors are aware, some 2019 tech IPOs have been poor performers. However, as we discuss on page 26, this is mostly the case with IPOs of companies *claiming* to be technology firms but which lack some of their critical attributes.

A spike in weakest link companies
Number of issuers rated B- or lower with negative outlooks or ratings on CreditWatch with negative implications



Source: S&P Global Ratings Research. November 18, 2019.

***Real* tech IPOs are doing just fine**
Performance relative to IPO price



Source: J.P. Morgan Asset Management, Bloomberg. December 30, 2019.

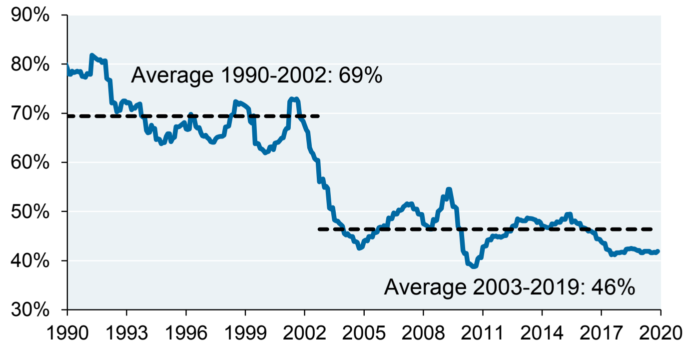
US equity valuation measures: high vs history. As shown in the table on the next page, most valuation measures are around the 90th percentile of historical expensiveness. These measures crept up during 2019, since the double-digit equity rally in 2019 was based **almost entirely on multiple expansion**, in contrast to the 2009-2018 period when the US equity rally was driven primarily by earnings growth. While we expect profits to rise modestly in 2020, gains may be limited due to rising labor, interest, depreciation and SG&A costs, all of which are trending higher relative to revenues.

Some research I see focuses on free cash flow yields, but the apparent cheapness of this measure is due to a **sharp decline in capital spending intensity** of US companies since 2008. If you were to measure free cash flow yield only since 2009, it looks just as expensive as the other measures.

S&P 500 valuation metric	Current	Historical percentile
US market cap / GDP	199%	99th
Enterprise value / Sales	2.5x	99th
Enterprise value / EBITDA	12.7x	93rd
Price / Book	3.6x	90th
Cyclically adjusted P/E	27.8x	89th
Forward P/E	18.4x	88th
Cash flow yield	7.2%	85th
Free cash flow yield	4.1%	53rd
S&P earnings yield - 10Y UST	362 bps	28th
Median metric		**89th**

Source: Goldman Sachs Investment Research. EBITDA = earnings before interest, tax, depreciation, and amortization. December 16, 2019.

Capital spending as % of cash flow from operations, US
S&P 500 ex financials

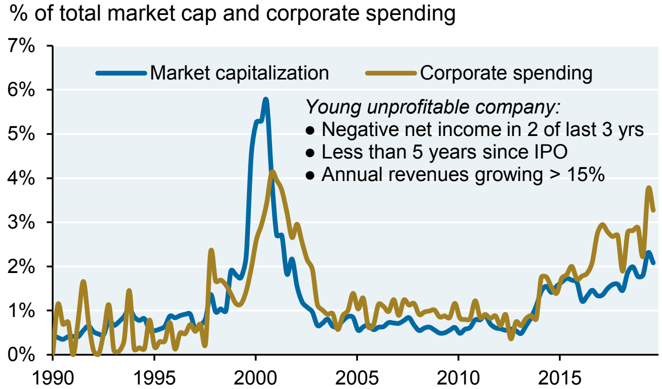


Source: Goldman Sachs Investment Research. November 2019.

Here's another measure worth watching which we discuss in more detail on page 26. There's a growing number of firms we refer to as **"YUCs": Young Unprofitable Companies**, which have negative net income, rapid sales growth and which have been around for less than 5 years. I don't think we will ever re-live the lunacy that took place at the end of the 1990's[4], but as shown below, some measures are getting there. The portion of US market capitalization made up of YUCs is around a third of the 2000 peak, and the YUC share of total corporate spending on SG&A, capital spending and R&D is even higher. If investors tire of financing the YUCs, consequences for growth and large cap tech profits could be material.

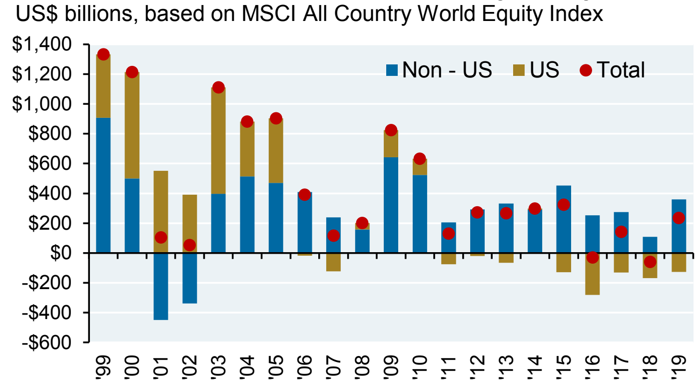
Nevertheless, the **slow pace of net US equity supply should mitigate the duration and downside of the next selloff**, whether it takes place with or without a US recession. As a reminder, after the 20% selloff that took place in December 2018, the S&P 500 staged its fastest bear-market recovery on record over the subsequent 100 days. As we discussed last November, the magnitude of the next selloff would have to be 35%-45% in order to validate the viral bearish predictions of the **Armageddonists**.

Young Unprofitable Companies
% of total market cap and corporate spending



Source: Factset, J.P. Morgan Asset Management. Q3 2019.

Unprecedented low levels of net US equity supply
US$ billions, based on MSCI All Country World Equity Index

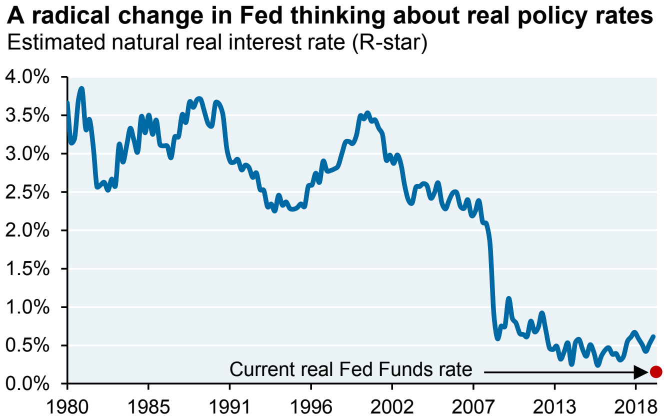


Source: JPM Global Markets Strategy Flows & Liquidity Report. Nov 2019.

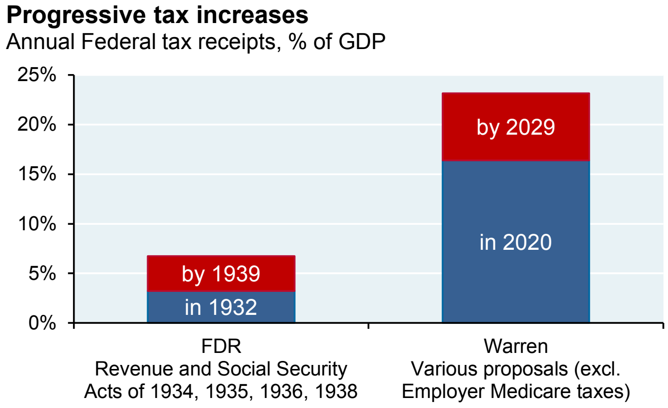
[4] At the end of the 1990's, the two CEOs of TheGlobe.Com were invited to speak at J.P. Morgan's internal Managing Director meeting, the first one I was invited to. I checked my Bloomberg terminal to see what the company did, and it said "**TheGlobe.Com has no publicly announced business model at this time**". I asked around and no one else had any idea what they did either. Their stock disintegrated over the next few months.

The big risks for 2020[5]. Based on what we've discussed so far, we believe that 2020 should offer investors another year of global expansion and 7%-10% returns in equity markets. But like Odysseus crossing the Strait of Messina, investors in 2020 face two substantial risks. In Homer's *Odyssey*, Odysseus had to survive both a Sea Monster (Scylla) and a giant whirlpool (Charybdis):

For investors, one 2020 peril is a pickup in US wage or price inflation that indicates that the Fed has made a serious mistake in cutting real rates to zero (again). The Fed's thinking on policy rates has undergone a massive shift since 2007, with current estimates of the natural real rate of interest at less than 1% (actual real policy rates are even below this level). The other peril: a progressive overhaul of the US economy after the election (bans on stock buybacks, increased corporate tax rates, sector-level collective bargaining, etc; see pages 22-24). The 2nd chart is one way to illustrate the breadth of the 2020 progressive agenda: Warren's tax increase proposals are roughly 2.5 times the level of FDR's tax increases that took place during the Great Depression, a time when US unemployment reached 22%.



Source: Laubach-Williams, Federal Reserve Bank of NY. Q3 2019.

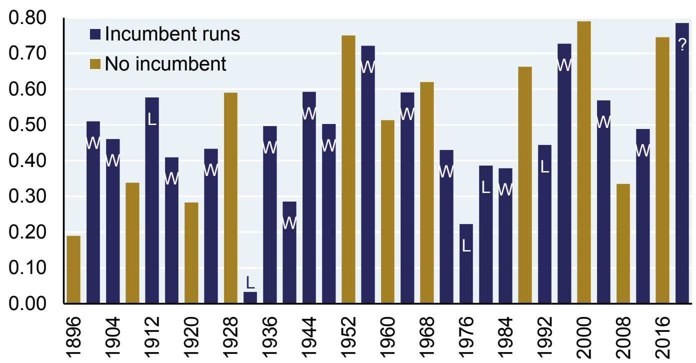


Sources: JPMAM, FRB (St Louis), NTU, CRFB, CBO. 2019.

[5] **Of course, a third big risk is that the Trade War reignites again**. US Trade Rep Robert Lighthizer and Vice Premier Liu He are expected to sign the Phase I trade agreement in early January. After that, we would not expect any more tariffs on China, and do not expect **material** tariffs or penalties on US auto/parts imports from Europe and Japan. However, some observers doubt that Chinese agricultural imports from the US will reach the $50 bn measure Trump cited (which is 2x the 2017 level). Furthermore, while Chinese officials confirmed the existence of a deal at a December press conference, they were not precise about commitments on agriculture purchases, market opening or structural reforms, emphasizing that the text still needed to be legally scrubbed and translated into Chinese. The tentativeness of the Phase I agreement is reinforced by how small Trump's tariff reduction was (see chart page 3).

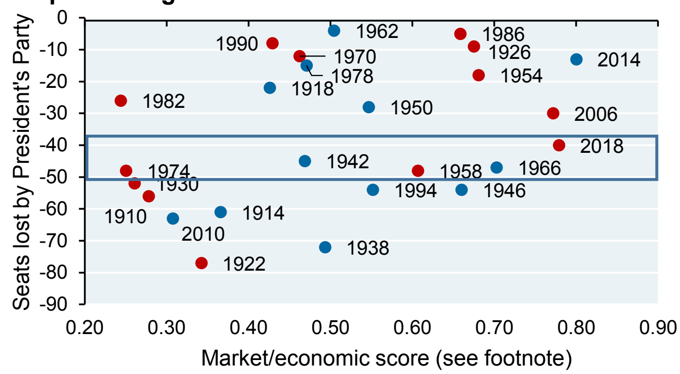
Assessing the big risks. On a US inflation surprise, we believe this is unlikely for the reasons discussed on pages 17-18. As for a progressive overhaul of the US economy, that will depend on the US electorate, and whether unorthodoxies and misdeeds of the President (chronicled in great detail elsewhere) offset a pretty strong US economy. The first chart below shows how current conditions[6] compare favorably for Trump as an incumbent compared to history. However, that didn't help Republicans much in the 2018 midterm elections, when the GOP lost 40 seats; that's a very large number given how positive economic and market conditions were at the time. There are clearly other factors driving the electorate right now.

2020: strongest election tailwinds since 1896
Market/economic score (see footnote)



Sources: J.P. Morgan Asset Management. 2019.

GOP lost a large number of House seats in 2018 midterms despite strong market and economic conditions



Source: J.P. Morgan Asset Management. 2019. Red=GOP, Blue = Dem.

In the remainder of the Outlook, we answer 10 questions we've been receiving from clients as we head into 2020.

1. Why don't I think there will be a US recession in 2020?
2. What are the greatest risks to investors in credit markets when the next recession occurs?
3. Why do US equity markets keep outperforming Europe and Japan?
4. How is China doing at a time of trade conflict, and what are implications for EM investors?
5. Why is US inflation dead?
6. What are negative interest rates doing to European banks?
7. Will value stocks ever stop underperforming growth?
8. What are the greatest risks to markets from a possible progressive overhaul of the US economy?
9. What is going on in US IPO markets?
10. What is the most interesting breakthrough I learned about in 2019?

Michael Cembalest
J.P. Morgan Asset Management

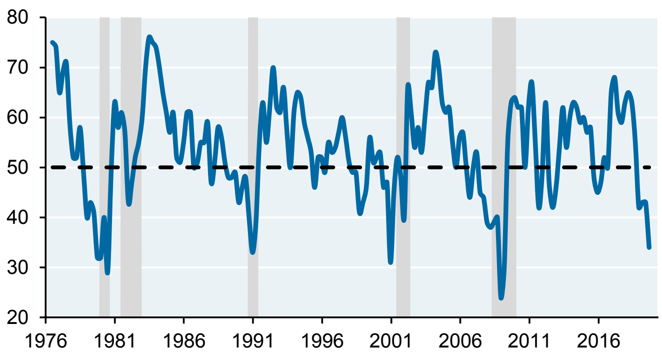
[6] Our US market and economic conditions score incorporates consumer price inflation, producer price inflation, unemployment level, change in unemployment, US per capita GDP vs the G10, equity market returns/volatility and home price appreciation. They were selected based on their availability since the late 1800's.

[1] Why don't I think there will be a US recession in 2020?

Most recessions occur due to Fed tightening in response to rising wage/price inflation, or due to a shock to financial conditions (debt/banking crisis, oil shock, global trade war, etc). On inflation, conditions outlined on pages 17-18 are likely to keep Fed tightening at bay for another year. After adjusting for structural changes in the US economy, the latest recession models now include business surveys like the PMI/ISM, core inflation, the shape of the yield curve out to 18 months, credit spreads and the private sector financial balance. **Using this approach, US recession probabilities out 12-24 months are ~25%.**

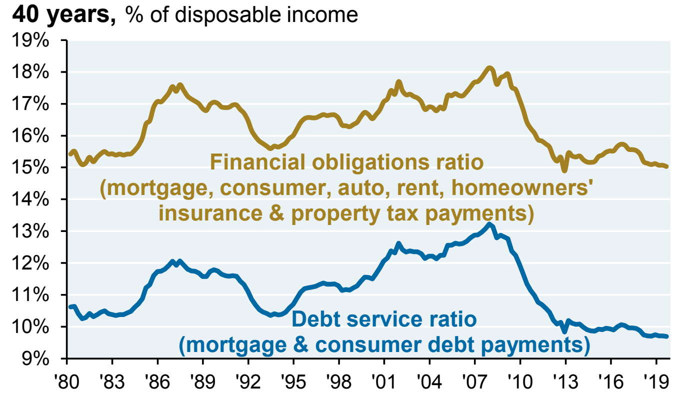
On systemic shocks, the trade war dented CEO confidence, and 67% of respondents to the September 2019 Duke CFO survey believe the US will be in recession by the end of 2020. However, the strength of US consumer balance sheets (lowest debt service obligations in 40 years) and in US labor markets (lowest unemployment in 50 years) offsets some weakness in manufacturing. While labor conditions are lagging indicators, the degree of strength suggests enough resilience to avoid recession due to the aftershocks of the trade war. So far, US consumers bore the primary costs of tariffs; however, a shift to domestically-produced US goods, lower US importer profits, lower Chinese exporter profits and a declining Chinese exchange rate absorbed part of the cost as well. The complete halt in Boeing **737 Max** production could reduce US growth in the first quarter of next year by 0.3%-0.4%; a rebound would of course boost growth by the same amount, but it is unclear when/if that will happen.

CEO business confidence plummeting
50+ = positive outlook



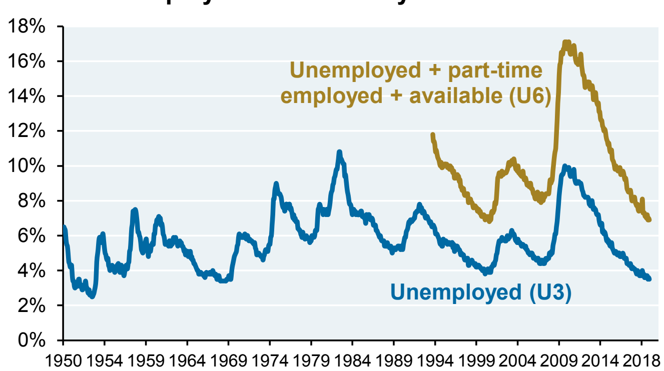
Source: The Conference Board. Q3 2019. Grey bars indicate recessions.

Lowest household debt service to income obligations in 40 years, % of disposable income



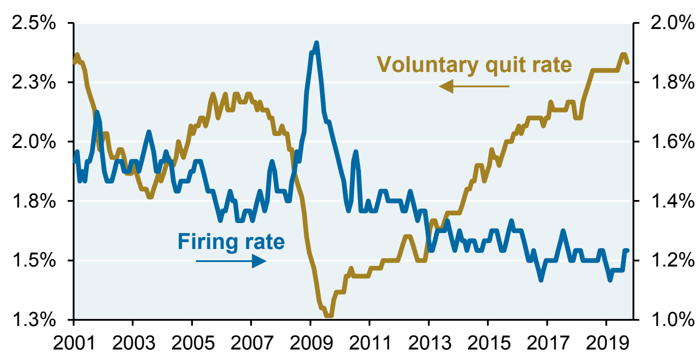
Source: US Federal Reserve. Q3 2019.

Lowest unemployment rate in 50 years



Source: BLS. November 2019. "Available" indicates people who are not working nor looking for a job but have looked for a job in the past 12 months.

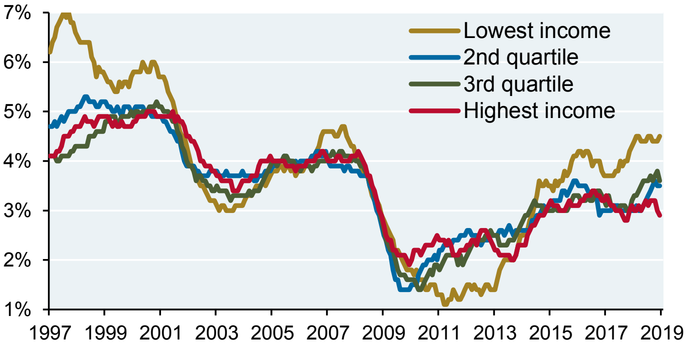
Signs of a healthy US labor market
% of labor force, 3-month moving average



Source: Bureau of Labor Statistics. October 2019.

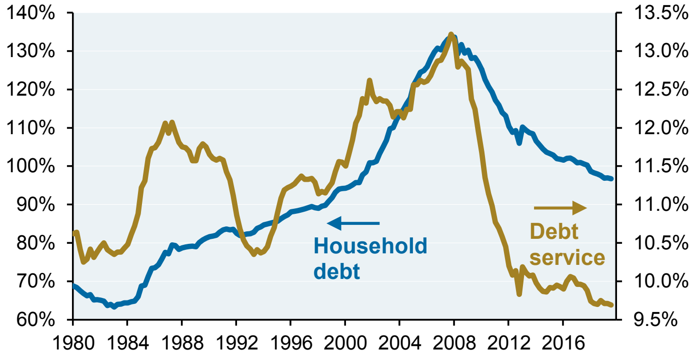
Here's another look at the strength of US consumers, who currently benefit from wage growth across all quartiles of income and low levels of household debt service. As a result, we are not surprised to see stable consumer spending and stability in the savings rate. Consumer delinquencies are stable, although we are seeing evidence of early-stage weakness in both credit cards and in subprime auto. On housing, most data look good, including a 20-year high in the NAHB Homebuilder Index in November.

Wages rising across all levels of income
12 month moving average of monthly median wage growth, %



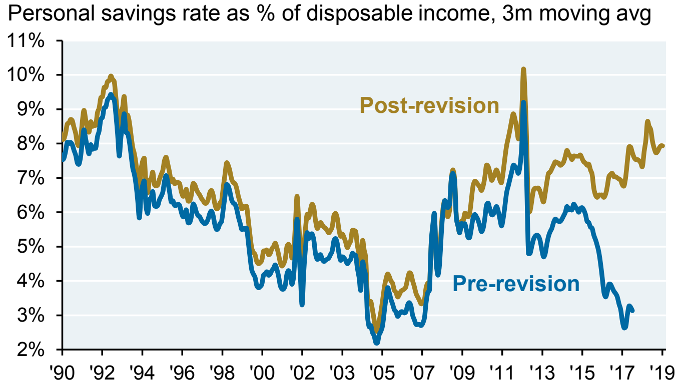
Source: Federal Reserve Bank of Atlanta. November 2019.

Household debt
% of disposable income (both axes)



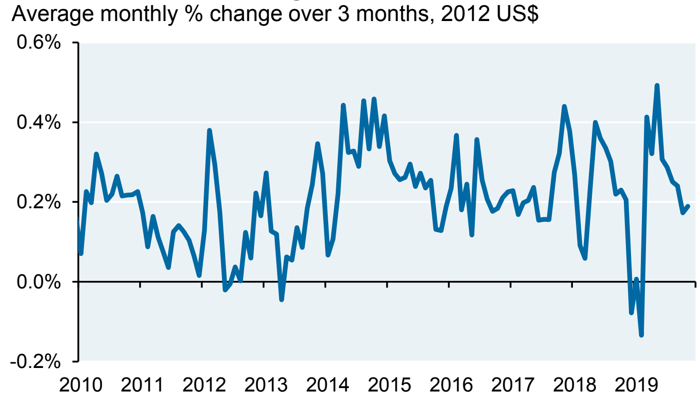
Source: Federal Reserve. Q3 2019.

Sharp upward revision in US savings rate
Personal savings rate as % of disposable income, 3m moving avg



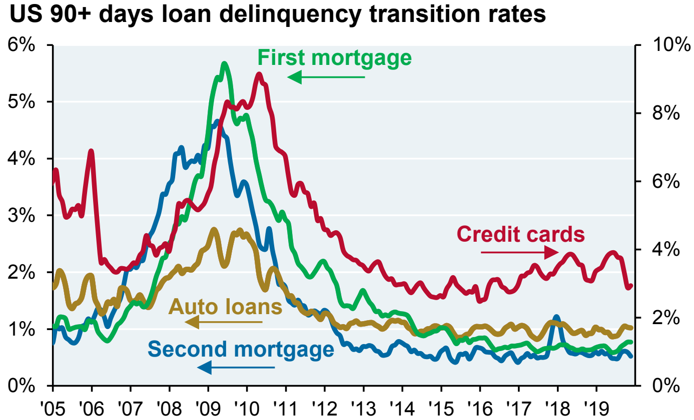
Source: BEA. November 2019. Pre-revision data refers to May 2018 revision.

Real consumer spending
Average monthly % change over 3 months, 2012 US$



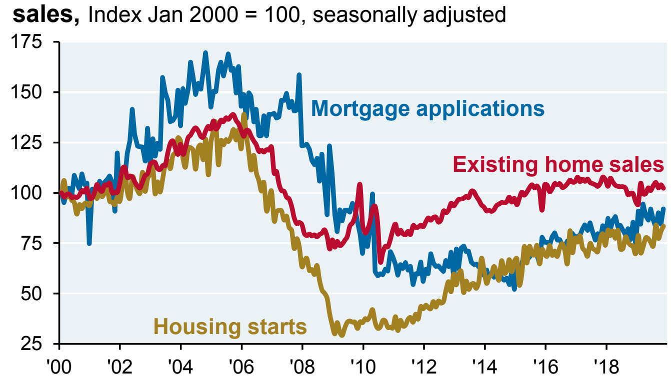
Source: Bureau of Economic Analysis. November 2019.

US 90+ days loan delinquency transition rates



Source: S&P Dow Jones Indices, Experian. November 2019.

Housing starts, mortgage applications, and existing home sales, Index Jan 2000 = 100, seasonally adjusted

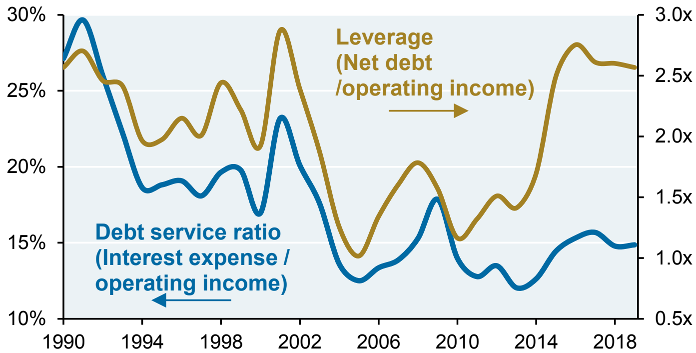


Source: US Census Bureau, Mortgage Bankers Association, National Association of Realtors. November 2019.

[2] When the next US recession does occur, what are the biggest risks to investors in credit?

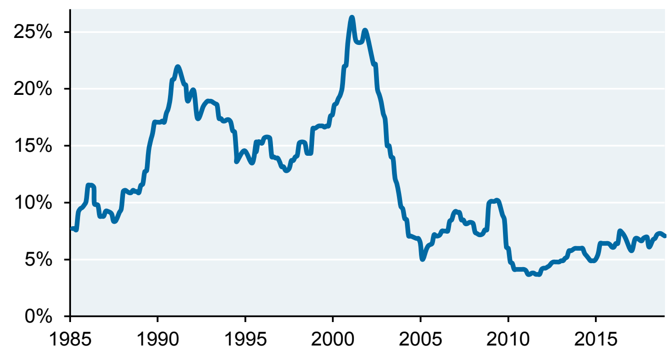
At first glance, credit markets don't appear to pose outsized risks to the US economy. While corporate debt *levels* are high, corporate debt *service* levels are not (first chart). This is a reflection of low interest rates, low credit spreads and companies having termed out their debt maturities (e.g., low near-term debt maturities as a % of cash flow).

S&P 500 median company debt service ratio and leverage
Interest expense/operating income Net debt/operating income



Source: JPMAM, Bloomberg. December 30, 2019.

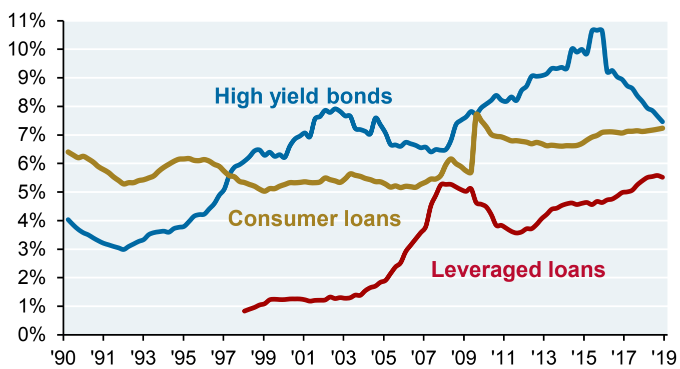
Debt due in less than one year net of cash
% of EBITDA



Source: Bridgewater. May 2019.

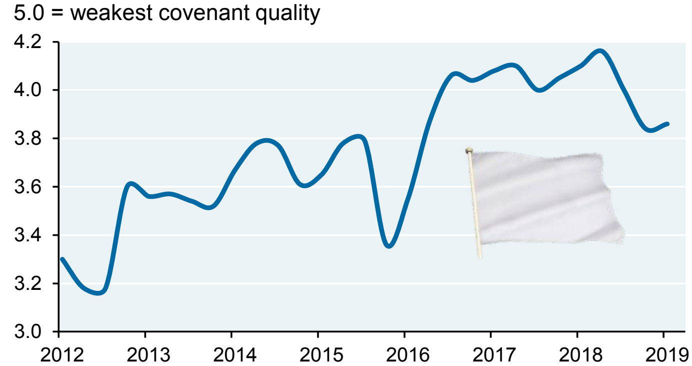
However, I do believe that the next recession will put pressure on leveraged loans: that's where investors have been clustering at a time of low interest rates. As seen on the right from our July 2019 special issue *Eye on the Market*, there has been a sharp deterioration in leveraged loan covenant protections[7].

Investors crowding into leveraged loans
% of GDP



Source: J.P. Morgan Global Research, BEA, FRB. Q3 2019.

Loan investors waving the white flag: Moody's loan covenant quality score
5.0 = weakest covenant quality

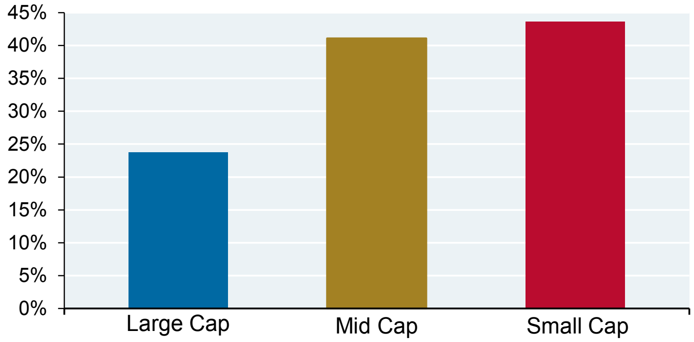


Source: Moody's. Q2 2019.

There are other signs of stress once you look beyond the median company and focus on the weakest ones. As shown at the top of the next page, around 40% of mid and small cap companies face substantial restructuring risks despite low interest rates, and S&P now reports a spike in "weak link" companies. Low interest rates can forestall a recession for a while, and they certainly help companies with debt service burdens. But when a recession hits, loan and bond prices are more influenced by companies unable to meet refinancing needs than by those unable to cover interest. As a result, the next recession may entail higher-than-expected losses on leveraged loans and high yield bonds that cannot be refinanced.

[7] Our July 2019 piece analyzed the **decline in lender protections** that derive from leverage and interest coverage maintenance tests, mandatory prepayments from asset sales, negative covenant restrictions, restricted payments clauses and a variety of clauses designed to limit leakage of assets from the collateral pool, investments in or transfers to unrestricted subsidiaries and affiliates, the ability to add senior pari-passu or priority debt and lien dilution by non-guarantor subsidiaries. We also looked at how coverage and leverage measures are artificially boosted by increasing use of "**EBITDA add-backs**", which refers to companies adding back non-recurring expenses and assumed merger synergies/cost savings to earnings, thereby artificially enhancing any measure derived from EBITDA. We concluded with a look at three recent examples of **collateral stripping** made possible by the decline in covenant protections.

Percentage of non-financial companies with elevated restructuring risk, % of respective market cap

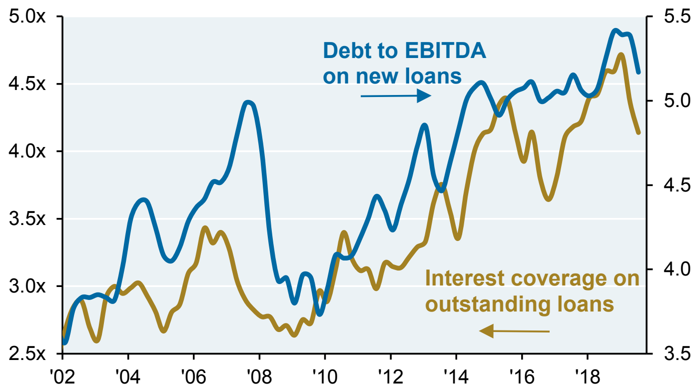


Source: Bloomberg, J.P. Morgan Asset Management. Q3 2019. Elevated restructuring risk is defined as a ratio of EBIT to interest expense < 3.

A spike in weakest link companies
Number of issuers rated B- or lower with negative outlooks or ratings on CreditWatch with negative implications

Source: S&P Global Ratings Research. November 18, 2019.

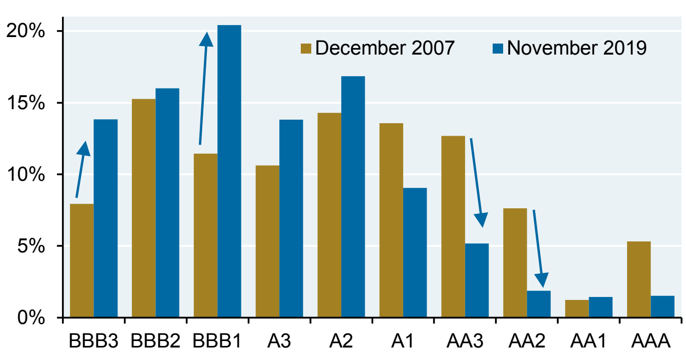
Loans: high interest coverage and high leverage as well



Source: S&P Global Market Intelligence LCD. Q3 2019.

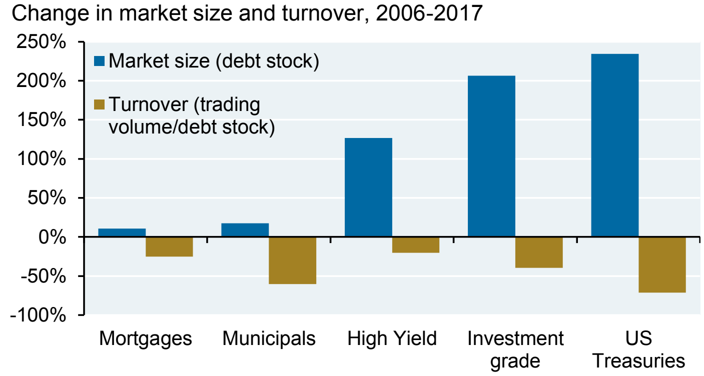
When the next recession hits, there could also be stress on **investment grade corporate bonds**, given the increase in the BBB share of the market compared to 2007. What could make matters worse: the impact of the Volcker Rule, which led to a decline in market making and proprietary trading in the US relative to the surge in fixed income supply. This could lead to pricing bottlenecks when/if investors exit.

BBB rated bonds take over post-crisis
% of US investment grade corporate bond index



Source: ICE/BAML, JPMAM. November 2019.

Debt stock expanding while liquidity shrinks
Change in market size and turnover, 2006-2017



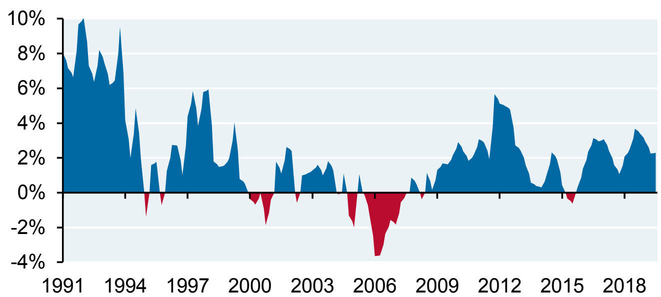
Source: SIFMA, Finra Factbook, Bloomberg, JPMAM. 2017.

[3] Why does the US equity market keep outperforming Europe and Japan?

When someone tells you they're making a contrarian recommendation to overweight Europe or Japan vs the US, be sure and ask them how many times they made the same recommendation before. Why? **Because they were probably wrong when they did, and by a lot.** As we have illustrated multiple times, a strategy to overweight the US and Emerging Markets vs Europe and Japan has been one of the most consistently successful asset allocation approaches I have ever seen, and it worked *again* in 2019. Since January 2010, US equities generated total returns of 252% vs 94% for Japan and 75% for Europe.

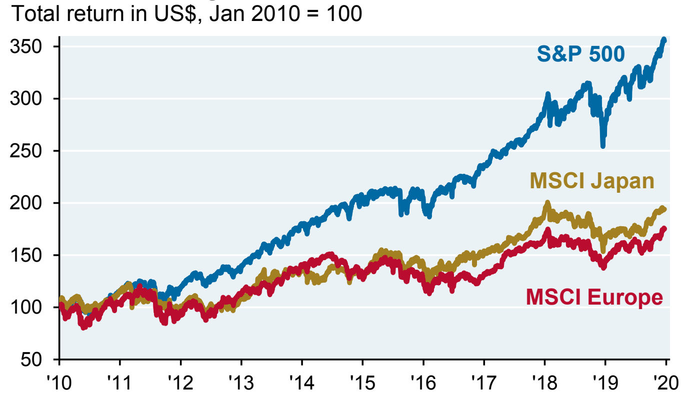
Why has the US consistently outperformed Europe and Japan? The most plausible reasons have more to do with micro than macro[8]. Think about where the largest equity market gains often come from in a low-growth world: the **Tech sector**, rather than sectors with lower and more volatile earnings growth (Basic Materials, Energy, Industrials). In the US, the Tech sector's weight is much higher than the other three, while the reverse is true in Europe and Japan (3rd chart). Second, when we look *within* sectors, US companies generally have higher profitability than European and Japanese counterparts (table). As a result, something unusual would have to happen for the US to underperform on a sustained basis.

Overweight US & EM, underweight Europe & Japan
3-year rolling out (under) performance vs MSCI All World Index



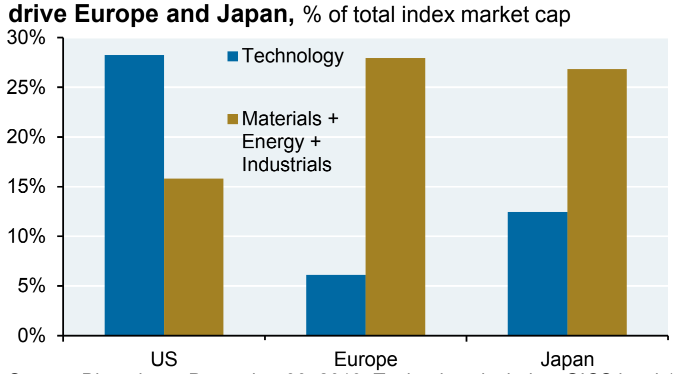
Source: Bloomberg, JPMAM. Q3 2019. All equity portfolio, rebalanced quarterly. 10% OW to US, 10% UW to Europe, 5% OW to EM, 5% UW to Japan. Assumes no currency hedging.

US outperforming Europe and Japan
Total return in US$, Jan 2010 = 100



Source: Bloomberg. December 30, 2019.

High growth tech drives US markets, growth laggards drive Europe and Japan, % of total index market cap



Source: Bloomberg. December 30, 2019. Technology includes: GICS level 1 Information Technology + GICS level 3 Interactive Media & Services.

	Return on Assets					
Country	Consumer Staples	Consumer Discretionary	Technology	Healthcare	Communication Services	Financials
US	5.9	6.1	9.8	5.6	5.6	1.2
Europe	6.3	4.2	5.3	5.5	1.6	0.4
Japan	3.5	3.6	4.3	4.2	4.1	0.3
	Return on Equity					
Country	Consumer Staples	Consumer Discretionary	Technology	Healthcare	Communication Services	Financials
US	27.0	30.5	29.6	18.4	14.5	10.4
Europe	16.4	13.2	11.2	19.0	8.7	7.9
Japan	11.7	9.9	9.1	8.7	14.2	6.6

Source: Bloomberg. December 30, 2019.

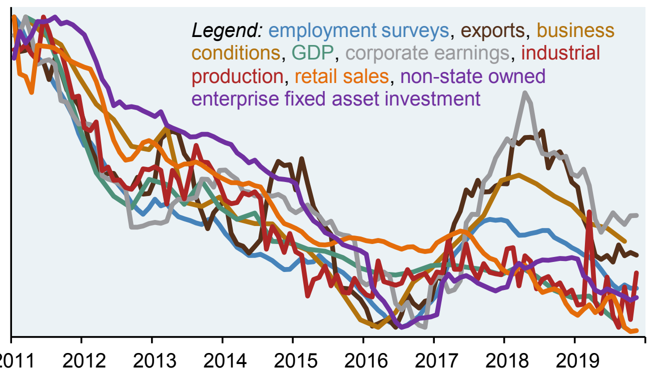
[8] Here's a macro explanation: since 2014, the **prime income population** (aged 30-49) in the US has been growing faster than in Europe. UN data indicates that this gap is expected to grow even wider from 2020-2025, as the US prime income population expands by 5% while the **European prime income population declines by 3%**.

[4] How is China doing at a time of trade conflict, and what are implications for EM investors?

China can be selective about what information it reports; some government agencies have actually stopped publishing important data[9]. So, we take different approaches to get a sense for what's going on using high-frequency data less subject to non-reporting or manipulation. Both charts below tell the same story: **after a stimulus-driven rise in 2017 and early 2018, China's economy has been gradually slowing down**. Details include the slowest fixed asset investment growth since 1996, the weakest loan growth since December 2017, the lowest CPI excluding food since April 2016 and the sharpest decline in industrial profits since 2011. Again, these are **coincident** indicators of current activity.

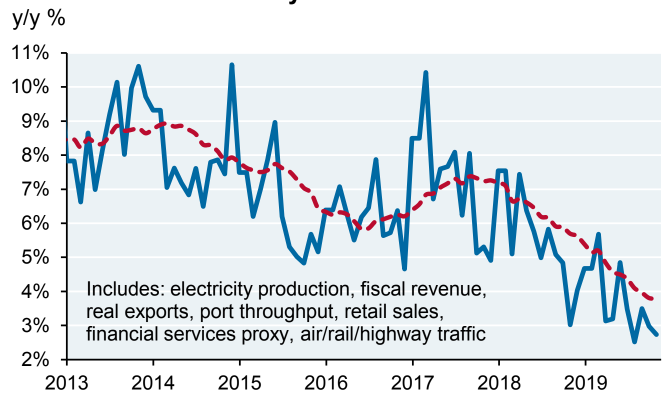
Part of the China weakness is due to the trade war; some is related to a deliberate slowing of growth to rein in the shadow banking sector; and another part is a structural decline that has been foreseen for years as China slows its extraordinary pace of capital spending. In 2014, the Conference Board predicted a decline in Chinese GDP growth to 5.5% by 2019 and to 4% by 2025, a view that is unfolding in real time. As for the trade war, only 10%-20% of Chinese corporate revenues are sourced outside China, and according to MSCI, only 2.8% of Chinese corporate revenues are due to sales to the US. **The larger problems are domestic ones**, including the need for $350 bn in capital for struggling regional banks.

Our China economy monitor



Source: CFLP, Markit, CC, PBOC, CNBS, MSCI, JPMAM. November 2019.

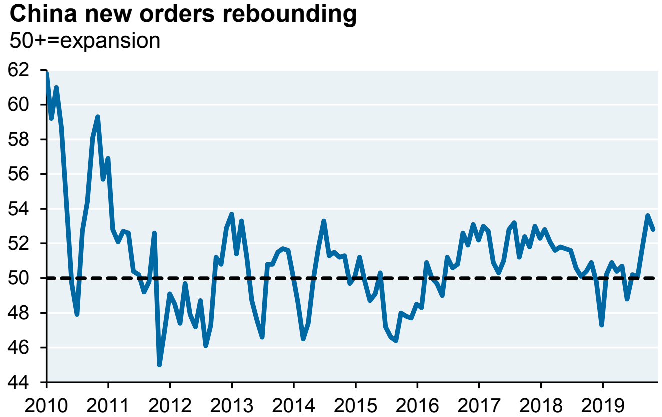
China coincident activity tracker



Source: Bank of America Merrill Lynch. November 2019.

While coincident indicators are weak, there are some signs of a revival in 2020, such as the pickup in new manufacturing orders. However, these signals are tentative and highly dependent on government stimulus.

China new orders rebounding

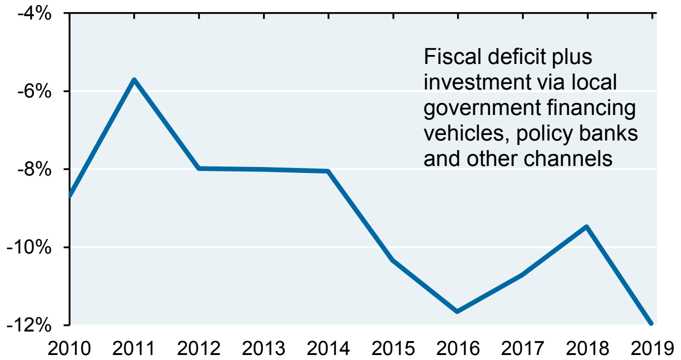


Source: Markit PMI. November 2019.

[9] For details, see "*The Case of the Mysterious Vanishing Statistics*", Gavekal Dragonomics, October 17, 2019.

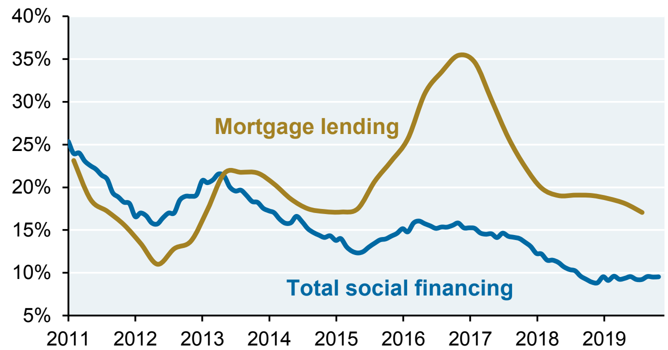
China increased fiscal spending and other support levers[10] again in 2019, but so far, the impact on private sector credit measures[11] is very modest. While corporate and household debt to GDP ratios increased by a small amount in 2019, this was more a signal of slowing GDP growth than of an increase in credit demand.

China's "fully-loaded" fiscal deficit
Augmented deficit, % of GDP



Source: CEIC, J.P. Morgan Asset Management. 2019.

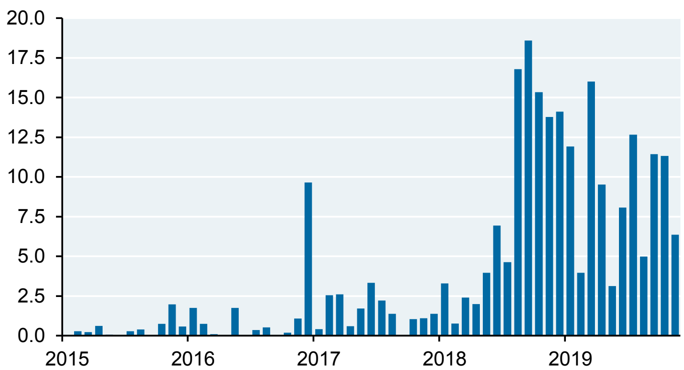
Limited response to stimulus so far from private sector
y/y %



Source: J.P. Morgan Asia Pacific Equity Research, PBOC. November 2019.

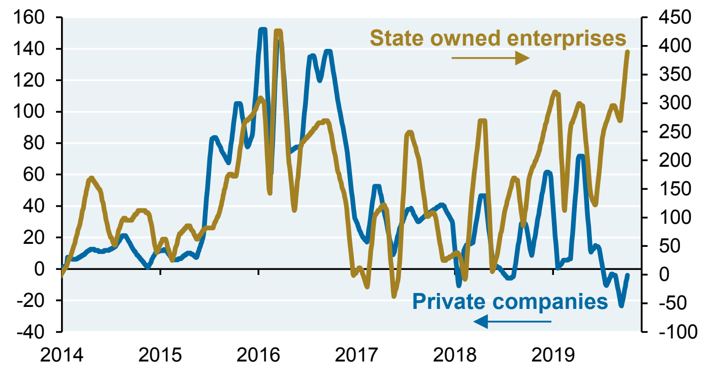
Other stresses in China: rising private sector corporate bond defaults, which are a byproduct of both a slowing economy and a liquidity squeeze due to tighter regulation of credit in "excess-capacity" sectors. Debt markets have become more difficult to access for private sector Chinese companies, while state owned enterprises continue to issue. This is not the direction that China presumably wants to go, given its stated interest in having capital channeled to the more innovative parts of its economy. The lack of liquidity for private companies coincides with a sharp decline in capital spending by private firms as well, which we capture in our China monitor.

Bond defaults by Chinese private firms
RMB billions



Source: Gavekal, Wind. November 2019.

Private companies losing access to debt markets
Net issuance, RMB billions



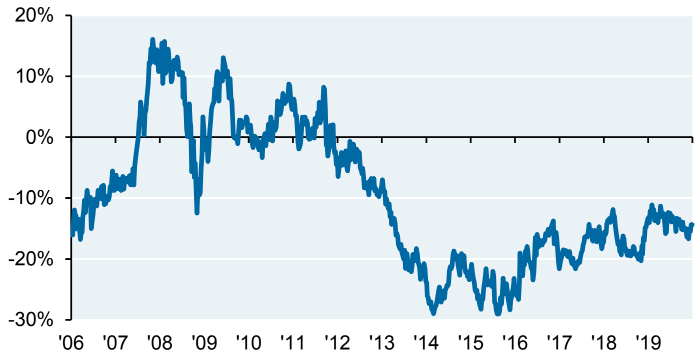
Source: Gavekal, Wind. November 2019.

[10] China has asked local governments to **speed up issuance of infrastructure debt** in 2020, and lowered capital requirements for infrastructure investment projects, allowing larger debt to equity ratios. Minimum capital investment ratios for ports and shipping projects will be lowered to 20% from 25%.

[11] **Total Social Financing** refers to financing provided to the real economy in China from banks (RMB & foreign currency loans, entrusted loans, trust loans, corporate bonds, financial institution holdings of non-financial corporate equity, insurance company repayments, industry fund investments, and investment property) and from direct financing channels (bill acceptances, equity fundraising, corporate bonds, local gov't bonds).

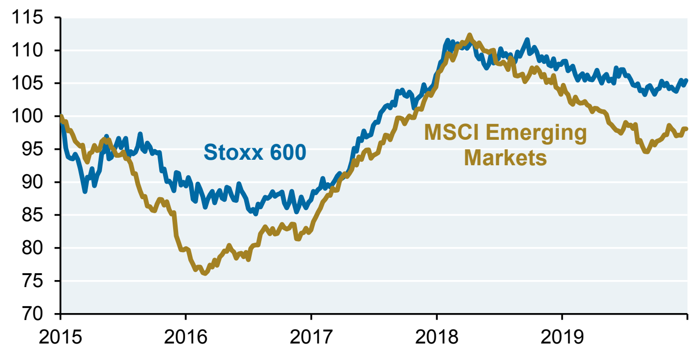
If there's a rebound in China after the trade deal, which equity markets could benefit most? Part of the rationale that I often see for adding European equities is that they would benefit from a rebound in Chinese growth. Our analysis of the last 15 years confirms that European equities generally do benefit when China leading indicators pick up. However, Emerging Market equities tended to rise a bit more. Furthermore, EM equities trade at a discount to Europe, although not by as much as they used to given the weaker performance of EM earnings. EM equities have underperformed Europe over the last decade, in part due to the gradual slowdown in Chinese growth.

Emerging Markets: P/E discount vs Europe
MSCI EM P/E discount/premium vs Stoxx 600 based on fwd earnings



Source: Datastream, IBES, J.P. Morgan Asset Management. Dec 27, 2019.

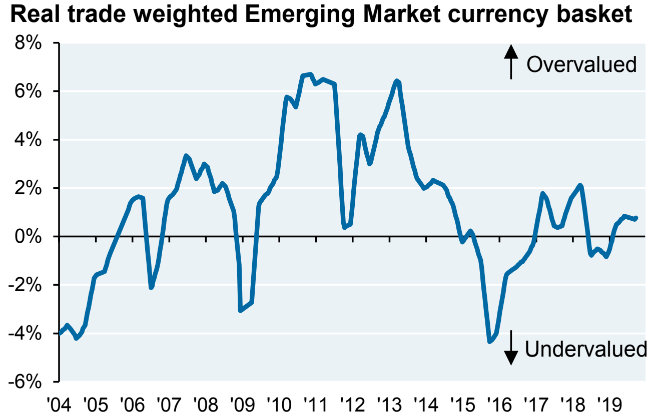
Europe vs Emerging Markets: 12-month forward earnings
Index, US$, January 1, 2015 = 100



Source: Datastream, IBES, J.P. Morgan Asset Management. Dec 27, 2019.

One of the key things to keep in mind when investing in emerging markets: the over- or under-valuation of EM currencies. The poor performance of EM equities in 2014-2016 was in part a consequence of overvalued EM exchange rates in 2013. As shown below, a multifactor assessment of EM exchange rates shows that they are roughly at fair value, after accounting for nominal exchange rates and bilateral differences in trade, inflation, productivity and current account deficits.

Real trade weighted Emerging Market currency basket

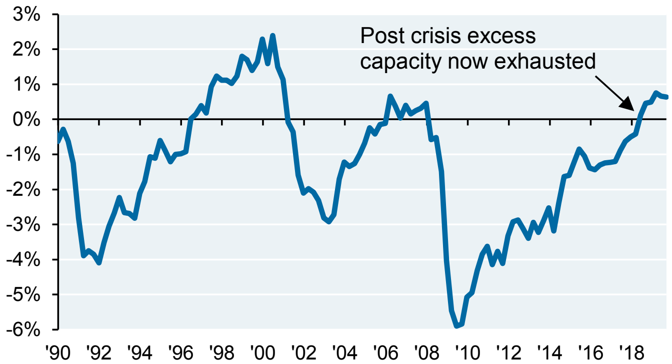


Source: Goldman Sachs Economic Research. October 2019.

[5] Why is US core inflation dead?

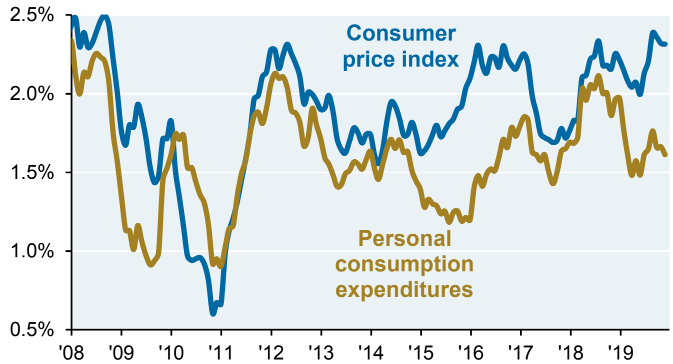
First of all, it's not dead. There's little to no excess capacity left in the US economy and core inflation is both steady and not far from the Fed's preferred 2% rate. But the Fed is *acting* as if it's dead by reducing rates yet again to be at or below the rate of inflation. So, what is the Fed seeing other than stable inflation expectations that makes its board members so complacent about inflation risks going forward?

US "output gap": a measure of spare capacity
%, Actual GDP relative to potential GDP



Source: Congressional Budget Office. Q3 2019.

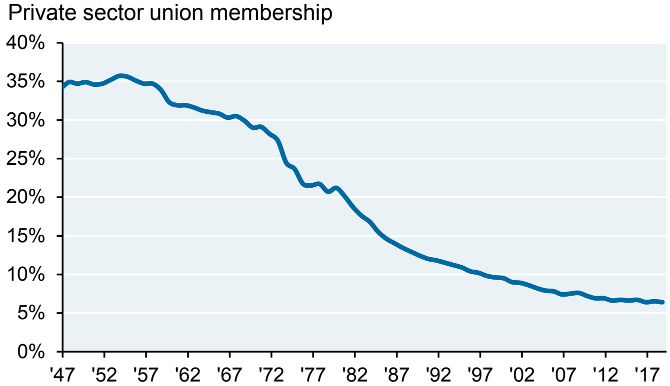
US core CPI and PCE
y/y %



Source: BLS, BEA. November 2019.

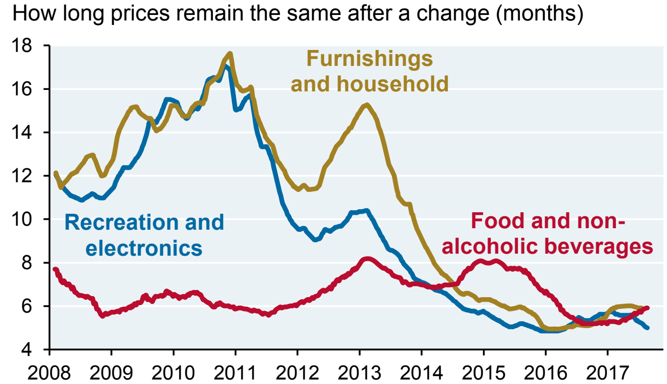
We have shown the next few charts before, since they're the foundation of the Fed's belief that inflation will remain low enough to justify continued easy monetary policy. The charts illustrate the decline in labor bargaining power, the increased speed of retail price readjustments, the impact of globalization on wages, the reduced inclination of companies to respond to labor cost increases with price hikes, deflation from the tech sector and the rise of industrial robots[12]. These factors have all contributed to low, stable US inflation, and an all-time high in the percentage of countries with low and stable inflation as well.

Decline in labor bargaining power
Private sector union membership



Source: Pre '83 Hirsch, post '83 BLS. 2018.

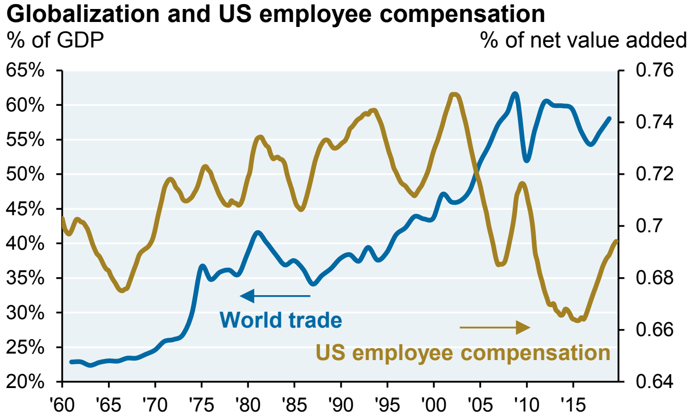
Online retailing increases price transparency
How long prices remain the same after a change (months)



Source: A. Cavallo, NBER WP. 2018. Regular prices exclude sale events.

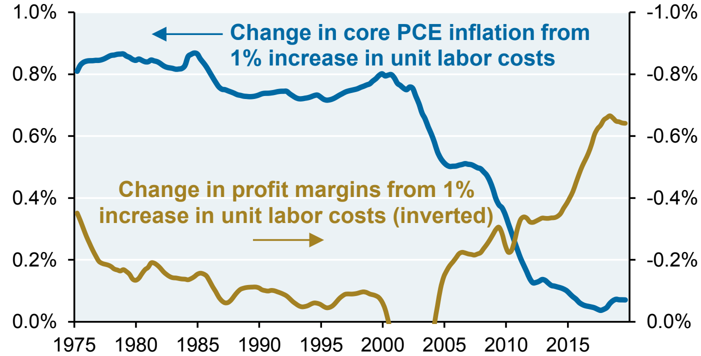
[12] While **robot shipments** to the US rose by 60% from 2013 to 2018, China is the leader in the robot deployment, with 4x more installations in 2018 than in the US. The reason this matters for US inflation and the Fed: increased Chinese use of robots could dilute the impact of rising wages in China as its labor supply shrinks, and sustain the deflationary impact in the US of Chinese goods imports. As shown on page 3, while US goods imports from China have declined due to the trade war and the rise in tariffs, China is still the largest import counterparty for the US.

Globalization and US employee compensation



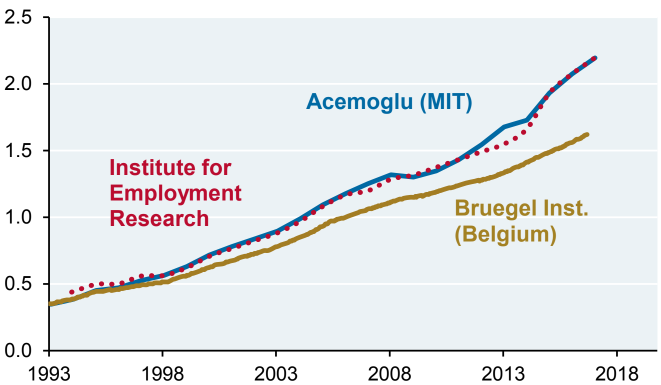
Source: World Bank, Bureau of Economic Analysis. Q3 2019.

Companies now responding to labor cost changes through margins rather than prices



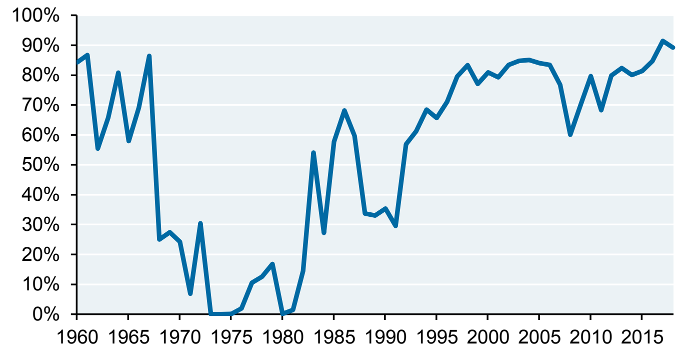
Source: J.P. Morgan Economic Research. Q3 2019.

US: industrial robots per thousand workers



Source: MIT, IAB, Bruegel Institute. 2018.

Percentage of world GDP with low, positive headline inflation (0-4%)

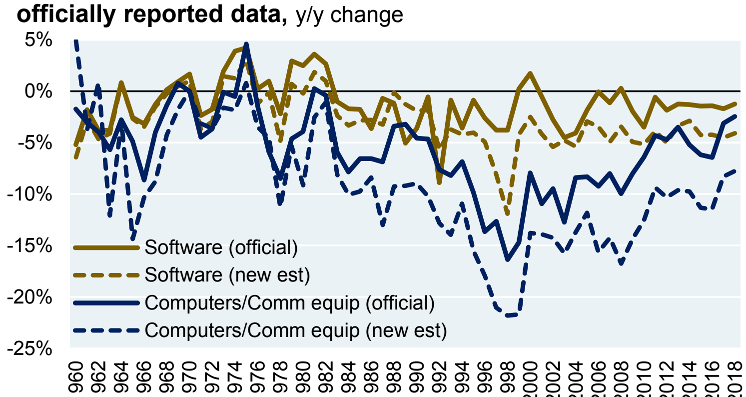


Source: World Bank, J.P. Morgan Asset Management. 2018.

US INFLATION

The deflationary impact of the tech sector. Some Fed researchers have taken a closer look at the debate around whether US productivity is mismeasured due to difficulty in capturing productivity gains from the ICT sector (information, communication and technology). They now estimate that ICT prices have in reality declined at a *much* faster pace than was reported in official inflation data. Given the ICT sector's multiplier effect on the rest of the economy, **this could explain why the Fed has been able to run such easy monetary policy over the decade without stoking wage or price inflation.**

New analysis from the Fed shows more ICT deflation than officially reported data, y/y change



Source: Byrne and Corrado, "*ICT Prices and ICT Services: What do they tell us about Productivity and Technology?*", 2017, updated 2019.

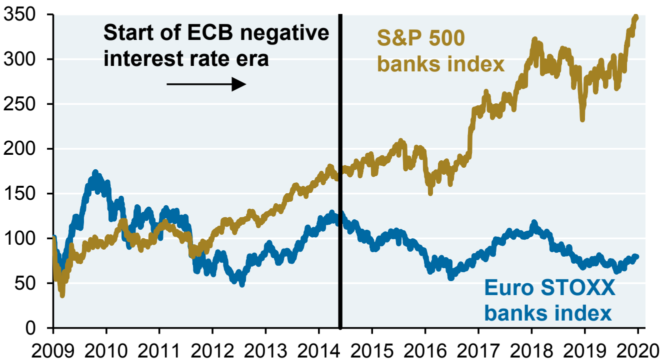
Reasons for lower revised ICT inflation estimates:

- Better estimates of efficiency improvements from hard-to-quantify advancements in operating systems, open-source software, cloud computing, storage and computing capacity
- More industry subsets included, such as cloud computing and systems design services (14 in alternative measure vs 7 in official data)
- New software price index including not just application software, but also systems/OS software for desktops, portable devices, networks and enterprises
- More accurate and broader industry pricing data

[6] What are negative policy rates doing to European banks?

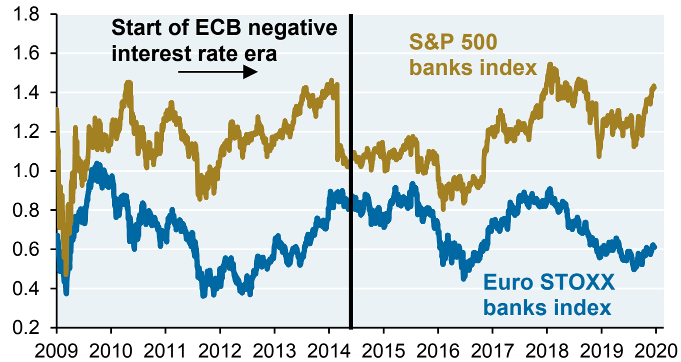
From an investor's perspective, nothing good. European bank equity returns and valuations have trailed the US since negative policy rates began in 2014. We don't know the counterfactual, and perhaps the ECB would argue that without negative rates, the region would be in even worse shape and rising corporate defaults would make life even worse for banks. Whatever the case, negative rates have been a major headache for bank investors in Europe, and it doesn't look like they're going away.

US vs Europe: banks total return performance
Total return in US$, Jan 2009 = 100



Source: Bloomberg. December 30, 2019.

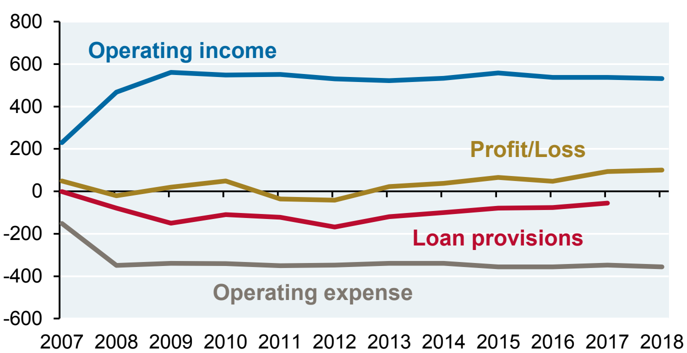
US vs Europe: banks price to book
Ratio



Source: Bloomberg. December 30, 2019.

In fact, **the ECB is considering cutting rates even further**. ECB policy rates are currently -0.5%, and amazingly, the ECB might reduce them to -1.0%. Current net interest margins of German banks are 0.9%. If German banks passed half the impact to depositors[13], their net interest margins could fall by 25%. But if *none* of the impact were passed along, their net interest margins could fall in half from current (paltry) levels. Last point: for anyone looking at the minor rise in European bank profits in the last couple of years, be aware that this is almost entirely due to reduced loan loss provisions, rather than rising operating income or falling operating expenses. In other words, this is not an organic increase in bank profits.

Banks profitability driven by falling loan provisions
EUR billions



Source: ECB, Barclays European Research. 2018.

Percentage of J.P. Morgan GBI Broad Index trading with negative yields

Country	Total	1-3 Years	3-5 Years	5-7 Years	7-10 Years	10+ Years
Denmark	100%	100%	100%	100%	100%	100%
Germany	87%	100%	100%	100%	100%	55%
Finland	78%	100%	100%	100%	100%	0%
Sweden	73%	100%	100%	100%	50%	0%
Netherlands	72%	100%	100%	100%	100%	17%
Austria	68%	100%	100%	100%	100%	0%
France	65%	100%	100%	100%	100%	0%
Ireland	62%	100%	100%	100%	100%	0%
Belgium	56%	100%	100%	100%	100%	0%
Japan	51%	100%	100%	100%	100%	0%
Spain	35%	100%	100%	15%	0%	0%
Portugal	35%	100%	100%	0%	0%	0%
Italy	14%	60%	0%	0%	0%	0%
Total	52%	93%	85%	69%	74%	5%

Source: J.P. Morgan Global Index Research, J.P. Morgan Asset Management. December 11, 2019.

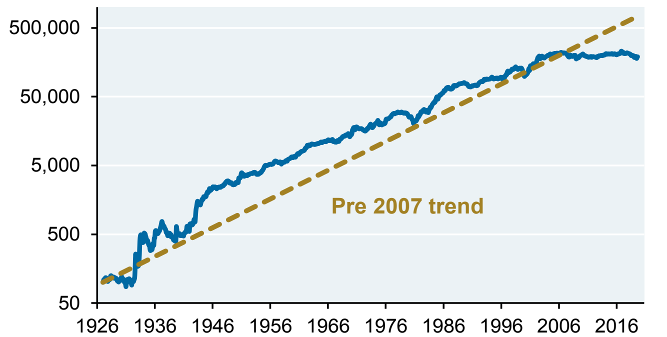
Whether negative rates are a symptom, a disease or a cure, I hope they never emigrate from Europe. Princeton economist Markus Brunnermeier believes in a "reversal rate": a tipping point beyond which damage to banks by further rate reductions outweighs benefits to the economy, in which case more **easing becomes contractionary rather than stimulative**. In other words, as bank profitability falls, their ability to generate new capital deteriorates, which undermines their ability to make new loans.

[13] Some smaller German banks announced that they will begin charging **negative deposit rates to new accounts.**

[7] Will value stocks ever stop underperforming growth?

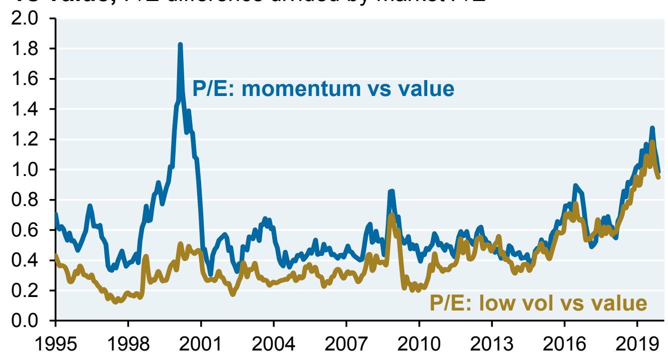
Since 2010, value has underperformed growth to an extent rarely seen in the last 70 years, a time when being a value-oriented investor paid significant dividends for investors and active managers. In recent years however, investors piled into growth, momentum and bond proxy stocks, either in pursuit of scarce earnings growth or desperately needed dividends. The underperformance of value has been a significant challenge for active equity managers since 2010, a topic we addressed in detail in a special issue *Eye on the Market* released earlier this year[14].

Cumulative excess return of cheapest value stocks over most expensive value stocks, Index, Jan 1926 = 100, log scale



Source: French Data Library, J.P. Morgan Asset Management. Universe = NYSE, AMEX, Nasdaq. October 2019.

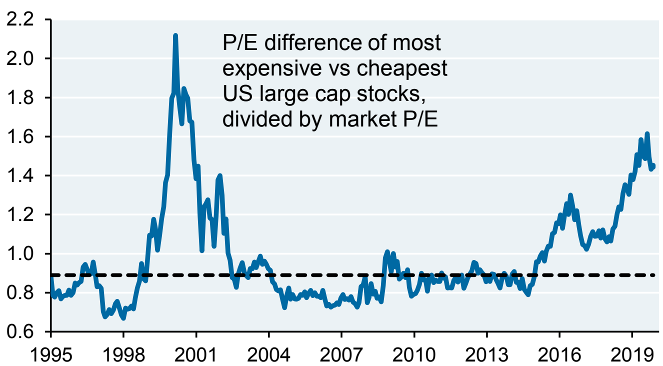
Premium paid for momentum and low vol at historic highs vs value, P/E difference divided by market P/E



Source: J.P. Morgan Asset Management. November 2019.

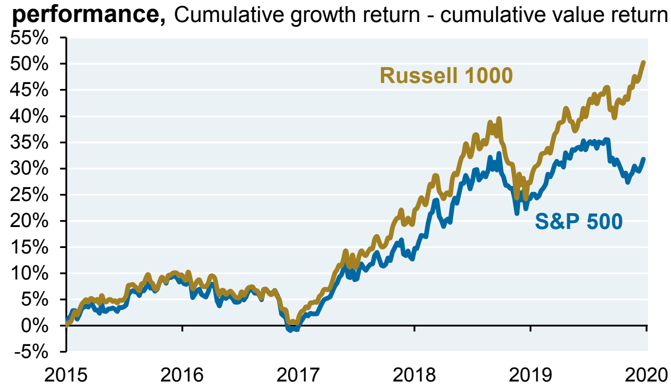
Other than technicals showing extreme P/E discounts for value stocks, are there *fundamental* reasons to believe they might reverse some of their underperformance? Towards the end of 2019, value started to see signs of life relative to growth stocks, although it was confined to large cap stocks so far. Stresses in the IPO and pre-IPO market appeared to spark increased concern about the proliferation of IPOs with little to no earnings growth (see page 26-27), and about overpriced growth stocks at risk from an anti-trust revival outlined in the next section. Other catalysts could include an eventual recovery in energy stocks now that capital discipline has returned to the sector, and the eventual normalization of US monetary policy.

Second highest peak for growth stocks on record
Ratio



Source: J.P. Morgan Asset Management. November 2019.

S&P 500 and R1000 growth versus value cumulative performance, Cumulative growth return - cumulative value return



Source: Bloomberg. December 27, 2019.

[14] **Active Equity Management industry analysis**. We analyzed the performance of 6,700 active equity managers across 23 style categories since 1996. As you would expect, there were significant performance challenges in US large cap core, value and growth styles. However, we also found that more than 50% of managers outperformed in several other US and non-US categories since 2014 despite all the market distortions introduced by the Federal Reserve, which I consider a positive sign for the long term viability of active equity management.

VALUE INVESTING

For value investors, the time to despair may be ending. We have company in believing that the possible last days of extreme value underperformance are unfolding.

- Cliff Asness of AQR, who generally cautions against "factor timing", has increased his bet on value as a factor[15]. According to AQR, in the first eight years after the financial crisis, value underperformance was "rational", since expensive companies could justify price premiums by delivering on earnings, sales, margins etc. However, for the past 2 years, value underperformance had less to do with fundamentals and was mostly a reflection of "irrational" changes in investor sentiment (i.e., multiple expansion)
- To support this assertion, Asness uses the chart below. It shows the relative valuation of the cheapest versus the most expensive US large cap and mid cap stocks based on price/book, price/earnings (trailing and forward) and price to sales. The spread between the cheapest and most expensive stocks is at its widest level since 2002, although it is nowhere near the peaks of 1999-2000

How cheap is value? Very
Composite premium for growth stocks vs value based on of price/book, price/trailing earnings, price/forward earnings and price/sales, Index, 100 = average

Source: Cliff Asness, *"It's Time for a Venial Value-Timing Sin".* August 2019.

One last comment on the possibility of a sustained US value recovery. In the past, US value outperformance vs growth generally coincided with US *underperformance* vs Europe. Some of these periods occurred during the unsustainable Southern European growth/credit boom in 2005/2006 which I do not believe will repeat itself. Even so, a US value recovery could occur at the same time as a repricing of expensive US growth stocks, in which case Europe could outperform the US, at least temporarily.

VALUE INVESTING

[15] Cliff Asness, *"It's Time for a Venial Value-Timing Sin".* November 7, 2019.

[8] What are the greatest risks to markets from a possible progressive overhaul of the US economy?

The tables below outline progressive proposals on taxation, the corporate sector, labor, energy, healthcare, investment, trade and student debt, most of which have been put forward by Senator Warren. For many of these proposals to be adopted, Democrats would have to take control of the Senate and not just the White House; the new Senate Majority Leader would have to agree to put these proposals on the docket; *and* Democrats might have to end the filibuster. However, in the wake of recent precedent (Trump's unilateral actions on environmental, trade and border issues), some progressive policies could be enacted via Executive Action and regulation rather than through legislation.

Progressive Democratic Agenda		
Taxation	**Corporate**	**Labor**
Double capital gains tax rate on earners over $1mm	Curb or prohibition on stock buybacks	Ban on state 'right to work' laws, 'fair share' fees to allow unions to collect fees from non-members
Eliminate step-up in basis on death	Break up big banks, reverse Trump dereg. on capital/liquidity, impose financial transaction taxes	Eliminate secret ballots in worker union elections
Tax unrealized capital gains every year	Break up big tech, reinstate Net Neutrality	Worker election of 40%+ of board members (co-determination)
Treat cap gains and dividends as ordinary income for tax purposes	Federal charter required by public companies with revenues >$1bn, must produce "material public benefit"	Industry-level sectoral bargaining
Wealth tax of 2% over $50mm	…and "material positive impact on society" to obtain charter from Dep't of Commerce	Reduced classification of independent contract workers
Repeal indiv. tax cuts, means-test SocSec/ Medicare, top estate tax rate of 77%	"Office of US Corporations" and State Attorney Generals can sue to revoke charters	Penalties for Federal contractors with gender pay disparities
New payroll tax of 14.8% > $250k in income, possibly to include net inv income	Political expenditures subject to 75% approval by all shareholders	NLRB penalties on companies and executives for violating worker rights and wrongful termination
Eliminate corporate tax cuts, surtax on corporate profits over $100mm	Private equity firms must guarantee repayment of debt and pensions of acquired companies	Increased protections for striking workers
Healthcare	**Energy**	**Student debt**
Medicare for All with no deductibles or copays	Ban hydraulic fracturing on private land and fracturing/drilling on federal land	Reduce student debt for 95% of Americans with student debt (45 million people)
Ban private health insurance	Ban fossil fuel exports, no new nuclear power plants	Wipe out student debt entirely for 75% of students with debt
Drug price caps, gouging penalties, and reimportation allowances	Repeal traditional energy friendly tax provisions	Universal free public college education
Allow HHS to manufacture/sub-contract generic drugs	$3 trillion over 10 years to subsidize transition to 100% clean energy	Estimated cost = $955 billion
Trade: a 9 point eligibility test for trade counterparties		
Enforce core labor rights of International Labour Organization such as collective bargaining and elimination of child labor		
Adhere to Trafficking Victims Protection Act		
Ratify Convention on Combating Bribery of Foreign Public Officials		
Uphold internationally recognized human rights		
Join Paris Climate Agreement and have a national plan to reduce long-term emissions		
Comply with tax treaties with the US and participate in the OECD Base Erosion and Profit Shifting project		
Recognize and enforce religious freedom		
Eliminate all domestic fossil fuel subsidies		
No inclusion on Department of Treasury monitoring list for currency practices		

Source: Cornerstone Macro Research, Urban Institute, Medium, CNBC, warren.senate.gov. 2019.

Potential equity market risks from a progressive agenda[16]

- **Equity market sector implications**. The greatest valuation risks could be in store for banks, biotech, chemicals, energy E&P, healthcare managed payers and service providers, independent power producers, integrated oil & gas, medical devices, megacap internet, payment processors, branded specialty pharmaceuticals and specialty/consumer finance. On **healthcare**, while a lot of negative sentiment is priced in already, many proposals are based on eliminating private sector rents in the healthcare system, so I could imagine additional downside risk depending on the details

- While there is little evidence that companies pursue stock buybacks *instead* of hiring and capital spending, there appears to be progressive support for **stock buyback restrictions or an outright ban**. Sectors most reliant on buybacks as a contributor to investor returns: Information Technology, Financials, and Consumer Discretionary. **Corporate demand for stock relative to investor demand is remarkable**: buybacks were the single largest source of US equity demand each year since 2011, averaging $450 billion annually. In comparison, average annual demand from households, mutual funds, pension funds, and foreign investors was less than $10 billion each

- In 2016, the US had the highest marginal effective corporate tax rate in the G-7 and within the 34 countries in the OECD. The 2017 tax bill lowered US corporate tax rates in line with other countries. As a result, **a repeal would push effective US corporate tax rates** back to where they were before. Corporate tax cuts boosted S&P earnings on a one-time basis by 8%-10% in 2018. Assuming a 17.5x multiple, a corporate tax cut repeal could in isolation reduce the fair value of the S&P 500 by the same amount. This assumes complete repeal of the corporate tax cuts, but does not include *additional* proposals by Senator Warren to impose a 7% windfall profit surtax on earnings over $100 mm to finance renewable energy. Sectors that benefitted the most from tax cuts in terms of declining effective tax rates: Communication Services, Consumer Discretionary and Financials

- **Hydraulic fracturing** now accounts for 60%-80% of US oil, natural gas and natural gas liquid (NGL) production. As a result, domestically produced oil and gas derived from hydraulic fracturing also accounts for 40% of total US primary energy consumption. While US renewable power generation is growing, the pace is almost certainly not fast enough to immediately abandon fractured natural gas and oil given US goals of decommissioning aging coal and nuclear power plants, *and* of reducing reliance on foreign oil. In the absence of an interconnected, nationwide electricity grid and cheap energy storage, natural gas is a critical complement to intermittent renewable energy. For more details, see our Cold Turkey piece from September 2019

[16] I don't think **redistribution** is inherently positive or negative for the economy; it depends on a lot of factors, such as the impact of higher tax rates on propensities to invest and consume at different income levels, the efficiency with which the Federal government allocates tax revenue to productive/unproductive programs, the impact of redistribution on consumer and investor sentiment, and the degree to which Federal revenue-raising targets are affected/circumvented by changes in corporate or individual behavior. Even so, I do think that the broader a redistribution agenda is, the greater the chance that it adversely impacts the private sector in unanticipated ways. And as shown on page 7, **Warren's tax hike proposals are 2.5x greater than the FDR tax hikes of the 1930's.**

In our June 2019 analysis of Nordic countries, we found that in some ways, Nordic countries are even *more* business-friendly than the US; that their tax systems rely primarily on consumer (VAT) and payroll taxes to finance entitlements; and that their healthcare systems generally require both co-pays and deductibles to manage cost. In other words, **even the most progressive countries need a vibrant private sector and incentives for citizens to invest in new businesses and capital projects in order to afford redistribution in the first place.**

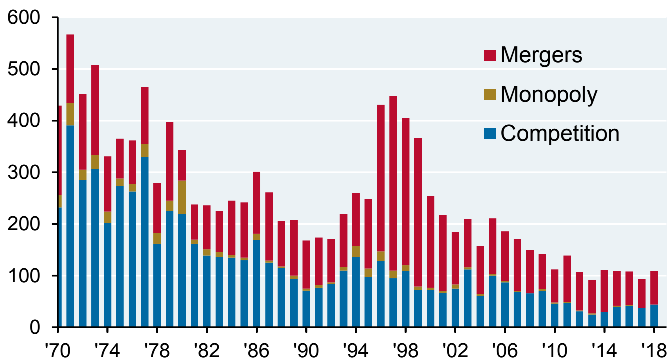
- **On tech,** there's a debate as to whether tech giants are adversely affecting consumers, and/or if they are adversely impacting competitors. We will not debate that here; the regulatory table below shows that after a 50 year decline in anti-trust investigations (particularly on the tech sector), many politicians believe that the answer to one or both of these questions is "yes". If an anti-trust revival targets the tech sector, it could have an adverse impact on markets since (a) the tech sector has seen the largest degree of concentration and consolidation of large firms, (b) the tech sector has more than doubled the return on the rest of the stock market since 2010 and (c) the largest tech companies have been active acquirers of both revenues and intellectual capital

Technology sector anti-trust and other proposals (below dotted line = already implemented)

Companies affected	Action
Facebook, Google	New York/Texas launch antitrust investigations; 48 states sign onto Google investigation
Amazon, Apple, Facebook, Google	House Judiciary Committee requests tech executives' emails in antitrust probe
Amazon	FTC launches antitrust investigation over anti-competitive behavior
Amazon, Facebook, Google	Broad Department of Justice antitrust investigation
FAANG	Warren proposes to break up tech companies, designate tech platforms as utilities separate from other businesses, and reverse anti-competitive mergers
California tech	"Digital data dividend" paid by tech companies to users whose data is monetized
Amazon, Uber, Lyft	California passes bill to reclassify gig-economy contract workers as employees
Facebook	Federal Trade Commission fines Facebook $5 billion for privacy practices
Qualcomm	Ruling that Qualcomm violated antitrust law
Amazon, eBay, Airbnb	Require online platforms to collect local taxes

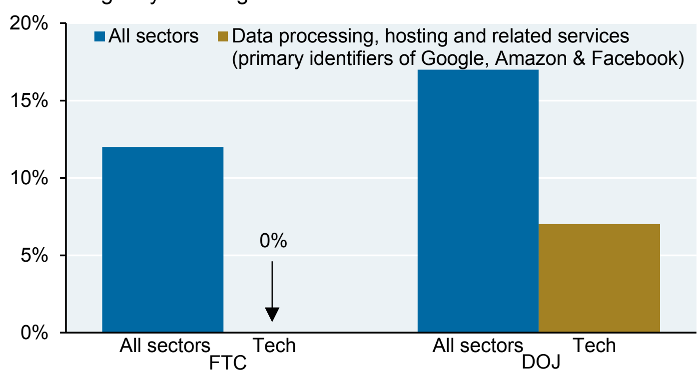
Source: Bloomberg, Bridgewater, LA Times, The Hill, FTC, WSJ, NYT. 2019

Number of Department of Justice antitrust investigations initiated



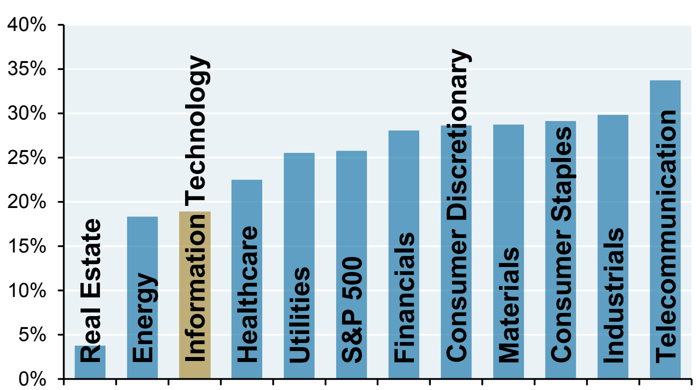
Source: United States Department of Justice. 2018.

Lower FTC/DOJ antitrust enforcement rates on tech sector
Rate of agency challenges



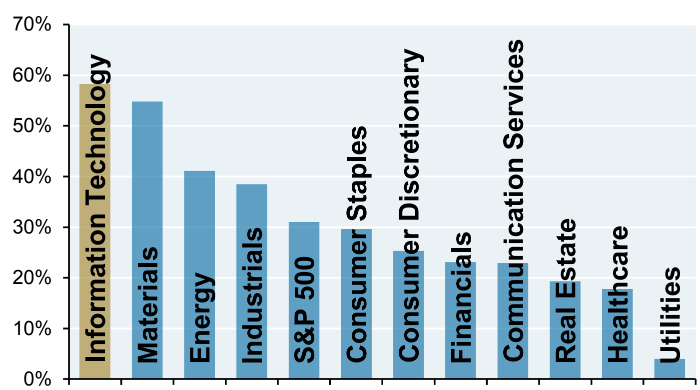
Source: Dr. Diana Moss, American Antitrust Institute. 2019.

S&P effective tax rate by sector



Source: S&P Global Market Intelligence. 2016.

S&P sales weighted foreign revenue exposure by sector



Source: S&P Global Market Intelligence. Q3 2019.

PROGRESSIVE SWEEP

A closer look: customized European digital taxes designed to apply to US tech giants

The US tech sector is facing mounting pressures in the form of **digital service taxes** (DST) on revenues paid to them by European advertisers. Tired of waiting for the OECD's "Pillar I" tax proposals to be sorted out, France, Italy, Austria and Turkey have enacted DSTs of their own. The tortured logic involved is based on a concept called "user-created value": since users of services like Facebook contribute to brand value by providing information to the company which enables it to earn ad revenues, such users are essentially undertaking so-called "supply-side functions" that would normally be undertaken by the business itself. Furthermore, the jurisdiction in which the users reside can tax this value as it is created, using locally generated advertising revenues as a value proxy. These digital taxes would be paid by the technology company in addition to whatever income or consumption taxes the company is already paying.

If this makes little sense to you, you're in good company. A 2019 IMF paper described the theoretical underpinning of DSTs as being highly problematic, while the Petersen Institute described DSTs as de facto tariffs whose discrimination against US firms could not be more blatant. European governments have simply drafted language that avoids conceding the obvious: they are **taxing consumption of US services exports,** which are de facto tariffs that in all likelihood violate existing bilateral tax treaties.

An assertion by the French Finance Minister that its DST does not "single out US companies" shows how disingenuous the arguments have now become:

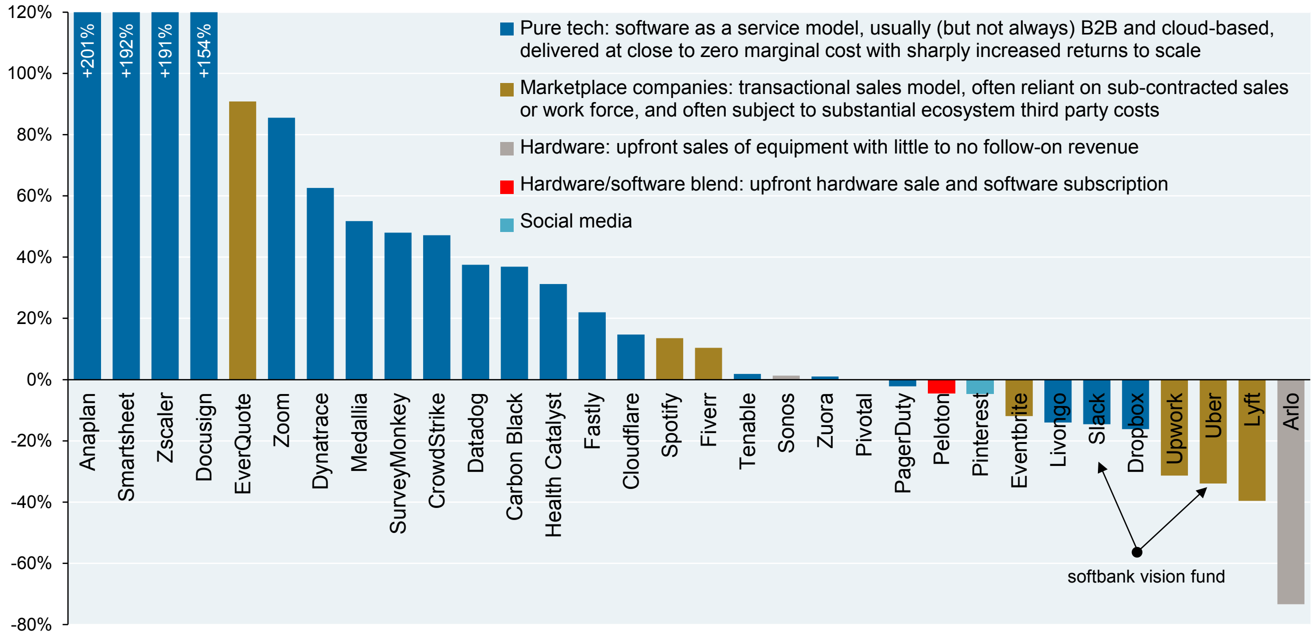
- Given high worldwide revenue thresholds used in applying digital advertising taxes and the revenues that they apply to, **US tech giants are practically the *only* entities subject to them**. DST taxable revenues include digital advertising (Google, Facebook), digital marketplaces to sell goods and services (Amazon, eBay, Uber, Airbnb) and transmission of user data to other users (Facebook, Twitter). Subscription fees and in-app purchases are excluded, which could have affected European firms
- French officials have elsewhere stated that the DST was explicitly designed so as to avoid slowing down e-commerce innovation and the digitization of France's own businesses, and the French Finance Minister himself has referred to its DST as the "**GAFA**" tax (Google, Amazon, Facebook, Apple)
- The French DST is applied **to gross revenues rather than to net income** and also results in double (or triple) taxation, both of which contravene the architecture of the international tax system in the developed world. Some DST proposals allow for VAT taxes to be deducted first, which is another direct swipe at US firms that are not subject to them in their own jurisdiction
- Not long ago, **the OECD itself cautioned against creating new tax rules applied to the digital economy**, including a 2015 report with contributions and recommendations from an EU Commission of tax experts. In this report, the OECD wrote that "it is difficult, if not impossible, to ring-fence the digital economy from the rest of the economy for tax purposes". Apparently this view has changed

In December 2019, US Treasury Secretary Mnuchin wrote to the OECD indicating US opposition to the DST concept, citing "departures from arm's length transfer pricing and taxable nexus standards, longstanding pillars of the international tax system upon which US taxpayers rely". **How the US, the OECD and the WTO resolve all of this is unclear, although our international tax contacts believe that certain countries will proceed with digital taxes and face possible US retaliation**. The outcomes are important given the low effective tax rate of the US tech sector and its high degree of foreign sourced revenue, as shown on the prior page.

[9] The IPO market: "Prophets vs Profits"

The struggles of some tech companies in the IPO and pre-IPO market have gotten a lot of headlines recently. **What's lost in the shuffle**: **most *real* technology IPO's are doing just fine**. "Tangential tech" companies included in the broad tech category but which are not pure tech are for the most part the ones that are struggling. Many of these "tangential tech" companies have sales growth below 50% (above which post-IPO returns have generally been higher), and in the case of Uber, the company also fails the "rule of 40" test (i.e., sales growth plus free cash flow margin). To be clear, practically every single one of these IPO companies had a negative operating margin as of their most recent earnings report due to high SG&A spending, something investors expect will eventually change.

What's wrong with the performance of 2018/2019 tech IPOs?
Not much, as long as what you're buying is actually a real technology company
Performance relative to IPO price (or direct listing price)



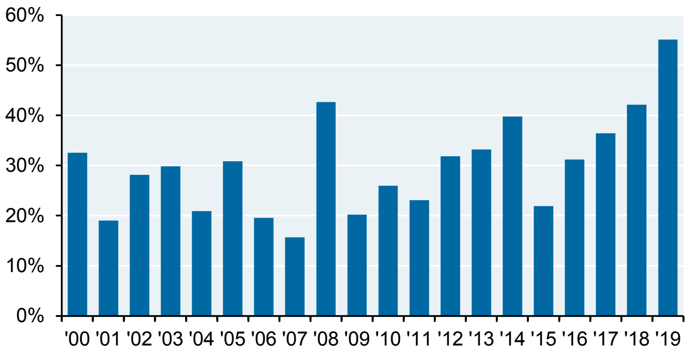
Sources: Bloomberg, Company financials, Stratechery.com, JPMAM. December 30 2019. The companies above are shown for illustrative purposes only. Their inclusion should not be interpreted as a recommendation to buy or sell. The use of the above companies is in no way an endorsement for J.P.Morgan Asset Management investment management services.

This mixed bag outcome is part of a broader trend showing that diversified multi-sector IPO investing since 2010 hasn't done much for investors. The latest study[17] we've seen takes two approaches. The first is a portfolio that owned 200 IPOs since 2010, with proceeds to buy each new IPO sourced from selling the worst performers. Since inception, its relative performance has been flat to the market. The second study looked at relative performance of IPOs since 2010 assuming a 2-year hold: the *median* IPO return was 20% below the market. *Average* returns were better but still just matched market returns, benefiting from the 2% of IPOs that delivered returns > 200%. A lot of IPO underperformance can be attributed to the healthcare sector, the largest issuing and worst performing sector in the US IPO market since 2010.

[17] "*What Matters for IPOs*", Goldman Sachs Global Strategy Paper, September 4, 2019.

The **prophets** of the venture capital ecosystem (startup CEOs and venture funds that finance them) have reached new cycle peaks regarding private companies with **no profits**. Similarly, IPO investors are applying the highest price to sales ratios to tech IPOs since the late 1990s (valuations are still well below those levels but I'm not sure how much comfort that is worth).

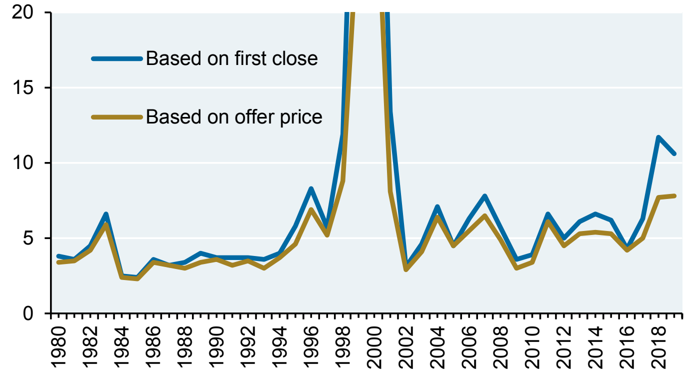
Private equity share of capital going to companies not categorized as profitable



Source: Empirical Research Partners. 2019 data through September 2019.

Highest tech IPO price to sales since the late 1990s

Price to sales ratio of tech IPOs

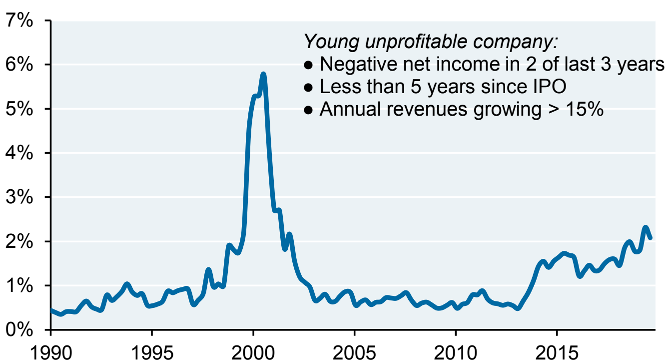


Source: Jay Ritter, University of Florida. Updated 2019 IPO statistics.

Here's a related measure we're watching. There's a growing number of firms we refer to as **"YUCs": Young Unprofitable Companies**, which have negative net income, rapid sales growth and which have been around for less than 5 years. I don't think we will ever relive the lunacy of the late 1990's, but as shown below, some measures are getting there. The portion of US market capitalization made up of YUCs is around one third of the 2000 peak, and the YUC share of total corporate spending on SG&A, capital spending and R&D is even higher. Other notable stats: spending by YUCs accounted for 0.15%-0.30% of US GDP growth in the last couple of years, and their demand for cloud services and digital advertising amounted to 10% of Google, Facebook and Amazon revenue. In other words, **if investors tire of financing the YUCs, reverberations for large and mid cap tech service providers and the US economy more broadly could be substantial.**

Market cap of young unprofitable companies

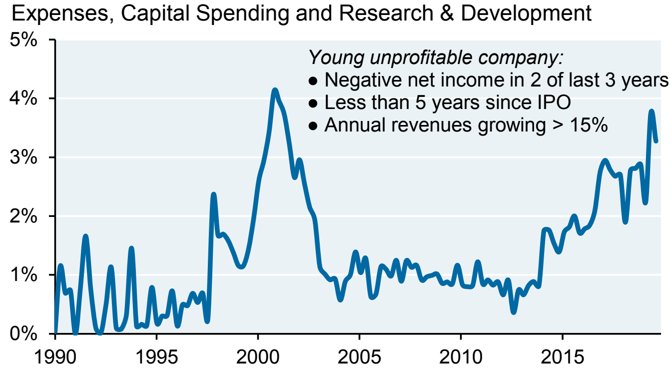
% of total market cap



Source: Factset, J.P. Morgan Asset Management. Q3 2019.

Spending by young unprofitable companies

% of total corporate spending on Selling, General & Administrative Expenses, Capital Spending and Research & Development



Source: Factset, J.P. Morgan Asset Management. Q3 2019.

[10] What is the most interesting breakthrough I learned about in 2019?

Every year, I talk to enterprising people about the projects they're working on. In 2019, the most interesting breakthrough I learned about is related to the latest achievements in stem cell research. Deep geothermal energy via plasma-bit drilling was a close second[18], but still too distant in terms of implementation.

We spent a day with the New York Stem Cell Foundation Research Institute[19] in October. Imagine this: you walk into a clinic and provide a vial of blood or a piece of skin the size of an apple seed. Then, the remarkable happens: **scientists use your sample to create "blank slate" stem cells that are an avatar of your own genetic makeup, which are then transformed into any of over 200 specialized cells, such as heart, liver, pancreas, brain, etc.** The following scenarios are now possible scientifically, and not just in the realm of the imagination:

- You have a chronic genetic disease like amyotrophic lateral sclerosis (ALS), diabetes, multiple sclerosis or Parkinson's, and doctors want to try out different treatments since you are not responding well to standard ones. Instead of bombarding you in your weakened condition with these treatments, they can apply them instead to a petri dish with your own cells, since they will carry whatever disease you suffer from. If needed, researchers can test hundreds of different drug combinations, which would typically not be possible in any practical sense with an individual patient
- You suffer from a condition like macular degeneration, which is to date incurable. Scientists transform your blank slate stem cells into new retinal cells which effectively replace the dying ones inside your own body. Similarly, your stem cells can be transformed into hip bone cells to replace the need for inorganic materials for patients suffering from bone degeneration
- You're a scientist focused on diseases like Alzheimer's, and have been confined to experiments on mice and other lab animals. However, these animals do not develop Alzheimer's in nature, so the entire research process is fraught with uncertainties and dead ends. Similarly, diabetes cures for mice are not cures for humans. Instead, stem cells allow you to experiment with treatments using an inexhaustible supply of human cells carrying the disease. Furthermore, you can apply these treatments to a diverse population of cell donors, which is important since every individual with a given condition does not respond the same way to treatment. A potential related benefit: by testing human cells instead of animals, scientists might be able to shorten the drug approval timetable by 3-4 years and increase the probability of success by over 8 times

[18] **Ultra-deep geothermal energy.** Standard utility-scale geothermal energy taps into steam or hot water at temperatures of 150°–200° C which is brought to the surface, where its heat is used to generate electricity through a steam turbine. Typical drilling depths are 150-200 meters below the surface. However, at 5-7 *kilometers* below the surface, there are geothermal resources of 400°-500° C at 200 bars of atmospheric pressure where water takes a form called supercritical fluid. Such fluids in theory could deliver 10x more power than traditional geothermal wells, and rival the power derived from nuclear power plants. We met with a company developing plasma-based drill bits that are designed to reach temperatures of 6,000° C with the goal of being able to drill to such depths. However, its efforts are in their infancy, and their estimates of plasma drilling costs that rise linearly with depth (as opposed to rising geometrically as with conventional drill bit techniques) have to be taken with a giant grain of salt until proven in more than just field studies. A lot of promise as potential renewable baseload power, but very early stage.

[19] **NYSCF** is a multidisciplinary research lab with 225 scientists and partnerships with the world's leading universities and teaching hospitals. What makes NYSCF unique? Many academic research institutions are highly driven by the need to publish, which can deter from researching high risk/non-traditional experimental treatments. Instead, NYSCF can pursue them since it is an independent non-profit research institute that relies on private donors. Furthermore, the kinds of experiments that NYSCF conducts require a combination of disciplines: biologists, engineers, computer scientists, immunologists and neurologists. This multi-disciplinary approach is what allows them to reproduce high quality stem cells on a vast scale, reducing the bottleneck which had been hampering stem cell research efforts.

What is the foundation of these discoveries? The creation of **induced pluripotent stem cells grown from adult skin or blood cells**[20], and which supplant much of the need for stem cells obtained from in-vitro fertilization (IVF/embryonic) sources. So far, stem cell research for chronic diseases is mostly taking place in multi-disciplinary labs like the one we visited. But the milestones are very promising so far:

- Drug combinations designed to slow down the progress of ALS and to destroy AML (leukemia) cancer cells were discovered using the process above, and are moving forward in clinical trials
- Patients are now receiving stem cell treatments for macular degeneration in early trials
- Stem cell treatments are being designed for Parkinson's patients to replace and rebuild lost neurons
- Researchers are working on stem cell treatments that involve the production of new blood cells to combat sickle cell and other immune/metabolic disorders
- Cell samples from patient tumors can be used to generate "organoids", which are effectively living cancerous tissue that can survive indefinitely and be used for cancer treatment research

Very early stage projects include studies of sensory neurons, obtained and sustained through stem cell creation, with the goal of developing better non-addictive treatments for chronic pain.

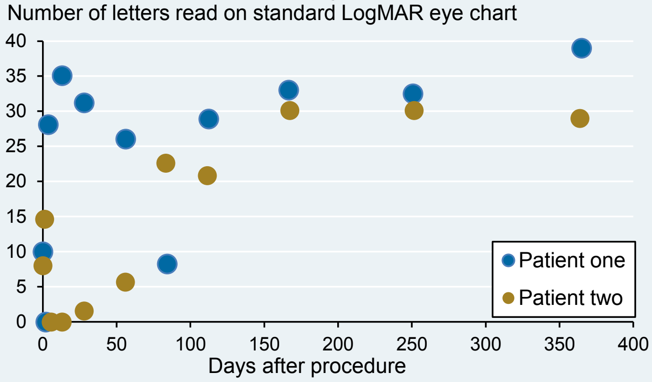
There's a long road ahead for sufferers of chronic diseases being studied, given the time it takes to get new treatments approved, the time it takes for new treatments to propagate through the healthcare system, questions about whether such treatments would be covered under different insurance plans, and questions about the pluripotent stem cells themselves, since there are reports in some experiments of tumor formation emanating from the stem cells. Despite the uncertainties, stem cell clinical trials now underway may with the benefit of hindsight be seen as a new frontier in medical treatment that reduces mortality, disability and the economic costs associated with certain chronic diseases.

The latest research on stem cell transplants to treat age-related macular degeneration (AMD)

Two patients with acute wet AMD and recent rapid vision decline received a patch of cells derived from leftover IVF embryos in one eye as part of a phase 1, open-label, safety and feasibility study. Results were measured in terms of "visual acuity" (i.e, being able to read a standard LogMAR eye chart, which is the one with 5 block letters per line), and in reading ability measured in words per minute. Both patients improved on both fronts within the first year, although both required post-procedure hospitalization to treat retinal detachment and adverse side effects from immunosuppression procedures (since IVF cells were used that were not derived from the patient). Future stem cell studies will involve a patient's own pluripotent cells instead, eliminating the need for immunosuppression.

Improvements in visual acuity

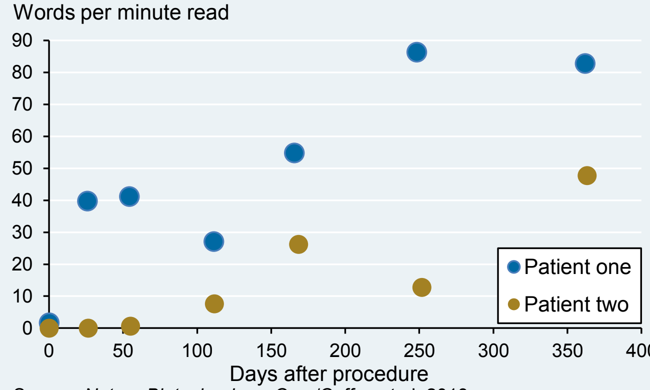
Number of letters read on standard LogMAR eye chart



Source: *Nature Biotechnology*, Cruz/Coffey et al, 2018.

Reading speed

Words per minute read



Source: *Nature Biotechnology*, Cruz/Coffey et al, 2018.

[20] **The importance of FDA-approved studies and treatments vs "Stem Cell Tourism"**. There are reports of adipose and other stem cell treatments which are quite different from FDA-approved stem cell studies, and which have been investigated by the New York Attorney General and other regulators for risks to patients. A study in the 2017 New England Journal of Medicine showed substantial adverse impacts from some unregulated macular degeneration treatments, including complete blindness.

Acronyms
ACWI All Country World Index; **AMEX** American Stock Exchange; **BEA** Bureau of Economic Analysis; **BLS** Bureau of Labor Statistics; **CBO** Congressional Budget Office; **CC** China Customs; **CFLP** China Federation of Logistics and Purchasing; **CFO** Chief Financial Officer; **CRFB** Committee for a Responsible Federal Budget; **CNBS** China National Bureau of Statistics; **E&P** Exploration and Production; **EBITDA** Earnings before interest, tax, depreciation, and amortization; **ECB** European Central Bank; **EM** Emerging Markets; **FAANG** Facebook, Apple, Amazon, Netflix, and Google; **FDA** Food and Drug Administration; **FRB** Federal Reserve Board; **FTC** Federal Trade Commission; **GBI** Government Bond Index; **GICS** Global Industry Classification Standard; **GIPC** Global Innovation Policy Center; **HHS** United States Dep't of Health and Human Services; **IBES** Institutional Brokers' Estimate System; **IPO** Initial Public Offering; **ITIF** Information Technology and Innovation Foundation; **JPMAM** J.P. Morgan Asset Management; **MSCI** Morgan Stanley Capital International; **NAHB** National Association of Homebuilders; **NBER WP** National Bureau of Economic Research Working Papers; **NLRB** National Labor Relations Board; **NTU** National Taxpayer Union; **NYSE** New York Stock Exchange; **OECD** Organisation for Economic Co-operation and Development; **P/E** Price to Earnings; **PBOC** People's Bank of China; **PCE** Personal Consumption Expenditure; **PMI** Purchasing Managers' Index; **R&D** Research and Development; **RMB** Renminbi; **SG&A** Selling, General and Administrative Expenses; **SIFMA** Securities Industry and Financial Markets Association; **USITC** United States International Trade Commission; **WTO** World Trade Organization

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Mr. Cembalest is also a member of the J.P. Morgan Asset & Wealth Management Investment Committee and previously served on the Investment Committee for the J.P. Morgan Retirement Plan for the firm's more than 256,000 employees.

Mr. Cembalest was most recently Chief Investment Officer for the firm's Global Private Bank, a role he held for eight years. He was previously head of a fixed income division of Investment Management, with responsibility for high grade, high yield, emerging markets and municipal bonds.

Before joining Asset Management, Mr. Cembalest served as head strategist for Emerging Markets Fixed Income at J.P. Morgan Securities. Mr. Cembalest joined J.P. Morgan in 1987 as a member of the firm's Corporate Finance division.

Mr. Cembalest earned an M.A. from the Columbia School of International and Public Affairs in 1986 and a B.A. from Tufts University in 1984.

AMERICAS	ASIA	EUROPE	MIDDLE EAST
Brazil	Hong Kong	France	Dubai
Chile	Singapore	Germany	
Colombia		Italy	
Mexico		Spain	
Peru		Switzerland	
United States		United Kingdom	

EL CAMINO HOSPITAL BOARD OF DIRECTORS
COMMITTEE MEETING COVER MEMO

To: Investment Committee
From: Iftikhar Hussain, CFO
Date: February 10, 2020
Subject: Review of Investment Policies

Purpose: To update the Investment Committee on the work of the Finance Committee.

Summary:

1. Situation: The Finance Committee meets 7 times per year; the Committee's last regular meeting was on January 27, 2020. Its next meeting is on March 23, 2020.

2. Background: Here is a summary of activities at the meeting:

   a. Reviewed and recommended Board approval of FY 20 Period 5 and Period 6 Financial Report.
   b. Reviewed results of Joint Venture with Satellite Dialysis
   c. Discussed process for filling vacancy of a committee member.

3. Outcomes: N/A

List of Attachments: The Finance Committee open session materials may be accessed by clicking here.

Suggested Committee Discussion Questions: None, this is a consent item.

FY20 COMMITTEE GOALS
Investment Committee

PURPOSE

The purpose of the Investment Committee is to develop and recommend to the El Camino Hospital (ECH) Board of Directors ("Board") the investment policies governing the Hospital's assets, maintain current knowledge of the management and investment funds of the Hospital, and provide oversight of the allocation of the investment assets.

STAFF: **Iftikhar Hussain**, Chief Financial Officer (Executive Sponsor)

The CFO shall serve as the primary staff to support the Committee and is responsible for drafting the Committee meeting agenda for the Committee Chair's consideration. Additional members of the Executive Team or hospital staff may participate in the meetings upon the recommendation of the CFO and at the discretion of the Committee Chair. The CEO is an ex-officio member of this Committee.

GOALS	TIMELINE	METRICS
1. Review performance of consultant recommendations of managers and asset allocations	Each quarter - ongoing	Committee to review selection of money managers and make recommendations to the CFO
2. Education Topic: Environmental and Social Governance	FY20 Q1	Complete by the August 2020 meeting Completed on August 12, 2019
3. Asset Allocation, Investment Policy Review and ERM framework including Efficient Frontier	Q4	Completed by May 2020. Completed November 11, 2019

SUBMITTED BY:
Chair: Gary Kalbach
Executive Sponsor: Iftikhar Hussain

Approved by the ECH Board of Directors 6/12/2019

INVESTMENT COMMITTEE PACING PLAN
Revised 05/13/2019

FY 2020: Q1		
JULY – NO MEETING	**AUGUST 12, 2019 Meeting**	**SEPTEMBER – NO MEETING**
N/A	▪ Capital Markets Review and Portfolio Performance ▪ Tactical Asset Allocation Positioning and Market Outlook ▪ Education Topic: Env./Social Governance ▪ CFO Report Out – Open Session Finance Committee Materials	N/A
FY 2020: Q2		
OCTOBER – NO MEETING	**NOVEMBER 11, 2019 Meeting**	**DECEMBER – NO MEETING**
October 23, 2019 – Board and Committee Educational Session	▪ Capital Markets Review and Portfolio Performance ▪ Tactical Asset Allocation Positioning and Market Outlook ▪ Investment Policy Review ▪ CFO Report Out – Open Session Finance Committee Materials	N/A
FY 2020: Q3		
JANUARY 27, 2020	**FEBRUARY – 10, 2020 Meeting**	**MARCH – NO MEETING**
Joint Finance Committee and Investment Committee meeting.	▪ Capital Markets Review and Portfolio Performance ▪ Tactical Asset Allocation Positioning and Market Outlook ▪ CFO Report Out – Open Session Finance Committee Materials ▪ Proposed FY 2021 Goals/Pacing Plan/Meeting Dates	N/A
FY 2020: Q4		
APRIL – NO MEETING	**MAY 11, 2020 Meeting**	**JUNE – NO MEETING**
April 22, 2020 – Board and Committee Educational Session	▪ Capital Markets Review and Portfolio Performance ▪ Tactical Asset Allocation Positioning and Market Outlook ▪ Asset Allocation Review and ERM Framework ▪ CFO Report Out – Open Session Finance Committee Materials ▪ 403(b) Investment Performance ▪ Approve FY 21 Committee Goal ▪ Review status of FY20 Goals	N/A

El Camino Health

EL CAMINO HOSPITAL BOARD OF DIRECTORS
COMMITTEE MEETING COVER MEMO

To: Investment Committee
From: Cindy Murphy, Director of Governance Services
Date: February 10, 2020
Subject: Report on Board Actions

Purpose:

To keep the Committee informed with regards to actions taken by the El Camino Hospital and El Camino Healthcare District Boards.

Summary:

1. Situation: It is important to keep the Committees informed about Board activity to provide context for Committee work. The list below is not meant to be exhaustive, but includes agenda items the Board voted on that are most likely to be of interest to or pertinent to the work of El Camino Hospital's Board Advisory Committees.
2. Authority: This is being brought to the Committees at the request of the Board and the Committees.
3. Background: Since the last Investment Committee meeting, the Hospital Board has met twice and the District Board has met twice. In addition, since the Board has delegated certain authority to the Compliance and Audit Committee, the Finance Committee and the Executive Compensation Committee those approvals are also noted in this report.

A. **ECH Board Actions:**

- **December 11, 2019**

- Approved FY20 Periods 3 & 4 Financials
- Approved Revised SVMD, LLC Operating Agreement
- Approved Letters of Rebuttable Presumption of Reasonableness
- Approved Telepsych Services Agreement

- **December 16, 2019**

- Approved Revised Resolution 2019-12 Authorizing Forward Starting Interest Rate Hedge

B. **ECHD Board Actions:**

- **December 11, 2019**

- Approved Revised Community Benefit Policy

- **January 28, 2020**

- Authorized the CEO to Execute Consent Agreement transferring Grant Funds to Ravenswood under certain conditions.
- Approved Draft Revised Process for Election and Re Election of non-District Board Members to the Hospital Board

C. **Finance Committee Actions:**

- **November 25, 2019**

- Approved LPCH NICU PT/OT Professional Service Agreement
- Approved LPCH Neonatologist Agreement

- **January 27, 2020**

- Approved Los Gatos Urology Call Panel Renewal Agreement

D. **Compliance and Audit Committee**: None since last report.

E. **Executive Compensation Committee Actions:** None since last report.

4. Assessment: N/A

5. Other Reviews: N/A

6. Outcomes: N/A

List of Attachments: None.

Suggested Committee Discussion Questions: None.

El Camino Hospital

Capital Markets Review & Portfolio Performance

December 31, 2019

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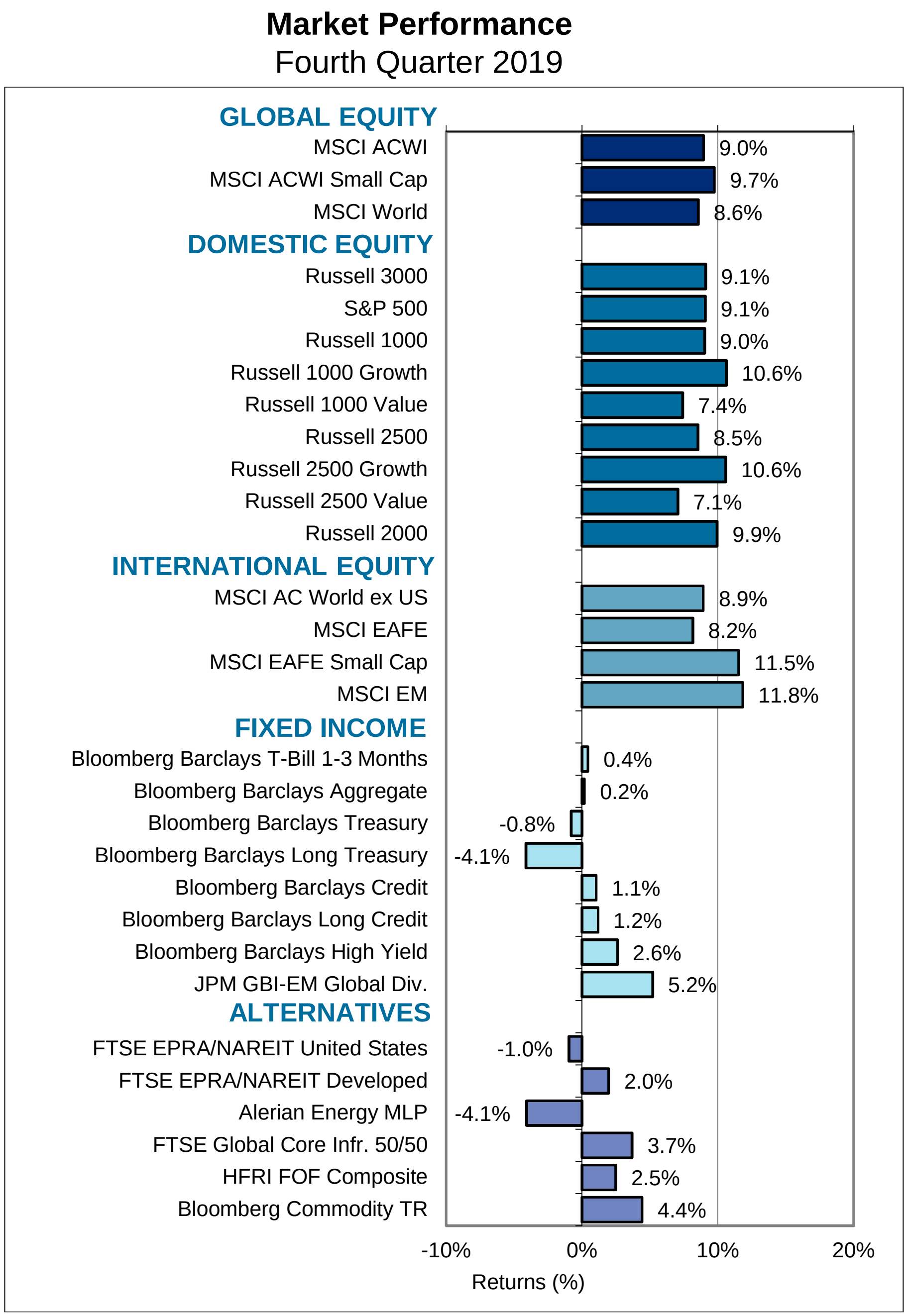
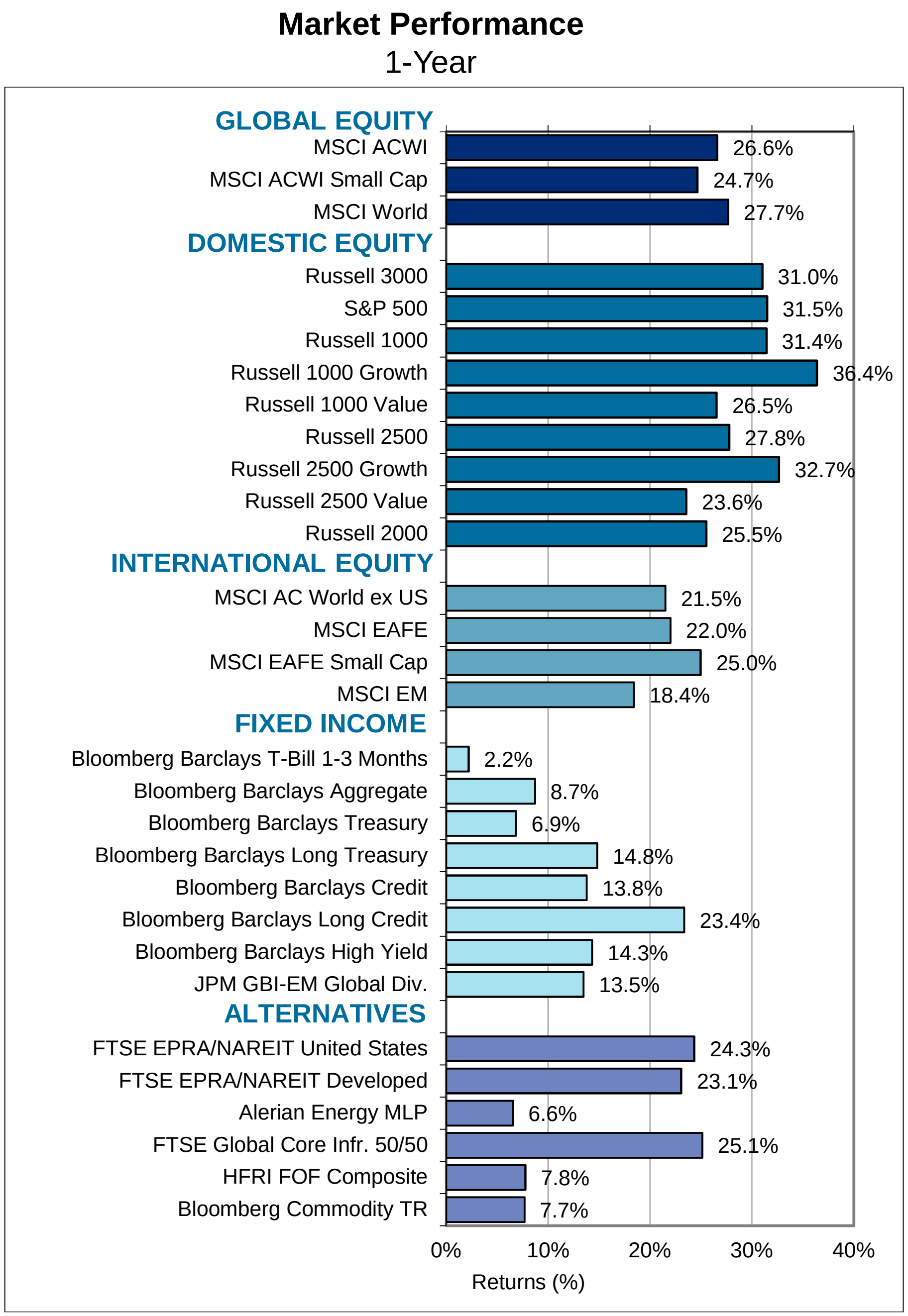
Capital Markets Review

PERFORMANCE SUMMARY



Source: Standard & Poor's, Russell, MSCI Barra, NAREIT, Bloomberg



Source: Standard & Poor's, Russell, MSCI Barra, NAREIT, Bloomberg

PERFORMANCE DRIVERS

1. Expectations for global growth to stabilize in 2020

- Global central bank easing and progress in the US – China trade dispute have generated optimism that global growth may begin to stabilize in 2020.
- Manufacturing has been the key driver of the slowdown with Europe hit the hardest. Within emerging markets, the downturn is broad-based across large economies including China, India and Brazil.
- The manufacturing slump has been cushioned by consumer strength and solid service sector activity. If manufacturing continues to worsen it could spill over, but there are signs that it has bottomed.
- **Mercer View:** We expect global economic growth to stabilize in early 2020 and improve to trend later in the year on easing financial conditions. Geopolitics pose downside risks to growth, although trade risks have diminished.

2. Central banks continue to ease

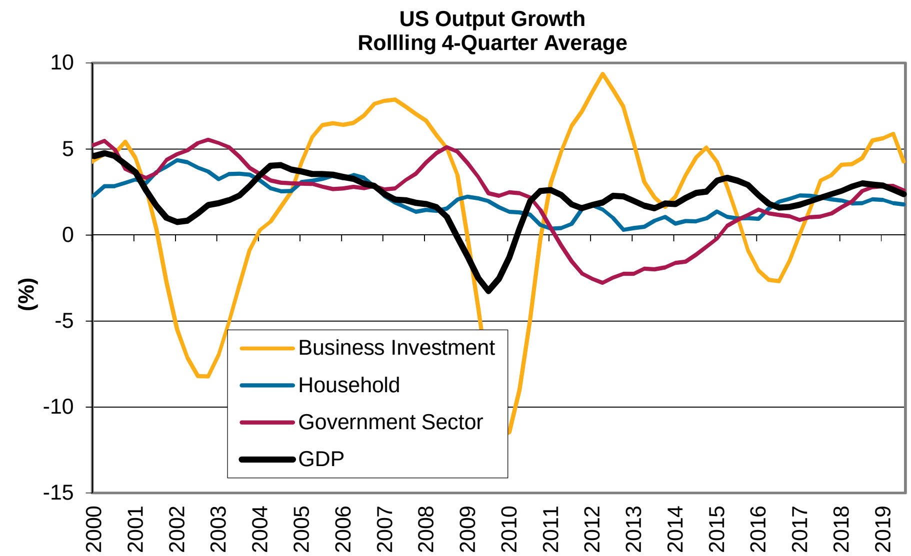
- The Fed cut rates by 25 bps in its October meeting and left rates unchanged in December. The December “dot plot” suggested that FOMC members did not expect to change rates in 2020.
- The ECB and BOJ continue to ease and are likely to do so for the foreseeable future. The Fed’s easing in 2019 allowed many emerging market central banks to also ease without significant currency devaluation.
- **Mercer View:** Following its dovish shift in 2019, the Fed appears to be in a “wait and see” mode for 2020. It seems likely to stay on the sidelines in an election year, although further easing is possible should the economy weaken.

3. Trade tensions and geopolitical risks continue to cause uncertainty

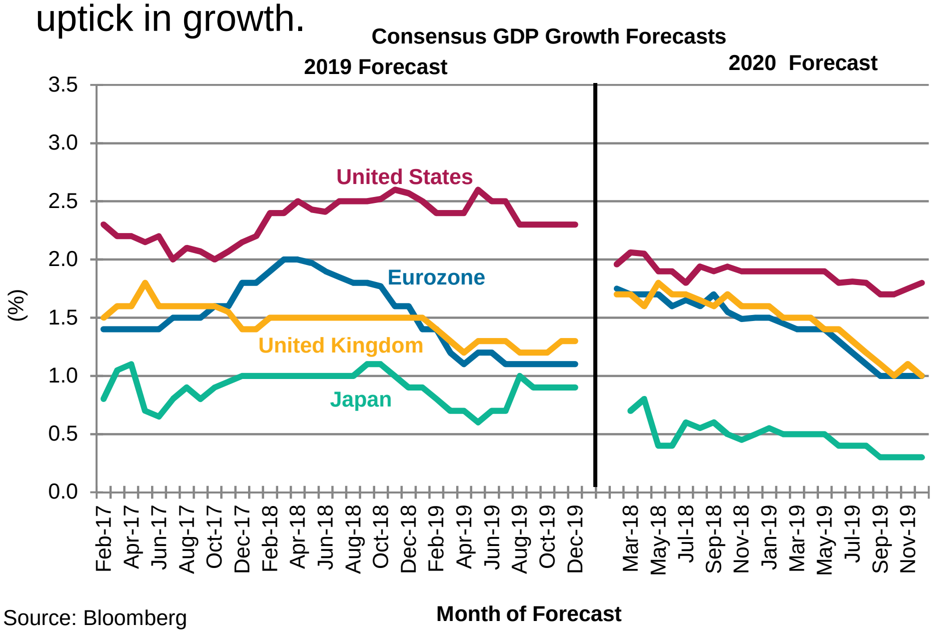
- The US and China have agreed to a “Phase One” trade deal, which will likely push off further confrontations until after the election. The resulting reduction in uncertainty has been welcomed by markets.
- The US House approved two articles of impeachment against President Trump. The unlikelihood of a Senate conviction has meant minimal market impact. The Presidential election, in contrast, has the potential to be a significant market driver for 2020.
- Strong gains by Boris Johnson’s Conservative Party in recent elections should give him the votes necessary to move forward with his Brexit plan, making a “no deal” Brexit unlikely.
- Escalating tensions between the US and Iran have created risks, particularly for oil markets.
- **Mercer View:** Geopolitical risks remain elevated, and continue to be a source of volatility and downside risk.

ECONOMIC FUNDAMENTALS
GROWTH IS SOFTENING, BUT EXPECTED TO STABILIZE

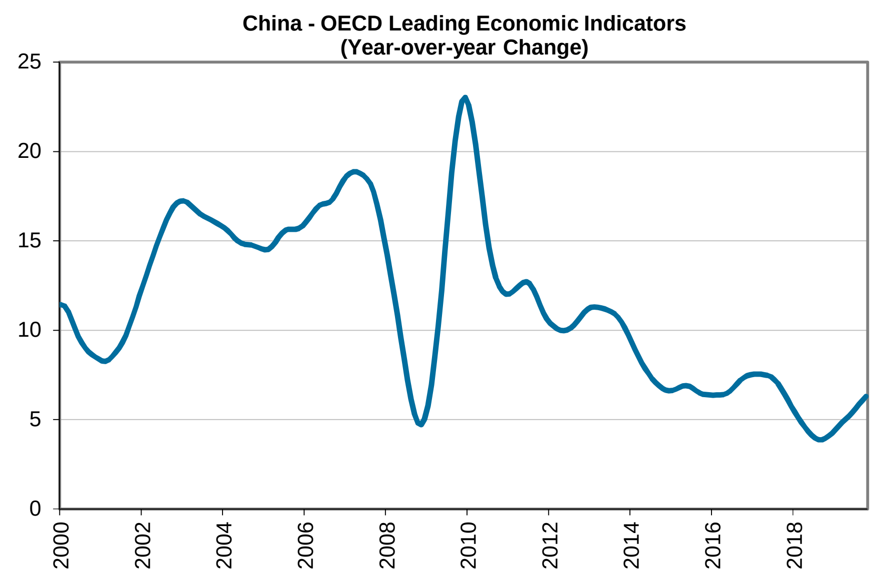
- The global economy slowed to below trend in 2019 due to weakness in capital spending. Growth should return to trend in 2020 as easier monetary policy begins to feed through.
- The US economy slowed in 2019, but should grow close to trend in 2020, supported by households.
- Eurozone economic growth disappointed in 2019 due to the global trade slowdown. The risk of a hard Brexit has fallen, which should reduce business uncertainty.
- Emerging market central banks eased in 2019. This along with reduced trade tensions should support an uptick in growth.



Source: Bureau of Economic Analysis



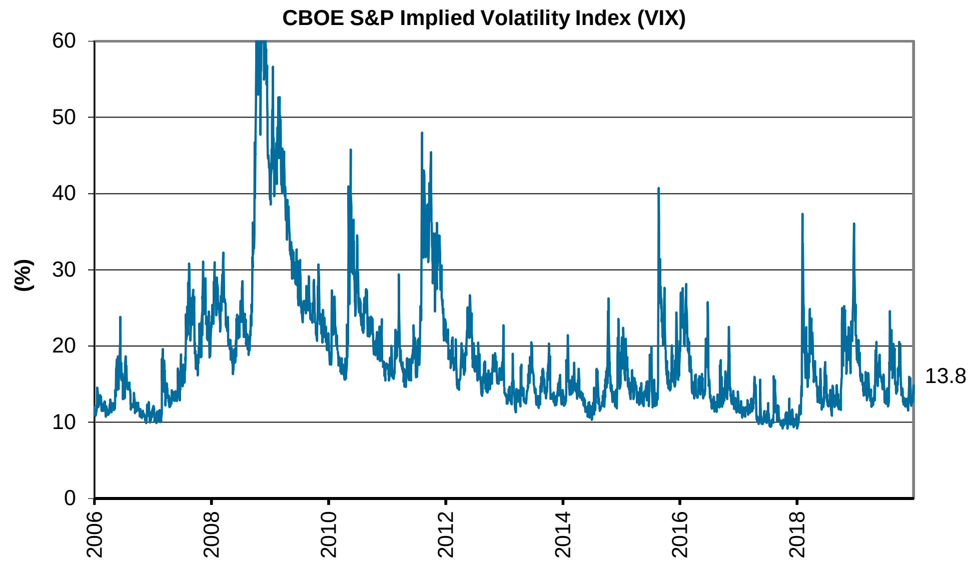
Source: Bloomberg



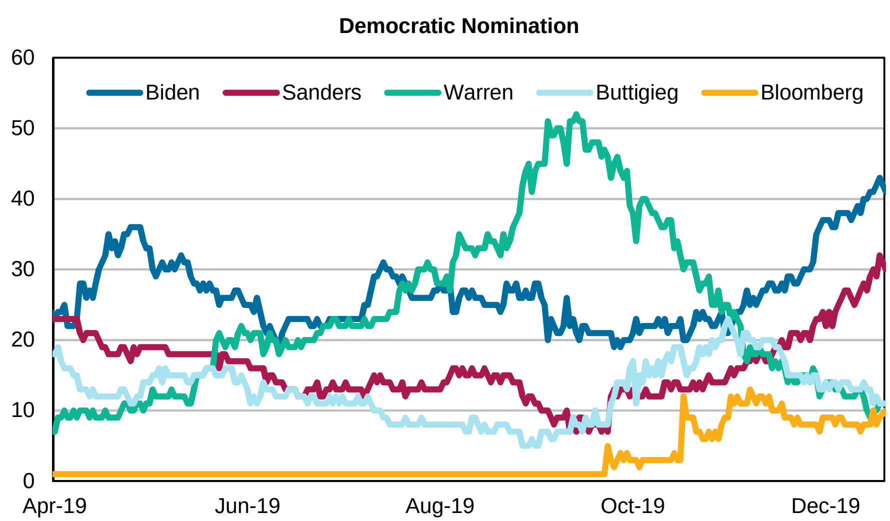
Source: Bloomberg

RISK FACTORS
TRADE CONCERNS EBBED

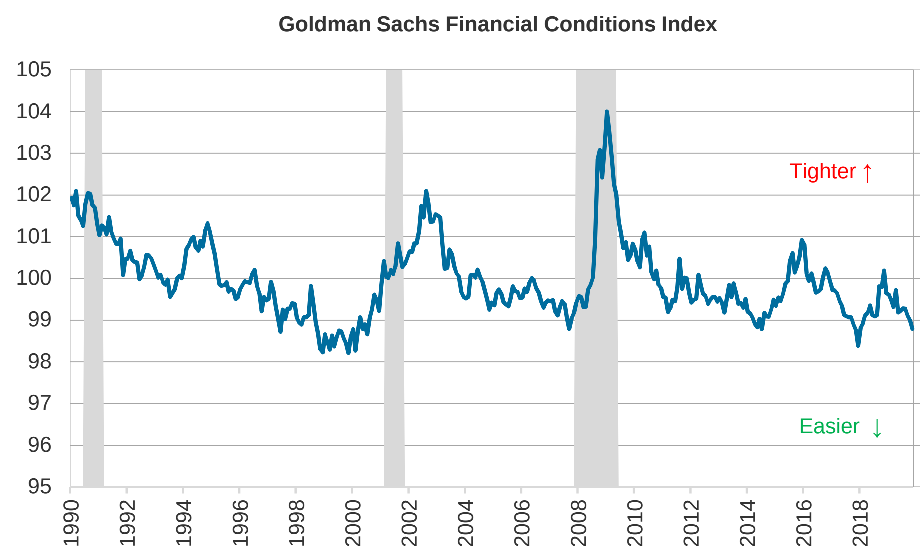
- Financial conditions eased somewhat during the quarter, due mostly to the rise in equity valuations and decline in credit spreads.
- The VIX index moved lower during the quarter, as stocks moved steadily upward through year-end.
- Trade relations remain a risk, although they lessened on the “Phase One” US-China trade deal. Meanwhile, the recent flare up between the US and Iran presents geopolitical risks, particularly for oil markets.
- The US election could become a key market driver in 2020, particularly if a more progressive candidate were to win the Democratic nomination.



Source: Bloomberg



Source: PredictIt

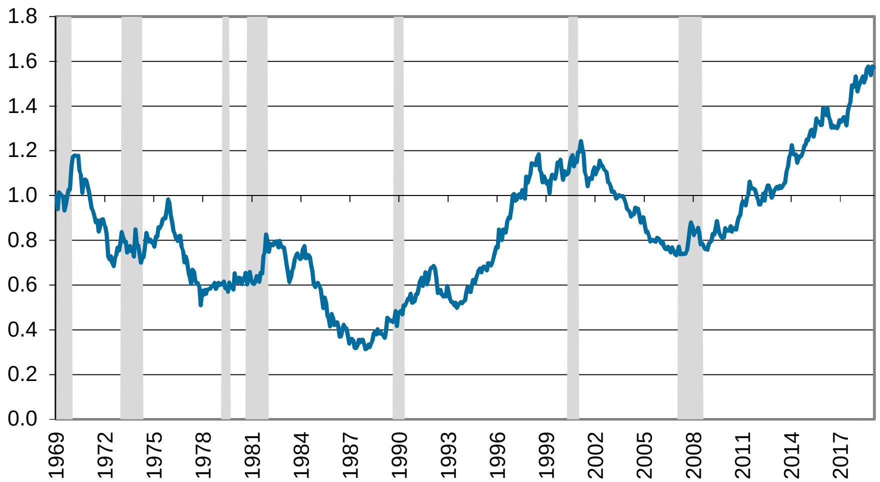


Source: Bloomberg

REGIONAL EQUITY RETURNS
US EQUITIES OUTPERFORMED IN 2019

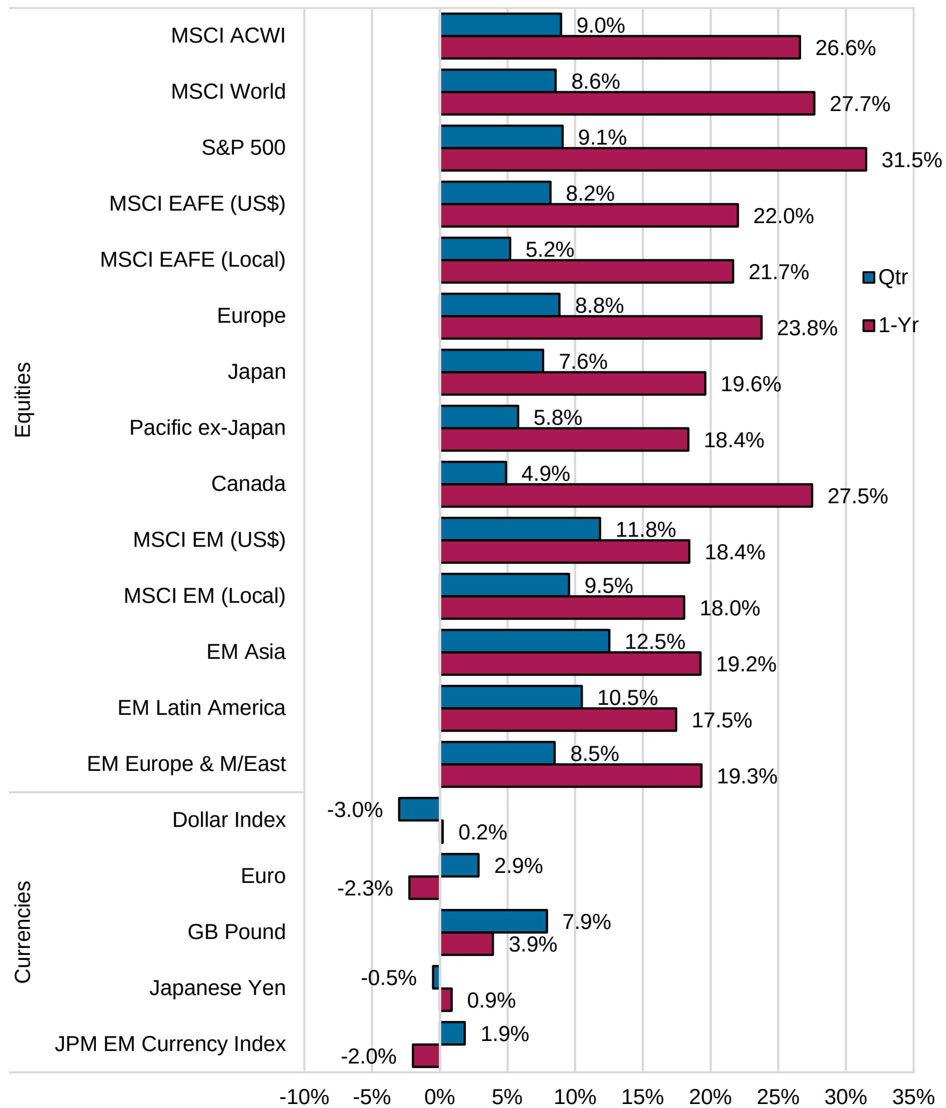
- Global equities posted strong results during Q4, with MSCI ACWI returning 9.0% due to easier monetary policy and positive trade developments.
- The US outperformed international developed markets during the quarter, but lagged emerging markets. The S&P 500 returned 9.1% in Q4, finishing the year up 31.5%.
- International developed stocks gained 8.2% during the quarter and 22.0% in 2019. A weaker dollar benefited US investors during the quarter.
- Emerging market equities gained 11.8% in Q4, outperforming developed markets by 320 bps on trade progress and signs of a stabilization in growth.

Ratio of MSCI US to MSCI EAFE (Relative Performance)



Source: Datastream

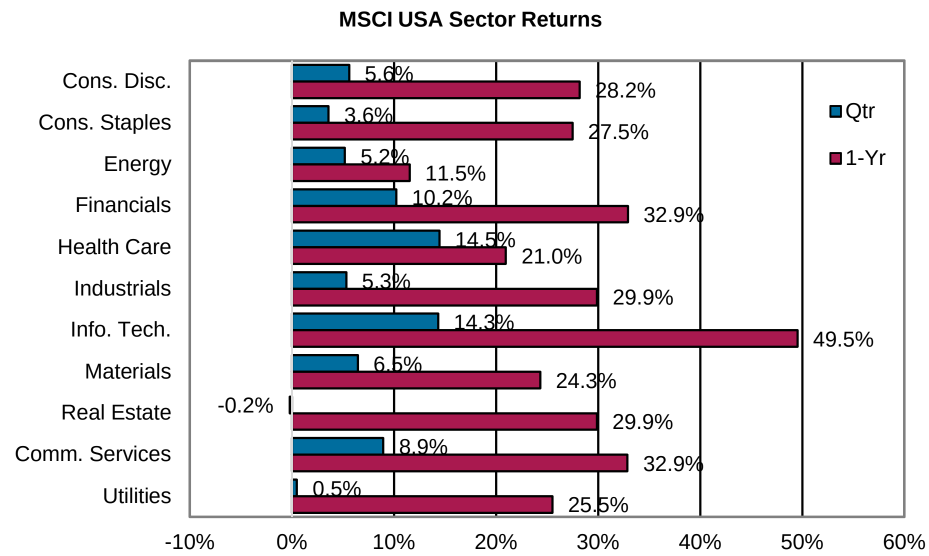
Global Performance



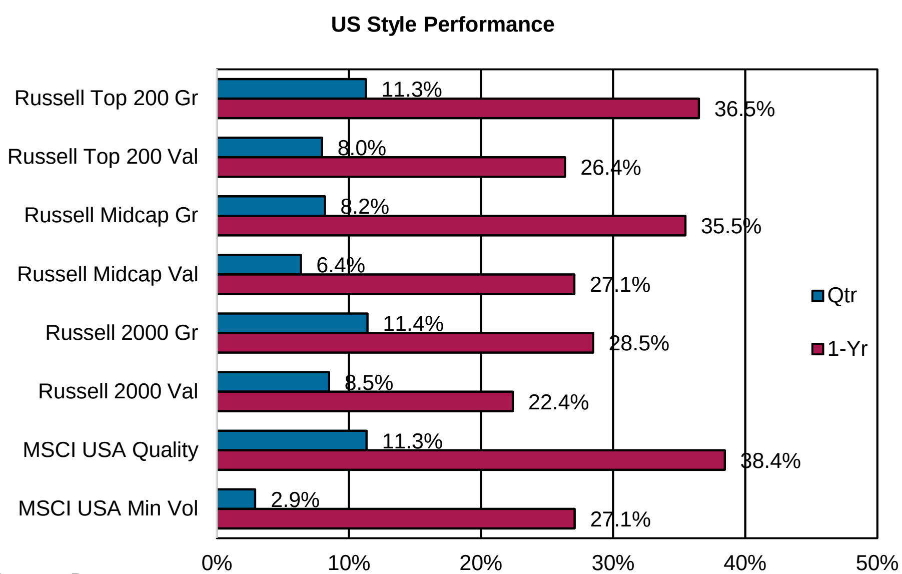
Source: Bloomberg, Datastream

US EQUITY FACTOR AND SECTOR RETURNS
GROWTH AND QUALITY STOCKS OUTPERFORM

- Growth outperformed value across the size spectrum during Q4 and 2019. Small-cap growth stocks returned 11.4% and narrowly outperformed large-cap growth stocks to produce the strongest results for the quarter.
- Mid-cap stocks generally underperformed large- and small-cap stocks during the quarter, while small-caps lagged for the calendar year.
- Quality stocks outperformed in Q4 and 2019, while value and momentum factors lagged. Technology stocks produced strong results during 2019, returning 49.5%, outperforming other sectors by a wide margin.



Source: Bloomberg



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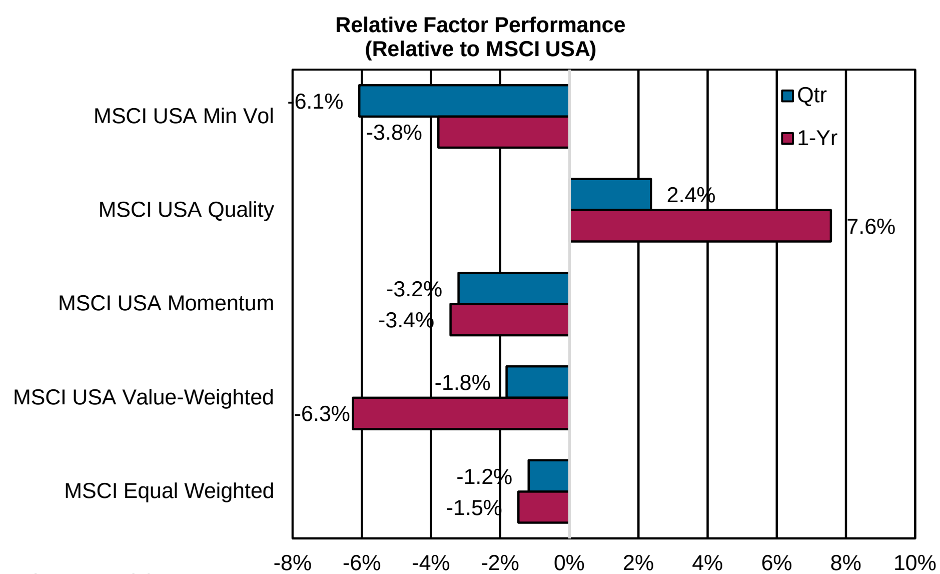
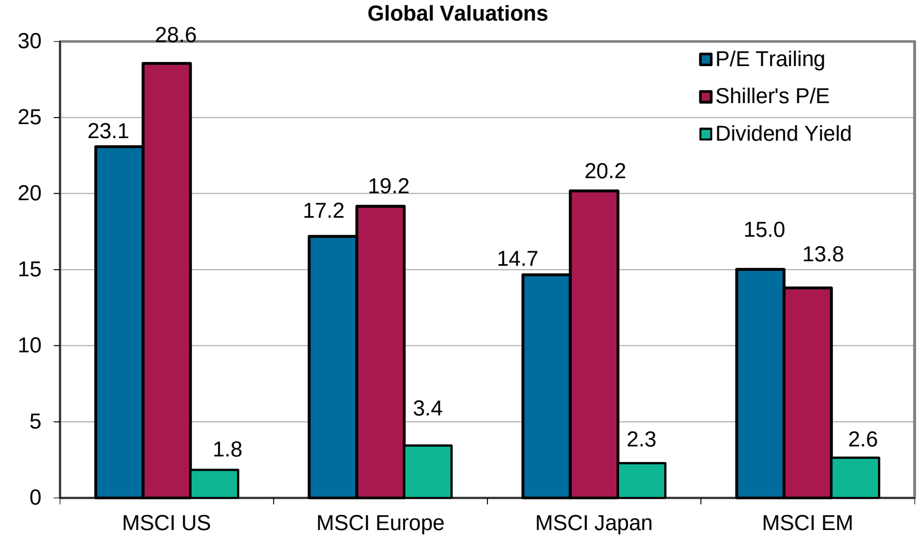


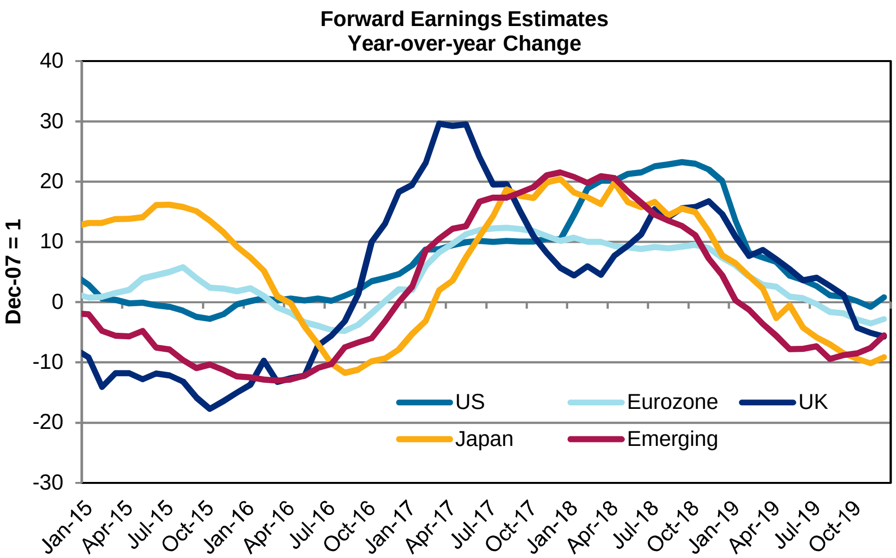
Source: MSCI

EQUITY VALUATIONS
STRONG RETURNS LEAVE VALUATIONS ELEVATED

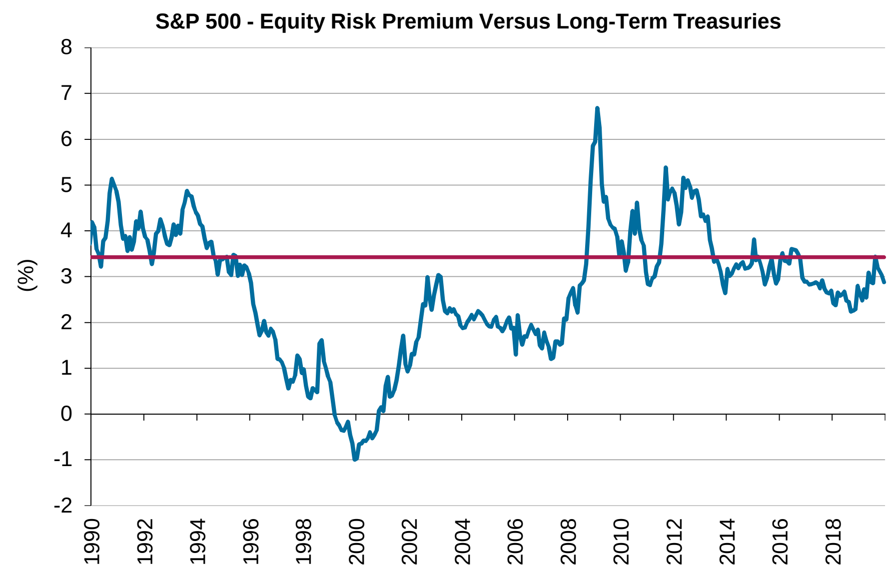
- Valuations rose during the quarter. Strong stock price gains combined with a modest decline in earnings resulted in the P/E ratio on the MSCI US index rising from 21.1 to 23.1. We estimate that the equity risk premium over long-term treasuries declined 33 bps to 2.9% as valuations and bond yields rose.
- International developed stocks remain more reasonably valued, although they face a more challenging macro environment.
- Emerging markets have better valuations and arguably better earnings prospects than developed markets, although trade uncertainty remains a risk.



Source: Bloomberg, Datastream, Mercer



Source: Datastream

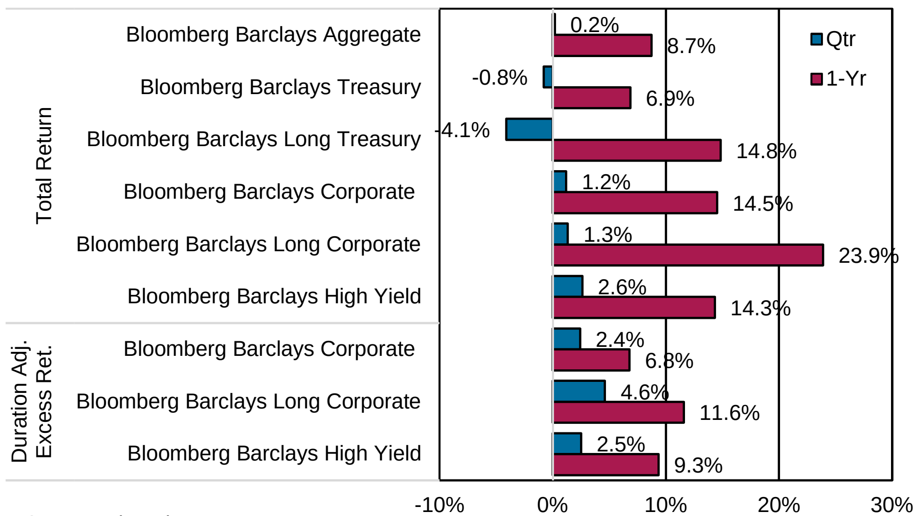


Source: MSCI, Datastream, Mercer

FIXED INCOME RETURNS WERE MIXED IN Q4

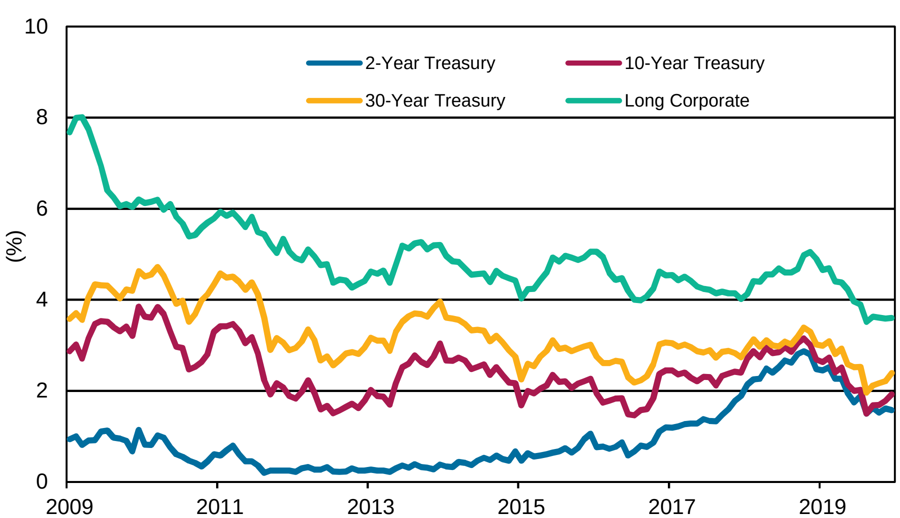
- The Bloomberg Barclays Aggregate returned 0.2% in Q4 and finished 2019 with a gain of 8.7%. The yield curve steepened during the quarter as 3-month yields fell 33 bps, while 10- and 30-year yields rose by 24 bps and 27 bps, respectively.
- Investment-grade corporate bond spreads fell an average of 22 bps during the quarter to 0.93%, which is 19 bps below the long-term median level.
- High yield bonds gained 2.8% during the quarter as yields declined by 45 bps. Credit spreads narrowed by 37 bps during the quarter, remaining well below their long-term median level.

Fixed Income Performance



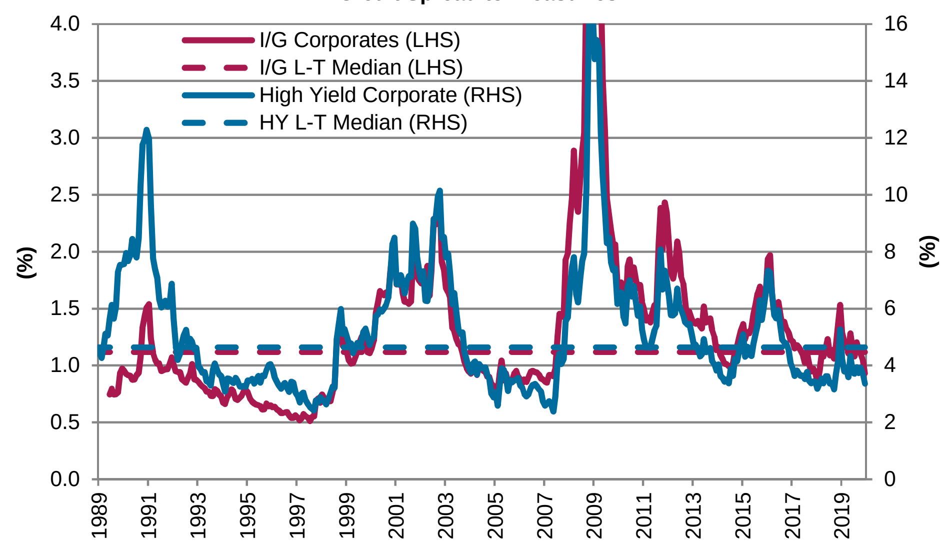
Source: Bloomberg, Datastream

Yield History



Source: Bloomberg, Federal Reserve

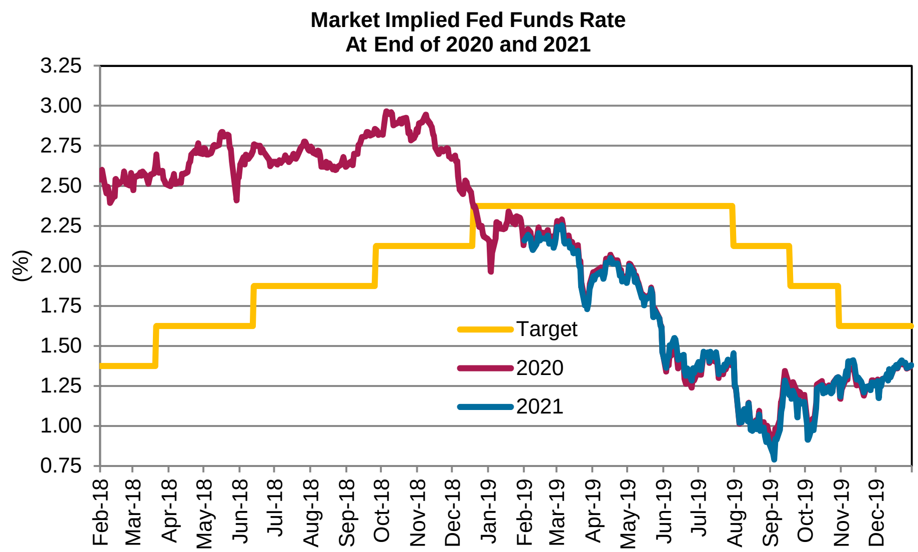
Credit Spread to Treasuries



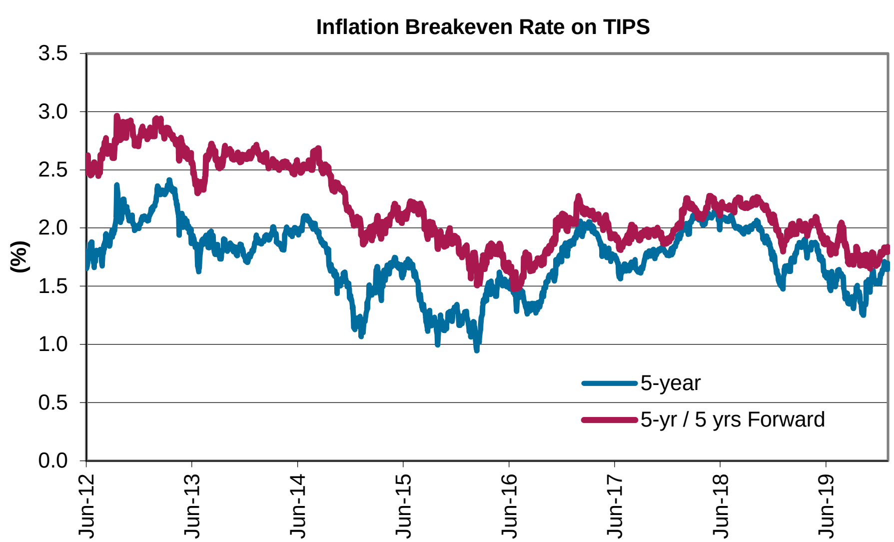
Source: Bloomberg

THE FED CUT RATES BUT SIGNALLED A PAUSE FOR 2020

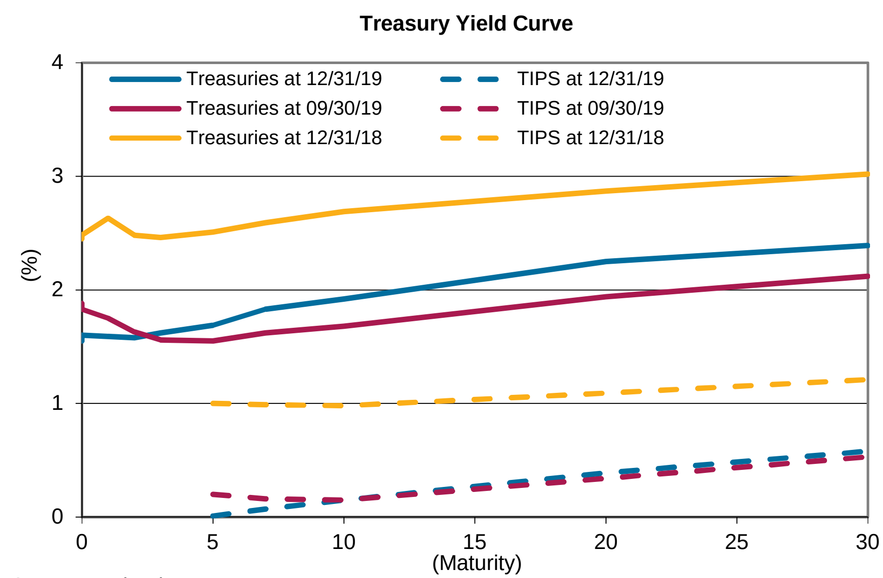
- The Fed cut rates in its October meeting. The Fed also signaled that it will be on hold in 2020, projecting no change in rates during the year.
- Following spikes in the overnight repo rate around the end of Q3, the Fed stepped in to provide more liquidity to overnight lending markets.
- The yield curve steepened during Q4, generally returning the curve to an upward slope. There remains a slight inversion between 6-month and 2-year Treasuries.



Source: Bloomberg



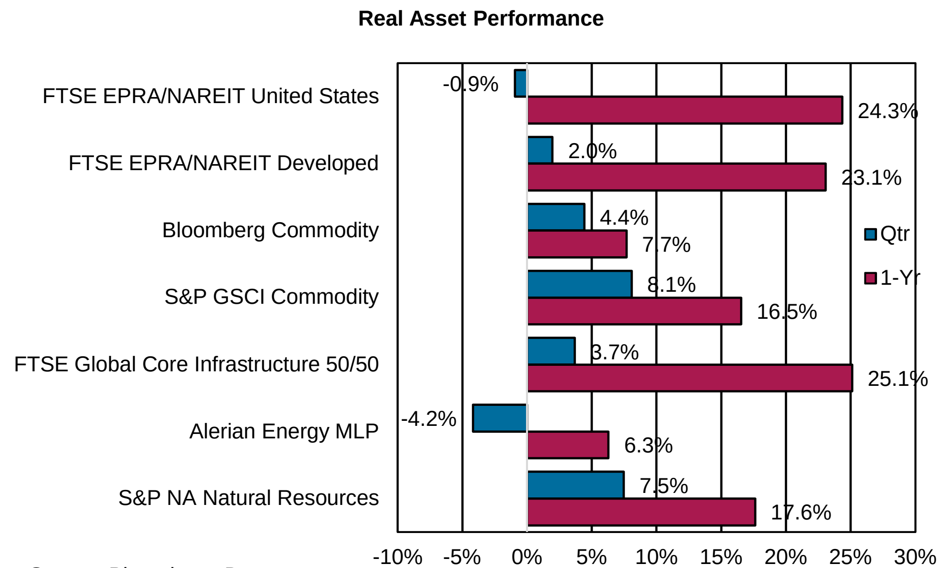
Source: Bloomberg, Mercer



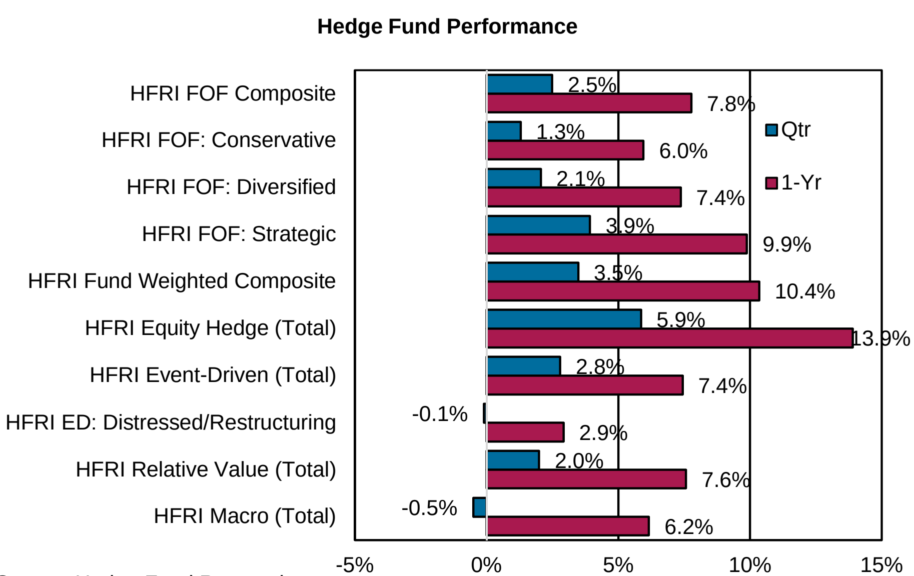
Source: Federal Reserve

ALTERNATIVE INVESTMENT PERFORMANCE
REITS AND INFRASTRUCTURE LAG

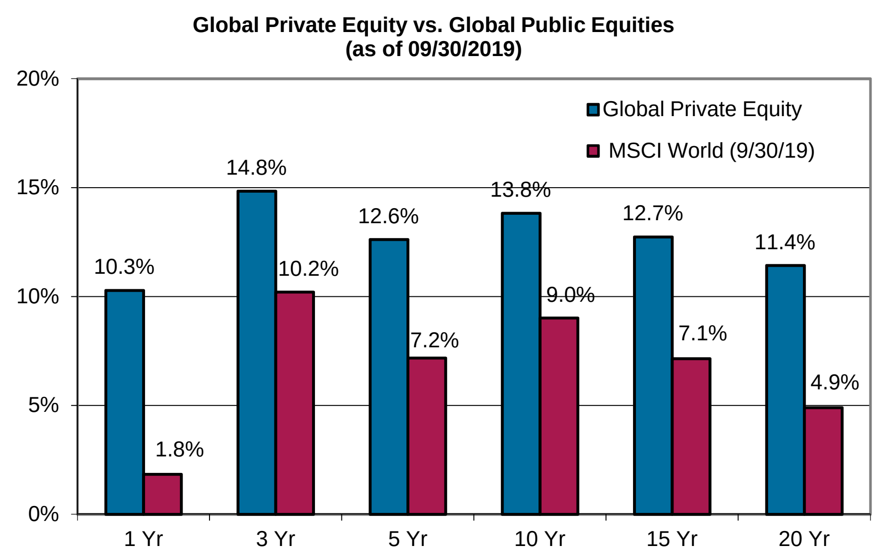
- REITs and infrastructure lagged the broader market during the quarter as long-term rates rose. Over the past year, REITs and infrastructure have posted strong absolute returns, but lagged the S&P 500.
- Natural resource stocks gained 7.5% during the quarter, with oil and other commodities rising due to expectations for stabilizing global growth.
- Hedge funds gained 2.5% during the quarter and 7.8% during 2019.
- Global private equity outperformed global developed stocks by a wide margin over most trailing periods.



Source: Bloomberg, Datastream



Source: Hedge Fund Research



Source: Burgiss, Bloomberg

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Portfolio Review

Investment Scorecard

As of December 31, 2019

PAVILION a Mercer Practice

Key Performance Indicator	Status	El Camino	Benchmark	El Camino	Benchmark	El Camino	Benchmark	FY20 Budget	Expectation Per Asset Allocation
Investment Performance		4Q 2019		Fiscal Year-to-date		7y 2m Since Inception (annualized)		FY 2020	2019
Surplus cash balance*		$1,087.8	--	--	--	--	--	--	--
Surplus cash return		3.9%	4.2%	4.8%	4.9%	5.9%	5.8%	4.0%	5.6%
Cash balance plan balance (millions)		$293.8	--	--	--	--	--	--	--
Cash balance plan return		5.3%	5.1%	5.6%	5.7%	8.1%	7.4%	6.0%	6.0%
403(b) plan balance (millions)		$548.4	--	--	--	--	--	--	--
Risk vs. Return		3-year				7y 2m Since Inception (annualized)			2019
Surplus cash Sharpe ratio		1.14	1.11	--	--	1.09	1.08	--	0.34
Net of fee return		7.8%	7.4%	--	--	5.9%	5.8%	--	5.6%
Standard deviation		5.2%	5.1%	--	--	4.7%	4.7%	--	8.7%
Cash balance Sharpe ratio		1.16	1.09	--	--	1.17	1.12	--	0.32
Net of fee return		9.6%	8.5%	--	--	8.1%	7.4%	--	6.0%
Standard deviation		6.6%	6.1%	--	--	6.2%	5.8%	--	10.3%
Asset Allocation		4Q 2019							
Surplus cash absolute variances to target		9.4%	< 10%	--	--	--	--	--	--
Cash balance absolute variances to target		7.4%	< 10%	--	--	--	--	--	--
Manager Compliance		4Q 2019							
Surplus cash manager flags		9	< 24 Green < 30 Yellow	--	--	--	--	--	--
Cash balance plan manager flags		11	< 27 Green < 34 Yellow	--	--	--	--	--	--

*Excludes debt reserve funds (~$53 mm), District assets (~$38 mm), and balance sheet cash not in investable portfolio. Includes Foundation (~$35 mm) and Concern (~$13 mm) assets.

Total Surplus Cash Assets

As of December 31, 2019

December 31, 2019

PAVILION a Mercer Practice

	Allocation		Performance								
	Asset $	%	3 Month	Fiscal YTD	CYTD	1 Year	3 Year	5 Year	10 Year	Inception	Inception Date
Total Surplus Cash (1)	**1,178,949,482**	**100.0**	**3.7**	**4.5**	**13.5**	**13.5**	**6.8**	**5.0**	**5.6**	**5.4**	**Nov-2012**
Total Surplus Cash ex District / Debt Reserves (1)	**1,087,836,914**	**92.3**	**3.9**	**4.8**	**15.0**	**15.0**	**7.8**	**5.6**	**5.9**	**5.9**	**Nov-2012**
Surplus Cash Total Benchmark			*4.2*	*4.9*	*15.3*	*15.3*	*7.4*	*5.5*	*5.9*	*5.8*	
Total Surplus Cash ex District / CONCERN / Debt Reserves (1)	**1,074,364,694**	**91.1**	**4.0**	**4.8**	**15.1**	**15.1**	**7.9**	**5.7**	**6.0**	**6.0**	**Nov-2012**
Surplus Cash Total Benchmark			*4.2*	*4.9*	*15.3*	*15.3*	*7.4*	*5.5*	*5.9*	*5.8*	
Total CONCERN	**13,472,219**	**1.1**	**0.3**	**2.4**	**9.0**	**9.0**	**4.2**	**-**	**-**	**3.6**	**Feb-2016**
CONCERN Total Benchmark			*0.2*	*2.3*	*8.5*	*8.5*	*4.0*	*-*	*-*	*3.3*	
Met West Total Return Bond Plan - CONCERN	13,385,473	1.1	0.3	2.5	9.2	9.2	4.3	3.1	-	3.6	Feb-2016
Blmbg. Barc. U.S. Aggregate			*0.2*	*2.5*	*8.7*	*8.7*	*4.0*	*3.0*	*3.7*	*3.4*	
Cash Account - CONCERN	86,746	0.0	1.0	1.2	1.9	1.9	1.1	-	-	0.9	Feb-2016
90 Day U.S. Treasury Bill			*0.5*	*1.0*	*2.3*	*2.3*	*1.7*	*1.1*	*0.6*	*1.3*	
District - Barrow Hanley	**38,212,653**	**3.2**	**0.5**	**1.3**	**3.7**	**3.7**	**1.8**	**1.4**	**1.2**	**1.1**	**Nov-2012**
Blmbg. Barc. 1-3 Govt			*0.5*	*1.1*	*3.6*	*3.6*	*1.9*	*1.4*	*1.2*	*1.1*	
Total Debt Reserves	**52,899,916**	**4.5**	**0.5**	**1.1**	**2.3**	**2.3**	**1.8**	**-**	**-**	**1.3**	**May-2015**
90 Day U.S. Treasury Bill			*0.5*	*1.0*	*2.3*	*2.3*	*1.7*	*1.1*	*0.6*	*1.1*	
Ponder Debt Reserves - 2015	3,223,759	0.3	0.4	1.0	2.2	2.2	1.7	-	-	1.3	May-2015
90 Day U.S. Treasury Bill			*0.5*	*1.0*	*2.3*	*2.3*	*1.7*	*1.1*	*0.6*	*1.1*	
Ponder Debt Reserves - 2017	49,676,156	4.2	0.5	1.0	2.3	2.3	-	-	-	1.8	Mar-2017
90 Day U.S. Treasury Bill			*0.5*	*1.0*	*2.3*	*2.3*	*1.7*	*1.1*	*0.6*	*1.7*	

Returns are expressed as percentages and are net of investment management fees. Returns for periods greater than one year are annualized. (1) Includes Foundation assets.

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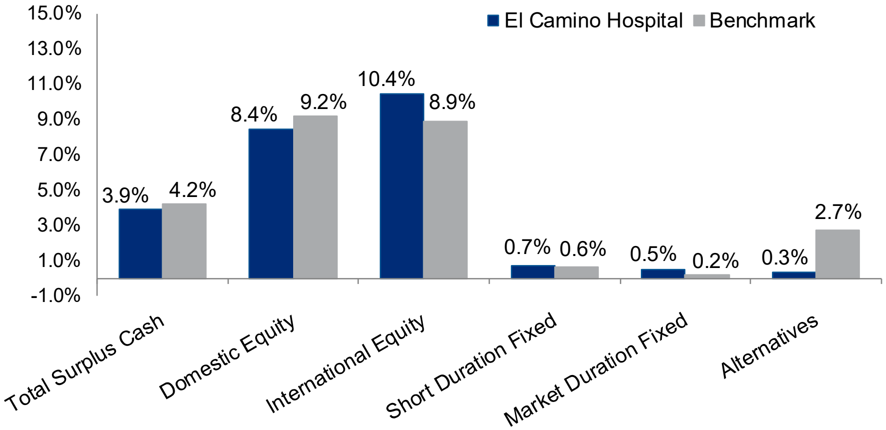
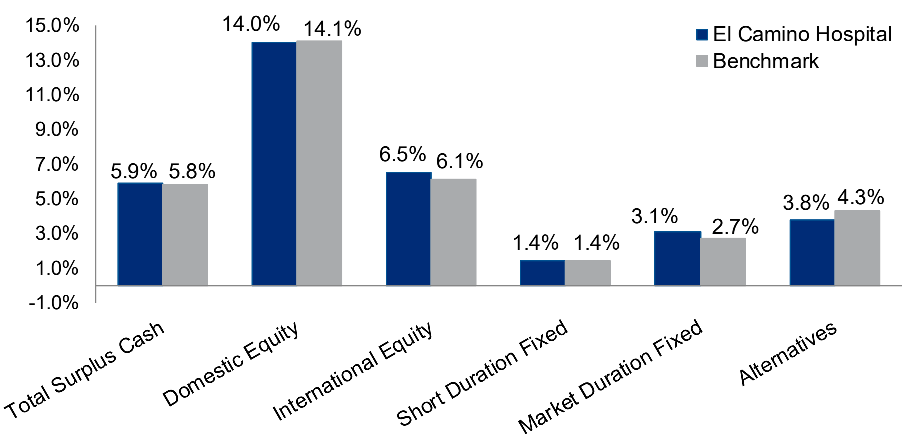
Performance: Most Recent Quarter



Asset Allocation

Manager	Total Assets ($, mil.)	Percent of Total	Target Allocation	Variance to Target	Target Range	Within Policy Range
Domestic Equity	$299.2	27.5%	25.0%	+ 2.5%	20-30%	Yes
International Equity	$159.7	14.7%	15.0%	- 0.3%	10-20%	Yes
Short-Duration Fixed	$125.0	11.5%	10.0%	+ 1.5%	8-12%	Yes
Market-Duration Fixed	$333.8	30.7%	30.0%	+ 0.7%	25-35%	Yes
Alternatives	$170.1	15.6%	20.0%	- 4.4%	17-23%	No
Total (X District)	**$1,087.8**	**100.0%**				

Performance: Since Inception[1]



[1] Reflects the date Pavilion's recommended portfolio was implemented (November 1, 2012).

Portfolio Updates

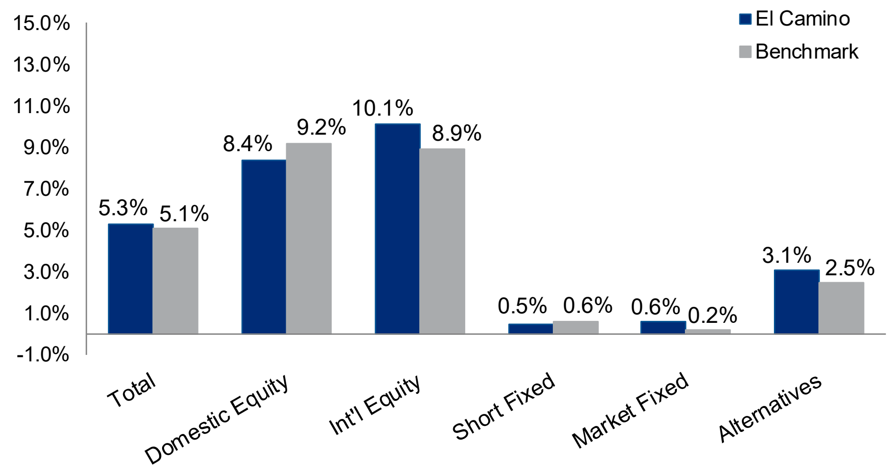
Performance

- The Surplus Cash Portfolio returned +3.9% for the quarter, underperforming its benchmark by approximately 30 bps. In 2019, the Portfolio returned +15.0%, trailing the benchmark by 30 bps.
- Underperformance during the quarter was driven by manager results, particularly within small cap equity and hedge funds.
- Small cap growth manager Conestoga (+5.4%) underperformed the Russell 2000 Growth Index by 6.0% during the quarter. Within hedge funds, notable underperformers include York (-8.4%) and BP Transtrend (-5.0%)
- International value manager Causeway (+11.3%) and emerging markets manager Harding Loevner (+12.2%) were notable outperformers during the quarter, outpacing their benchmarks by 240 and 40 bps, respectively.

Investment Activity

- A $10 million investment in Waterfall Eden (credit hedge fund) was made October 1, 2019.
- Received $10.0 million in redemption proceeds from Stone Milliner (macro hedge fund) in December.
- It was announced in late 2019 that hedge funds Moore, Stone Milliner, and York will be returning capital for the vehicles El Camino Hospital is invested in.
- Oaktree distributed $0.3 million.
- Walton Street VII distributed approximately $0.4 million.
- Walton Street VIII distributed a net $0.9 million during the quarter.
- Angelo Gordon Realty Value Fund X called $2.6 million of capital during the quarter.
- The Alternatives composite fell outside of policy range temporarily as distributions are being reinvested.

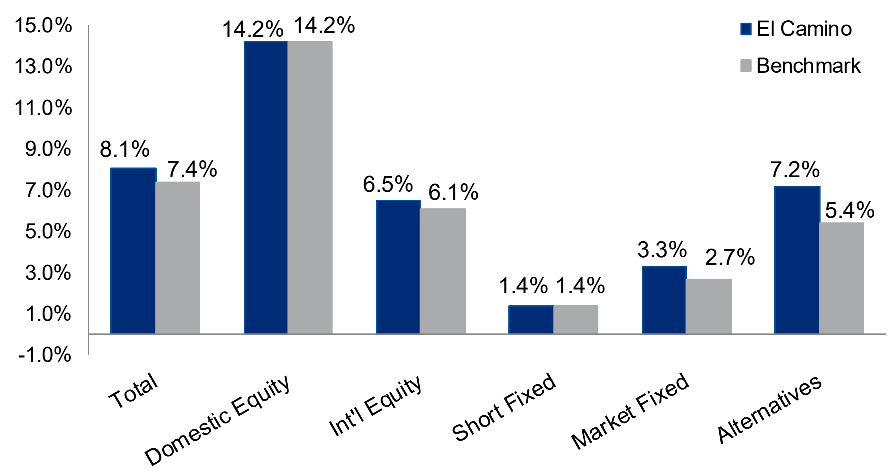
Performance: Most Recent Quarter



Asset Allocation

Manager	Total Assets ($, mil.)	Percent of Total	Target Allocation	Variance to Target	Target Range	Within Policy Range
Domestic Equity	$102.2	34.8%	32.0%	+ 2.8%	27-37%	Yes
International Equity	$ 53.1	18.1%	18.0%	+ 0.1%	15-21%	Yes
Short-Duration Fixed	$ 11.9	4.0%	5.0%	- 1.0%	0-8%	Yes
Market-Duration Fixed	$ 75.7	25.8%	25.0%	+ 0.8%	20-30%	Yes
Alternatives	$ 50.9	17.3%	20.0%	- 2.7%	17-23%	Yes
Total	**$293.8**	**100.0%**				

Performance: Since Inception[1]



Portfolio Updates

Performance

- The Cash Balance Plan returned +5.3% for the quarter, outperforming its benchmark by 20 bps. In 2019, the Plan returned +18.1%, outperforming its benchmark by approximately 70 bps.
- Relative outperformance during the fourth quarter was driven by manager results, particularly within international equities, market duration fixed income, and hedge fund of funds.
- Notable relative outperformers within equities during the quarter include international value manager Causeway (+11.3%) and emerging markets manager Harding Loevner (+12.2%) which outpaced their benchmarks by 240 and 40 bps, respectively.
- Within hedge fund of funds, Pointer (+5.6%) outperformed the HFRI Fund of Funds Composite Index by 260 bps.

Investment Activity

- Oaktree Real Estate VI distributed $0.2 million.
- Walton Street VII distributed $0.3 million.
- Walton Street VIII called $0.4 million in capital, which was partially offset by a distribution from the fund, amounting to a total capital of approximately $84,000. Walton Street VIII also made a distribution of $0.3 million in October, and another distribution of $0.5 million in December.
- An employer contribution of $3.3 million was made during October.

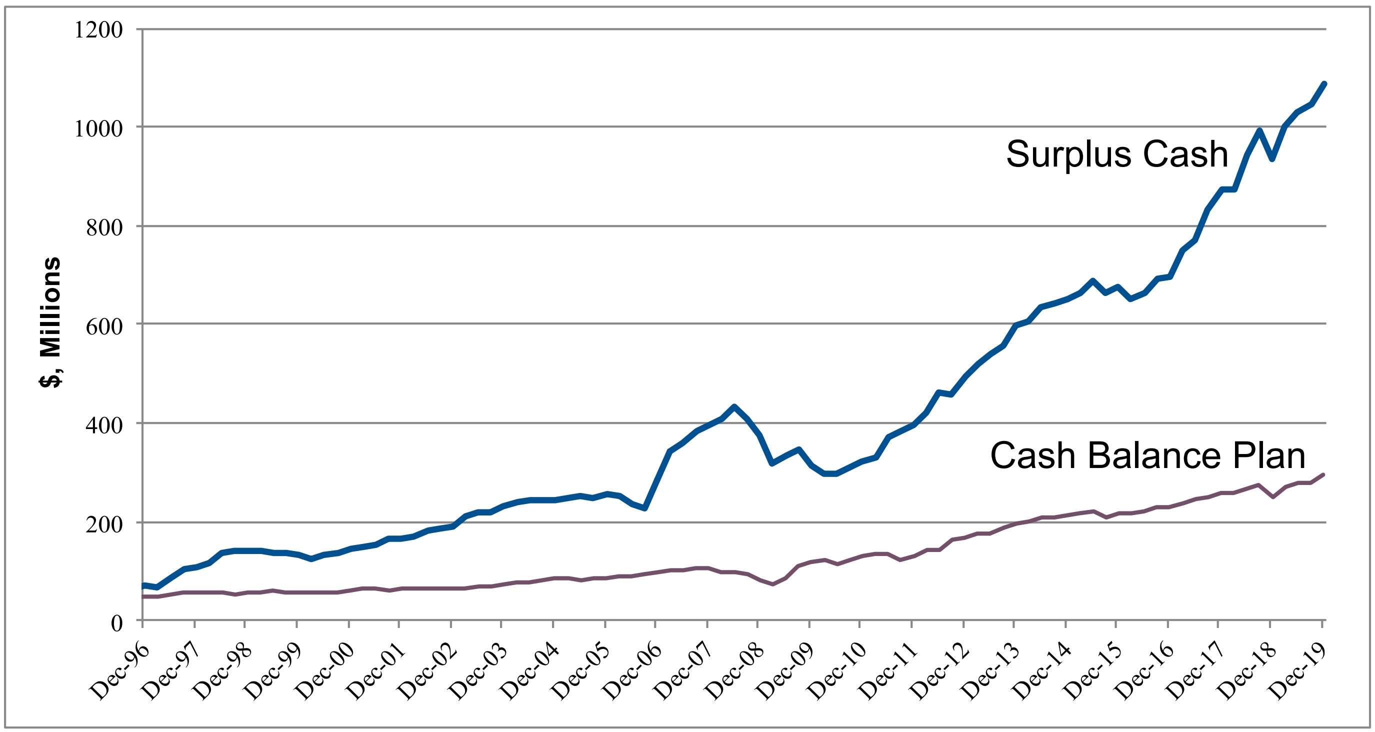
[1] Reflects the date Pavilion's recommended portfolio was implemented (November 1, 2012).

Calendar Year Market Value Reconciliation

As of December 31, 2019

	Surplus Cash					Cash Balance Plan				
$ in Millions	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Beginning Market Value	**$651.6**	**$677.5**	**$694.7**	**$872.3**	**$934.4**	**$213.7**	**$216.8**	**$228.1**	**$259.3**	**$250.1**
Net Cash Flow	$27.0	($17.5)	$89.0	$83.1	$4.4	$0.6	$0.4	($0.8)	($3.9)	($2.6)
Income	$12.6	$12.4	$14.2	$18.1	$21.3	$3.3	$3.4	$3.6	$4.1	$4.9
Realized Gain/(Loss)	$4.4	$7.1	$9.6	$14.1	$20.0	$2.0	$4.5	$2.2	$10.0	$6.0
Unrealized Gain/(Loss)	($18.0)	$15.1	$64.8	($53.2)	$107.6	($2.7)	$3.0	$26.2	($19.4)	$35.4
Capital App/(Dep)	($1.0)	$34.6	$88.6	($21.0)	$149.0	$2.5	$10.9	$32.0	($5.3)	$46.4
End of Period Market Value	**$677.5**	**$694.7**	**$872.3**	**$934.4**	**$1,087.8**	**$216.8**	**$228.1**	**$259.3**	**$250.1**	**$293.8**
Return Net of Fees	-0.2%	5.2%	11.8%	-2.6%	15.0%	1.1%	4.9%	14.5%	-2.8%	18.1%

Totals may not add due to rounding.



El Camino Hospital

Score Card

December 31, 2019

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Fund Name	Excess Performance (3Yr)	Excess Performance (5Yr)	Peer Return Rank (3Yr)	Peer Return Rank (5Yr)	Sharpe Ratio (5Yr)	Information Ratio (5Yr)
Sands Large Cap Growth (Touchstone) - Both Plans	✔	✖	✔	✖	✖	✖
Barrow Hanley Large Cap Value - Surplus Cash	✔	✔	✔	✔	✔	✔
Barrow Hanley Large Cap Value - Pension	✔	✔	✔	✔	✔	✔
Wellington Small Cap Value - Surplus Cash	✖	✖	✔	✔	✔	✖
Wellington Small Cap Value - Pension	✖	✖	✔	✔	✔	✖
Conestoga Small-Cap Fund I - Both Plans	✔	✔	✔	✔	✔	✔
BNY Mellon International Stock - Both Plans	✔	✔	✔	✔	✔	✔
Causeway International Value - Both Plans	✔	✔	✔	✔	✔	✔
Harding Loevner Inst. Emerging Markets I - Both Plans	✖	✔	✔	✔	✔	✔
Barrow Hanley Short Fixed - Surplus Cash	✔	✔	✖	✔	✔	✔
Barrow Hanley Short Fixed - Pension	✔	✔	✖	✖	✔	✔
Dodge & Cox Fixed - Surplus Cash	✔	✔	✔	✔	✔	✔
Dodge & Cox Fixed - Pension	✔	✔	✔	✔	✔	✔
MetWest Fixed - Surplus Cash	✔	✔	✔	✔	✔	✔
Met West Fixed - Pension	✔	✔	✔	✔	✔	✔
Lighthouse Diversified - Pension	✖	✔	-	-	✔	✔
Pointer Offshore LTD - Pension	✔	✔	-	-	✔	✔

✔ Goals met or no material change

✖ Goals not met or material change

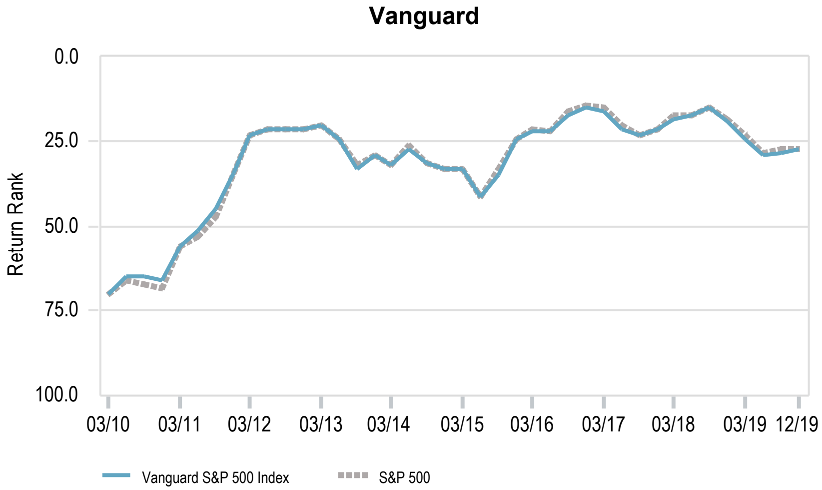
Excess Performance - The fund must outperform its benchmark over the trailing 3 / 5 year period.
Peer Return Rank - The fund's Return Rank must be in the top 51% of its peer group over the trailing 3 /5 year period.
Sharpe Ratio (5YR) The fund's Sharpe Ratio must be greater than the benchmark over the trailing 5-year period.
Information Ratio (5Yr) The fund's Information Ratio must be greater than 0% over the trailing 5-year period.

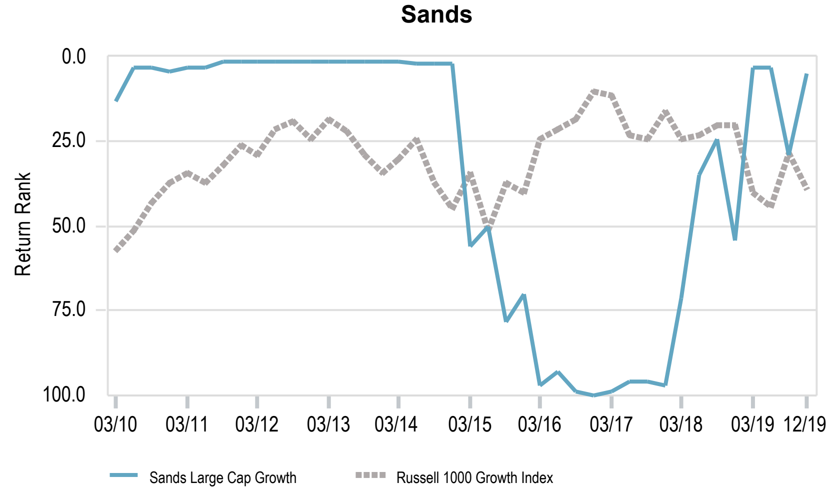
Manager	Comments
Causeway International Value (both plans)	As previously announced, Portfolio Manager Foster Corwith resigned from the firm in June. Causeway's other eight fundamental portfolio managers remain in place. This news does not impact our existing ratings for Causeway's fundamental strategies, as we continue to view Sarah Ketterer and Harry Hartford as the key drivers of the philosophy, process and portfolios.
Barrow Hanley Large Cap Value (both plans)	On September 25, 2019, Barrow, Hanley, Mewhinney & Strauss (BHMS) announced the resignation of Jeff Fahrenbruch, US Large Cap Value strategy portfolio manager (since 2013) and Health Care analyst (Pharmaceuticals). Fahrenbruch remained available as a resource through the end of 2019. We believe the strategy has a deep breadth of experienced portfolio managers that can assume Fahrenbruch's responsibilities without disruption. Additionally, on December 16, 2019, Vanguard removed BHMS as a subadvisor on the Windsor II and Diversified Value Funds. As a result, the Large Cap Value Strategy lost approximately $17 billion in assets under management from the Windsor II and Diversified Value Funds, leaving the Large Cap Value strategy with approximately 50% of assets remaining at $17 billion. While these outflows do not materially impact operations at BHMS, the Mercer Equity Research Team has added a provisional rating to the BHMS Large Cap Value strategy due to the uncertainty around the impact of this news item on the current investment team's morale and client base. However, BHMS remains well capitalized with $50 billion in assets under management, and we do not expect any additional changes to firm resources as a result of this news.
Moore Capital Management (Surplus Cash Plan)	On November 21, 2019, Moore Capital Management issued a communication to investors announcing their decision to close their firm.
Stone Milliner Asset Management (Surplus Cash Plan)	On December 2, 2019, Stone Milliner Asset Management announced the decision to close the Stone Milliner Macro Fund following recent poor performance and substantial redemptions over the last year.
York Capital Management (Surplus Cash Plan)	In December, York Capital Management announced the decision to suspend all future redemptions from the York Credit Opportunities Fund and liquidate the fund.

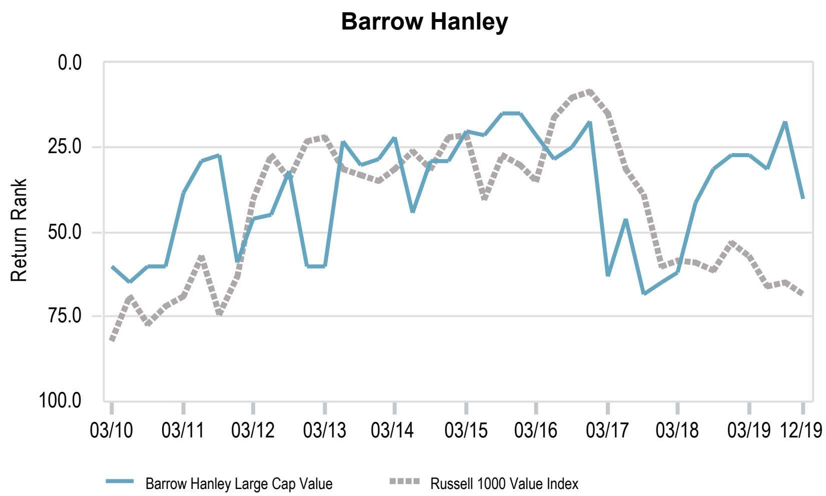
Manager Performance Evaluation

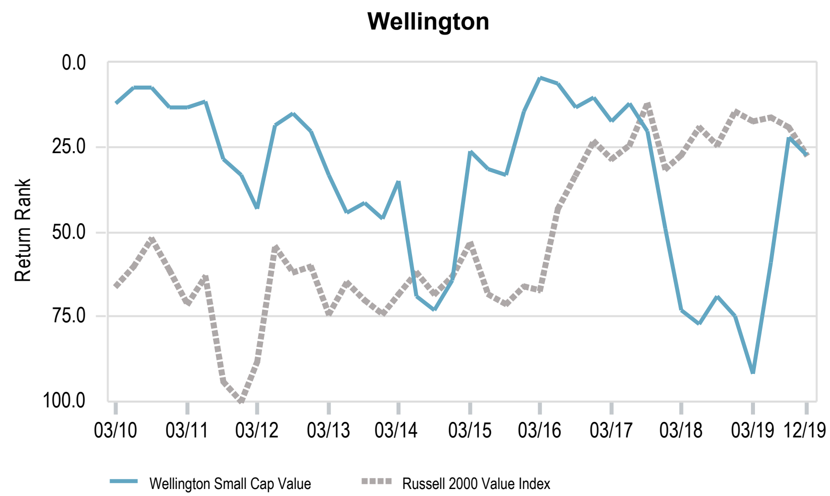
Rolling 3 Year Rankings vs. Peers

As of December 31, 2019









Rolling 3 Yeark Rankings vs. Peers utilizes performance from the Surplus Cash Plan.

Manager Performance Evaluation

Rolling 3 Year Rankings vs. Peers

As of December 31, 2019

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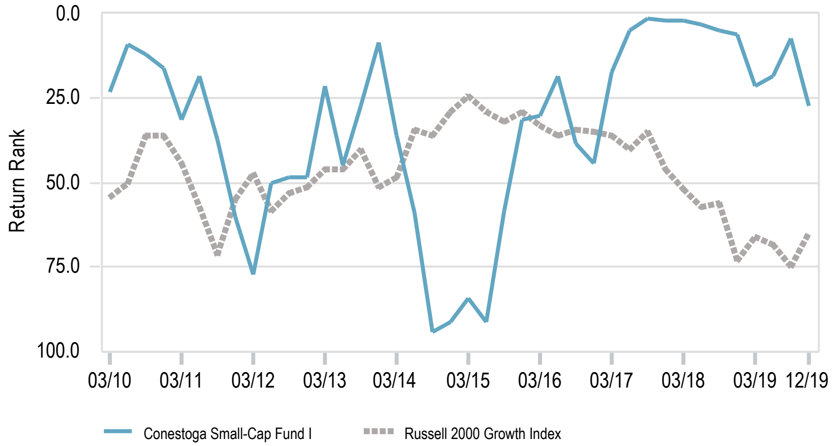
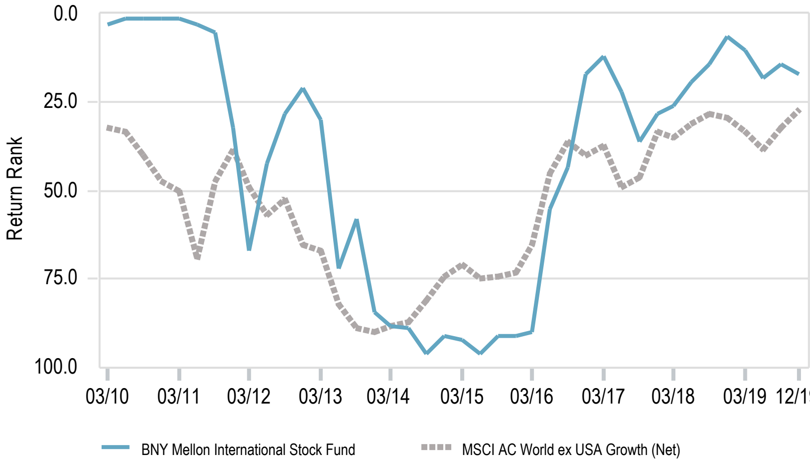
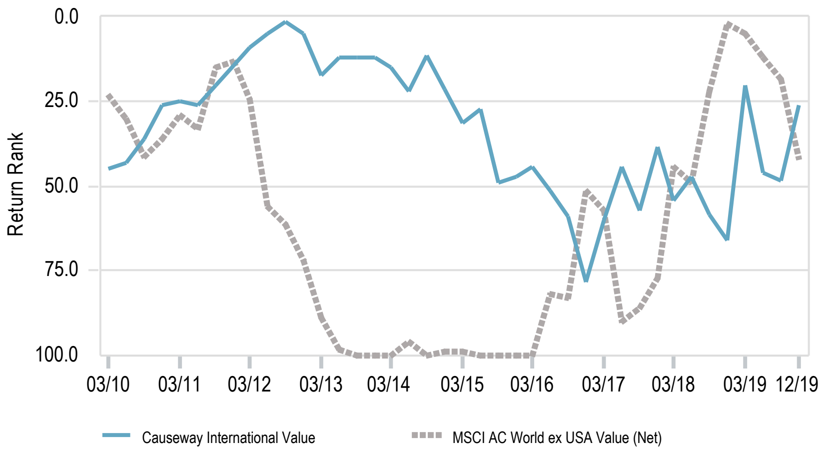
Conestoga



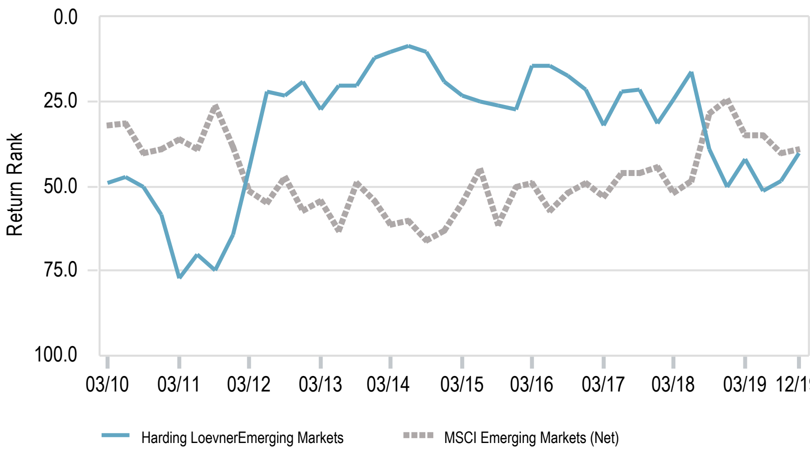
BNY Mellon



Causeway



Harding Loevner

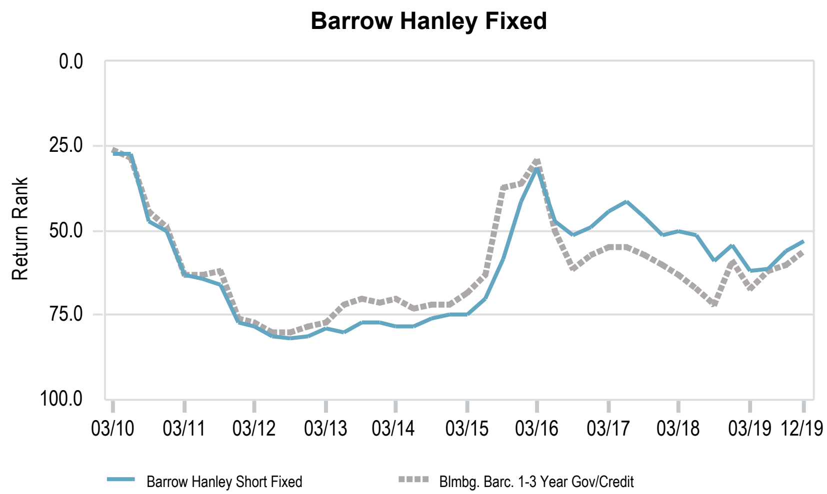


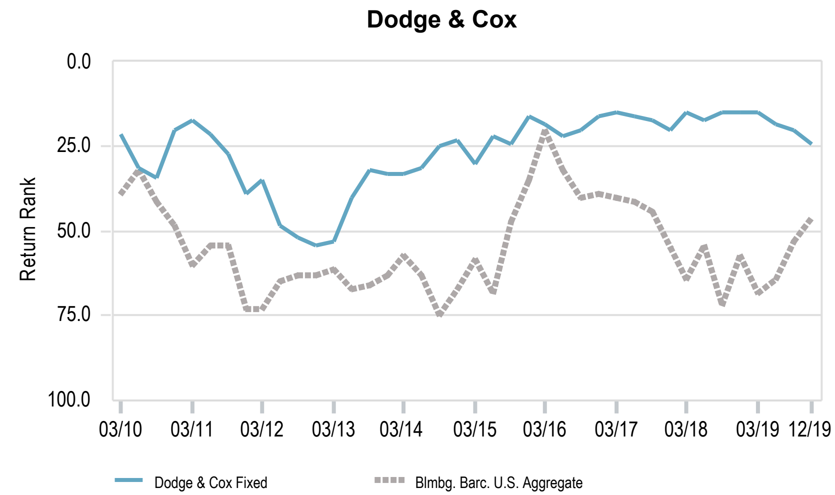
Rolling 3 Yeark Rankings vs. Peers utilizes performance from the Surplus Cash Plan.

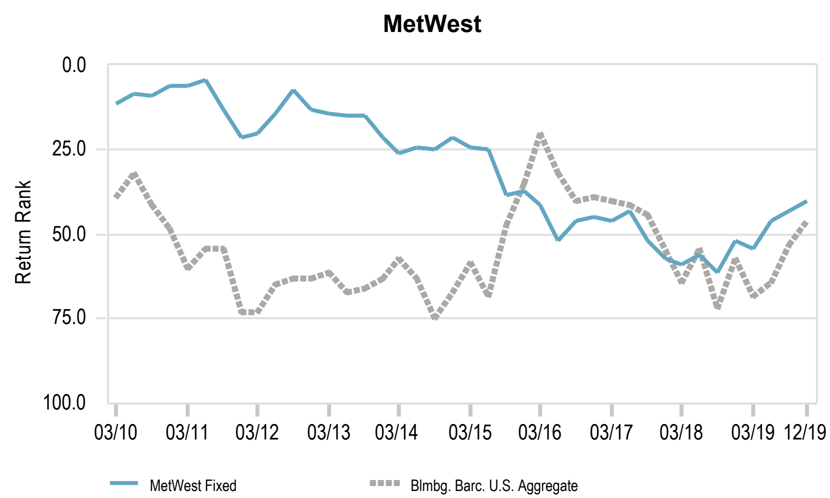
Manager Performance Evaluation

Rolling 3 Year Rankings vs. Peers

As of December 31, 2019







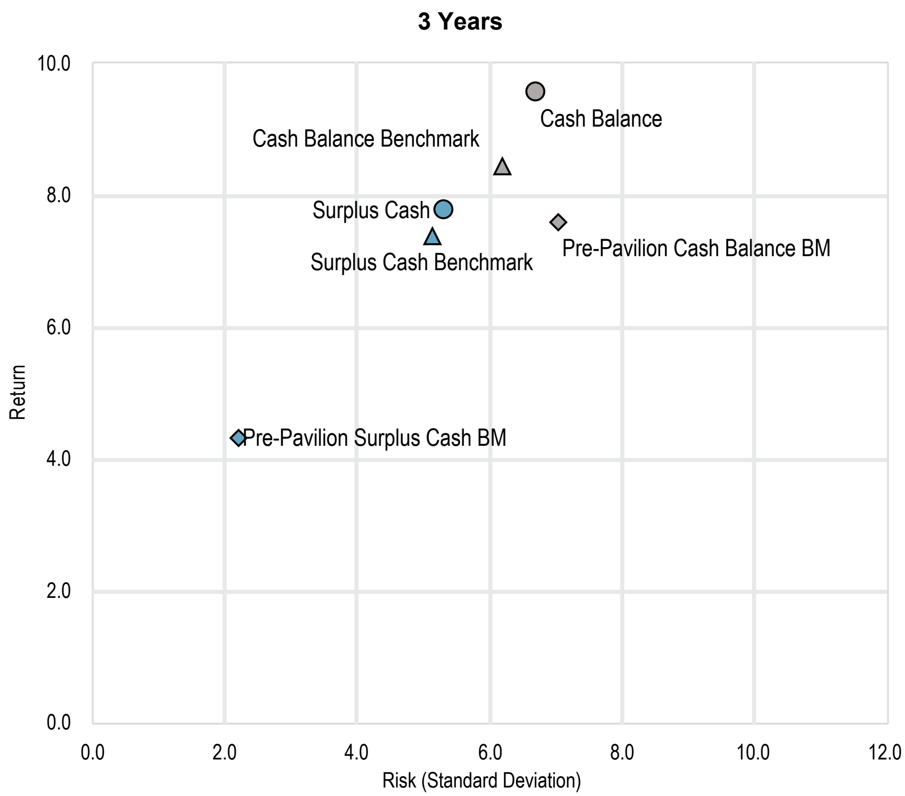
Rolling 3 Yeark Rankings vs. Peers utilizes performance from the Surplus Cash Plan.

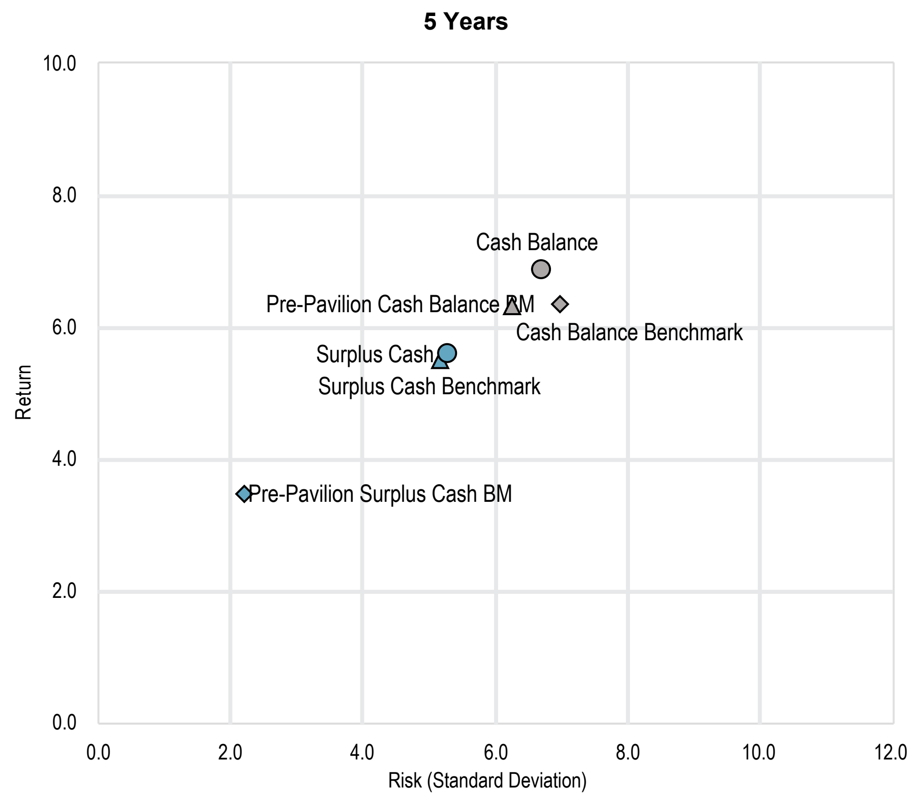
Performance Summary

Surplus Cash and Cash Balance Plan

Risk and Return Summary (Net of Fees)

As of December 31, 2019





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	Allocation		Performance								
	Asset $	%	3 Month	Fiscal YTD	CYTD	1 Year	3 Year	5 Year	10 Year	Inception	Inception Date
Total Surplus Cash X District	**1,087,836,914**	**100.0**	**3.9**	**4.8**	**15.0**	**15.0**	**7.8**	**5.6**	**5.9**	**5.9**	**Nov-2012**
Surplus Cash Total Benchmark			*4.2*	*4.9*	*15.3*	*15.3*	*7.4*	*5.5*	*5.9*	*5.8*	
Pre-Pavilion Surplus Cash Total Benchmark			*1.4*	*3.0*	*9.8*	*9.8*	*4.3*	*3.5*	*4.4*	*3.7*	
Total Surplus Cash X District X Privates	**1,070,159,357**	**98.4**	**4.0**	**4.9**	**15.3**	**15.3**	**7.9**	**5.6**	**5.9**	**5.8**	**Nov-2012**
Surplus Cash Total Benchmark x Privates			*4.3*	*5.0*	*15.7*	*15.7*	*7.6*	*5.6*	*5.9*	*5.8*	
Total Equity Composite	**458,921,709**	**42.2**	**9.1**	**8.6**	**27.8**	**27.8**	**13.5**	**9.4**	**10.9**	**11.5**	**Nov-2012**
Total Equity Benchmark - Surplus			*9.1*	*8.9*	*27.0*	*27.0*	*12.4*	*8.9*	*11.1*	*11.3*	
Domestic Equity Composite	**299,243,377**	**27.5**	**8.4**	**8.6**	**29.5**	**29.5**	**15.0**	**10.9**	**12.7**	**14.0**	**Nov-2012**
Domestic Equity Benchmark - Surplus			*9.2*	*10.1*	*30.3*	*30.3*	*13.9*	*11.0*	*13.1*	*14.1*	
Large Cap Equity Composite	**246,865,833**	**22.7**	**8.8**	**9.4**	**30.4**	**30.4**	**15.9**	**11.2**	**13.0**	**14.5**	**Nov-2012**
Large Cap Equity Benchmark			*9.0*	*10.8*	*31.5*	*31.5*	*15.1*	*11.6*	*13.5*	*14.6*	
Small Cap Equity Composite	**52,377,545**	**4.8**	**6.6**	**5.3**	**25.7**	**25.7**	**10.8**	**9.9**	**-**	**12.1**	**Nov-2012**
Small Cap Equity Benchmark			*10.0*	*7.4*	*25.5*	*25.5*	*8.6*	*8.2*	*11.8*	*12.0*	
International Equity Composite	**159,678,332**	**14.7**	**10.4**	**8.6**	**24.7**	**24.7**	**11.1**	**6.8**	**-**	**6.5**	**Nov-2012**
MSCI AC World ex USA (Net)			*8.9*	*7.0*	*21.5*	*21.5*	*9.9*	*5.5*	*5.0*	*6.1*	

Returns are expressed as percentages and are net of investment management fees. Returns for periods greater than one year are annualized.
Peer group percentile ranks are shown in parentheses.

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	Allocation		Performance								
	Asset $	%	3 Month	Fiscal YTD	CYTD	1 Year	3 Year	5 Year	10 Year	Inception	Inception Date
Total Fixed Income Composite	**458,821,061**	**42.2**	**0.5**	**2.4**	**7.9**	**7.9**	**3.7**	**3.0**	**3.4**	**2.6**	**Nov-2012**
Total Fixed Income Benchmark - Surplus			*0.3*	*2.2*	*7.5*	*7.5*	*3.6*	*2.7*	*3.2*	*2.4*	
Short Duration Fixed Income Composite	**124,996,720**	**11.5**	**0.7**	**1.4**	**4.1**	**4.1**	**2.1**	**1.7**	**2.2**	**1.4**	**Nov-2012**
Short Duration Fixed Income Benchmark - Surplus			*0.6*	*1.3*	*4.0*	*4.0*	*2.1*	*1.7*	*2.2*	*1.4*	
Market Duration Fixed Income Composite	**333,824,341**	**30.7**	**0.5**	**2.7**	**9.3**	**9.3**	**4.4**	**3.4**	**4.6**	**3.1**	**Nov-2012**
Blmbg. Barc. U.S. Aggregate			*0.2*	*2.5*	*8.7*	*8.7*	*4.0*	*3.0*	*3.7*	*2.7*	
Total Alternatives Composite	**170,094,144**	**15.6**	**0.3**	**1.6**	**5.2**	**5.2**	**3.9**	**3.1**	**-**	**3.8**	**May-2013**
Total Alternatives Benchmark - Surplus			*2.7*	*2.3*	*7.9*	*7.9*	*4.6*	*3.8*	*-*	*4.3*	
Real Estate Composite	**21,556,054**	**2.0**	**0.0**	**0.1**	**0.5**	**0.5**	**4.0**	**6.2**	**-**	**8.2**	**Sep-2013**
NCREIF Property Index			*1.5*	*3.0*	*6.4*	*6.4*	*6.7*	*8.3*	*10.2*	*8.9*	
Hedge Fund Composite	**148,538,090**	**13.7**	**0.4**	**1.8**	**5.9**	**5.9**	**3.8**	**2.2**	**-**	**2.8**	**May-2013**
HFRI Fund of Funds Composite Index			*3.0*	*2.1*	*8.3*	*8.3*	*3.9*	*2.4*	*2.8*	*3.0*	

Returns are expressed as percentages and are net of investment management fees. Returns for periods greater than one year are annualized.
Peer group percentile ranks are shown in parentheses.

Surplus Cash Portfolio ex District

Attribution Analysis

1 Quarter Ending December 31, 2019

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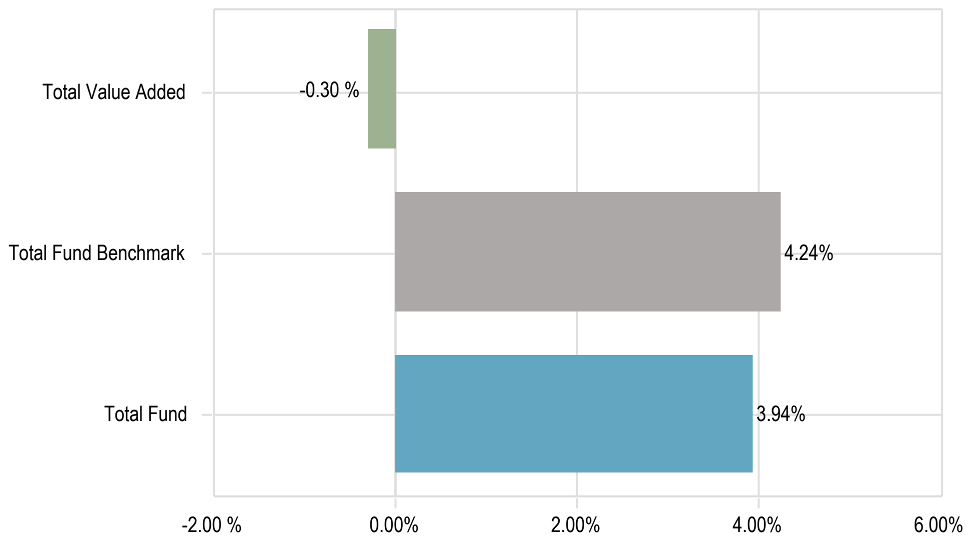
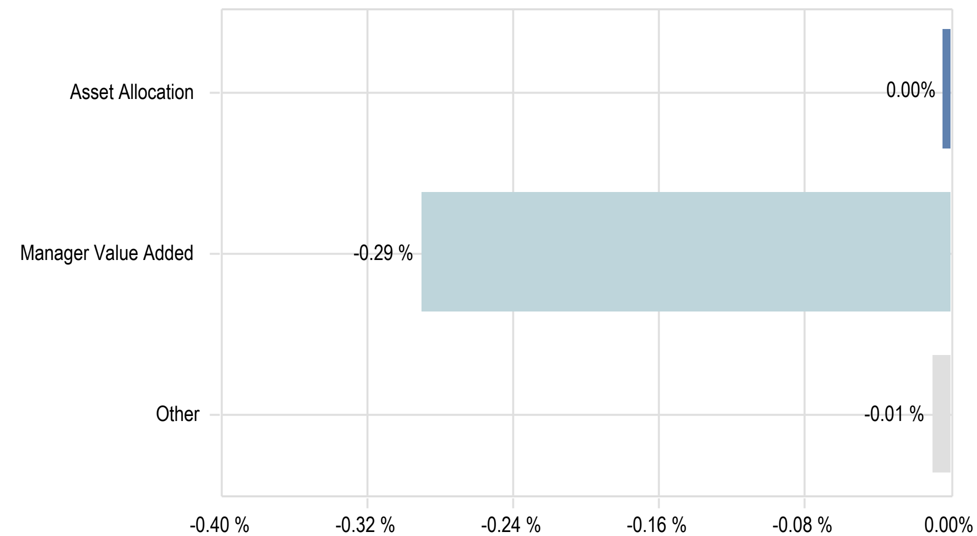
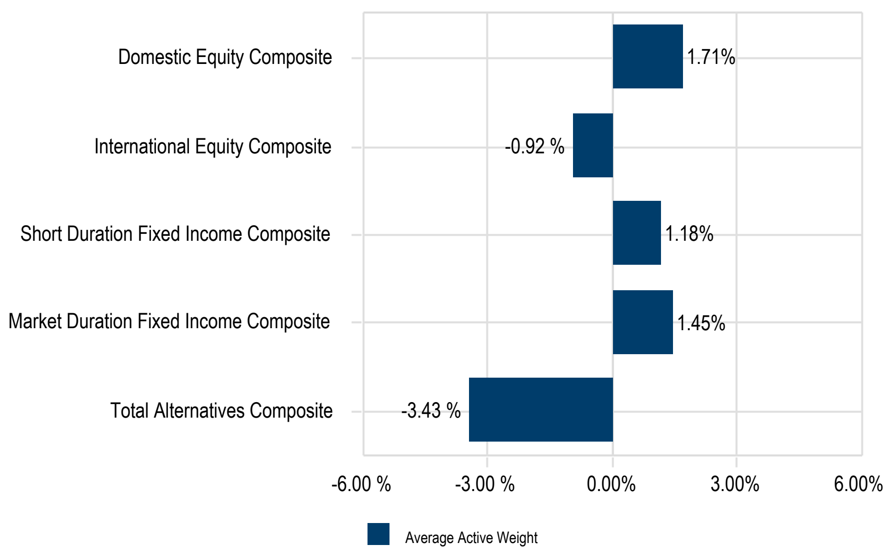
Total Fund Performance



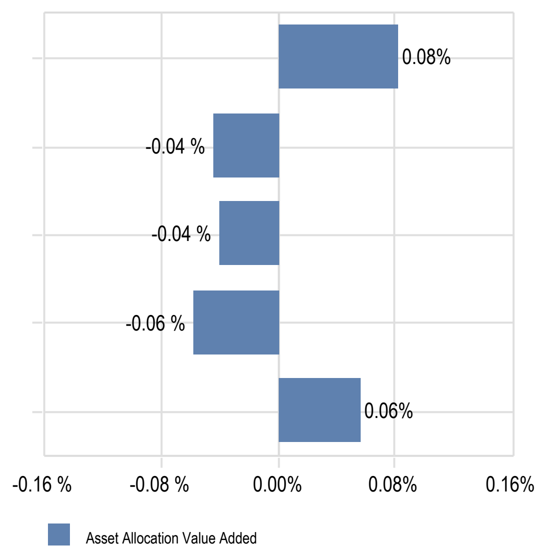
Total Value Added:-0.30 %



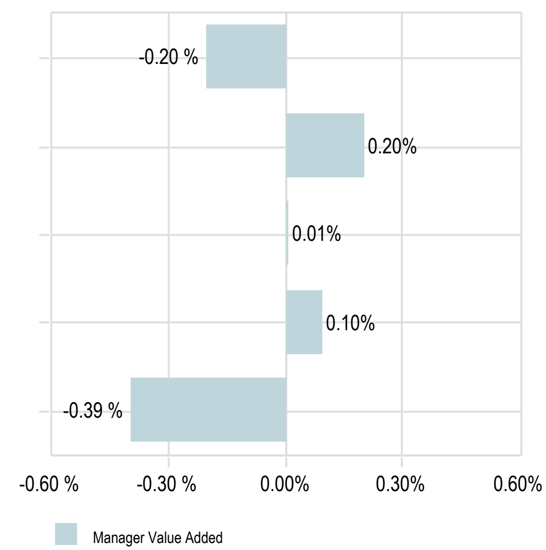
Average Active Weight



Asset Allocation Value Added:0.00%



Total Manager Value Added:-0.29 %



"Other" includes the effects of all other factors on the Fund's relative return, including rebalancing and other trading activity.

Surplus Cash Portfolio ex District

Manager Asset Allocation & Performance

December 31, 2019

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	Allocation		Performance								
	Asset $	%	3 Month	Fiscal YTD	CYTD	1 Year	3 Year	5 Year	10 Year	Inception	Inception Date
Large-Cap Equity											
Vanguard S&P 500 Index	**149,291,192**	**13.7**	**9.1 (37)**	**10.9 (28)**	**31.5 (31)**	**31.5 (31)**	**15.2 (27)**	**11.7 (16)**	**13.5 (12)**	**14.6 (18)**	**Nov-2012**
S&P 500			*9.1 (37)*	*10.9 (28)*	*31.5 (31)*	*31.5 (31)*	*15.3 (27)*	*11.7 (16)*	*13.6 (12)*	*14.6 (18)*	
Mercer Mutual Fund US Equity Large Cap Core Median			*8.7*	*10.3*	*29.8*	*29.8*	*14.2*	*10.5*	*12.3*	*13.4*	
Sands Large Cap Growth (Touchstone)	**49,986,745**	**4.6**	**10.6 (26)**	**4.7 (96)**	**32.9 (54)**	**32.9 (54)**	**23.9 (5)**	**11.7 (79)**	**15.6 (8)**	**15.5 (53)**	**Nov-2012**
Russell 1000 Growth Index			*10.6 (26)*	*12.3 (7)*	*36.4 (15)*	*36.4 (15)*	*20.5 (39)*	*14.6 (20)*	*15.2 (12)*	*16.8 (20)*	
Mercer Mutual Fund US Equity Large Cap Growth Median			*9.7*	*9.5*	*33.1*	*33.1*	*19.5*	*13.1*	*13.9*	*15.6*	
Barrow Hanley Large Cap Value	**47,587,895**	**4.4**	**6.3 (81)**	**9.6 (46)**	**24.6 (66)**	**24.6 (66)**	**11.0 (40)**	**8.9 (33)**	**11.8 (30)**	**9.4 (5)**	**Aug-2000**
Russell 1000 Value Index			*7.4 (57)*	*8.9 (63)*	*26.5 (45)*	*26.5 (45)*	*9.7 (68)*	*8.3 (55)*	*11.8 (29)*	*7.4 (49)*	
Mercer Mutual Fund US Equity Large Cap Value Median			*7.6*	*9.4*	*26.3*	*26.3*	*10.2*	*8.4*	*11.1*	*7.3*	
Small-Cap Equity											
Wellington Small Cap Value	**25,785,826**	**2.4**	**8.0 (59)**	**9.4 (15)**	**26.1 (9)**	**26.1 (9)**	**4.7 (27)**	**6.9 (15)**	**11.4 (16)**	**10.8 (22)**	**Nov-2012**
Russell 2000 Value Index			*8.5 (42)*	*7.9 (31)*	*22.4 (33)*	*22.4 (33)*	*4.8 (27)*	*7.0 (14)*	*10.6 (36)*	*10.6 (28)*	
Mercer Mutual Fund US Equity Small Cap Value Median			*8.2*	*7.2*	*21.1*	*21.1*	*3.1*	*5.2*	*10.1*	*9.7*	
Conestoga Small Cap Growth	**26,591,719**	**2.4**	**5.4 (90)**	**1.6 (79)**	**25.4 (69)**	**25.4 (69)**	**17.6 (27)**	**15.0 (4)**	**14.8 (16)**	**18.7 (23)**	**Jul-2016**
Russell 2000 Growth Index			*11.4 (24)*	*6.7 (28)*	*28.5 (50)*	*28.5 (50)*	*12.5 (65)*	*9.3 (67)*	*13.0 (53)*	*14.6 (64)*	
Mercer Mutual Fund US Equity Small Cap Growth Median			*9.1*	*4.7*	*28.4*	*28.4*	*14.4*	*10.3*	*13.1*	*15.8*	
International Equity											
Causeway International Value	**52,043,907**	**4.8**	**11.3 (3)**	**8.8 (18)**	**20.1 (19)**	**20.1 (19)**	**7.5 (26)**	**3.9 (44)**	**5.8 (20)**	**-0.4 (34)**	**May-2018**
MSCI AC World ex USA (Net)			*8.9 (46)*	*7.0 (51)*	*21.5 (9)*	*21.5 (9)*	*9.9 (1)*	*5.5 (9)*	*5.0 (28)*	*2.3 (3)*	
MSCI AC World ex USA Value (Net)			*8.2 (64)*	*5.2 (86)*	*15.7 (76)*	*15.7 (76)*	*6.9 (42)*	*3.6 (58)*	*3.6 (81)*	*-0.8 (39)*	
Mercer Mutual Fund World ex US/EAFE Equity Large Cap Value Median			*8.8*	*7.0*	*17.9*	*17.9*	*6.5*	*3.9*	*4.3*	*-1.2*	
BNY Mellon International Stock Fund	**67,374,450**	**6.2**	**8.6 (67)**	**8.7 (31)**	**27.8 (41)**	**27.8 (41)**	**14.5 (17)**	**9.3 (13)**	**7.3 (23)**	**7.8 (35)**	**Nov-2012**
MSCI AC World ex USA (Net)			*8.9 (61)*	*7.0 (71)*	*21.5 (87)*	*21.5 (87)*	*9.9 (71)*	*5.5 (75)*	*5.0 (81)*	*6.1 (78)*	
MSCI AC World ex USA Growth (Net)			*9.6 (48)*	*8.6 (33)*	*27.3 (47)*	*27.3 (47)*	*12.9 (27)*	*7.3 (34)*	*6.2 (50)*	*7.5 (44)*	
Mercer Mutual Fund World ex US/EAFE Equity Large Cap Growth Median			*9.4*	*7.8*	*26.9*	*26.9*	*11.7*	*6.3*	*6.2*	*7.3*	
Harding Loevner Emerging Markets	**40,259,975**	**3.7**	**12.2 (25)**	**8.3 (29)**	**25.8 (21)**	**25.8 (21)**	**11.5 (40)**	**6.3 (31)**	**5.5 (14)**	**10.4 (34)**	**Sep-2015**
MSCI Emerging Markets (Net)			*11.8 (32)*	*7.1 (46)*	*18.4 (56)*	*18.4 (56)*	*11.6 (39)*	*5.6 (43)*	*3.7 (53)*	*9.9 (41)*	
Mercer Mutual Fund Emerging Markets Equity Median			*11.0*	*6.9*	*19.2*	*19.2*	*10.8*	*5.3*	*3.9*	*9.3*	

Returns are expressed as percentages and are net of investment management fees. Returns for periods greater than one year are annualized.
Peer group percentile ranks are shown in parentheses.

	Allocation		Performance								
	Asset $	%	3 Month	Fiscal YTD	CYTD	1 Year	3 Year	5 Year	10 Year	Inception	Inception Date
Short Duration Fixed Income											
Barrow Hanley Short Fixed	**113,460,396**	**10.4**	**0.7 (24)**	**1.4 (32)**	**4.3 (47)**	**4.3 (47)**	**2.2 (53)**	**1.8 (45)**	**1.5 (75)**	**4.5 (18)**	**Apr-1991**
Blmbg. Barc. 1-3 Year Gov/Credit			*0.6 (44)*	*1.3 (50)*	*4.0 (59)*	*4.0 (59)*	*2.1 (56)*	*1.7 (53)*	*1.5 (72)*	*4.1 (29)*	
Mercer Mutual Fund US Fixed Short Median			*0.6*	*1.3*	*4.2*	*4.2*	*2.3*	*1.7*	*1.9*	*3.9*	
Cash Composite	**11,536,324**	**1.1**	**2.1**	**2.3**	**2.5**	**2.5**	**1.2**	**0.8**	**-**	**0.5**	**Nov-2012**
90 Day U.S. Treasury Bill			*0.5*	*1.0*	*2.3*	*2.3*	*1.7*	*1.1*	*0.6*	*0.8*	
Market Duration Fixed Income											
Dodge & Cox Fixed	**164,280,695**	**15.1**	**0.8 (24)**	**3.0 (20)**	**9.7 (28)**	**9.7 (28)**	**4.5 (24)**	**3.8 (19)**	**4.5 (24)**	**3.5 (20)**	**Nov-2012**
Blmbg. Barc. U.S. Aggregate			*0.2 (77)*	*2.5 (37)*	*8.7 (46)*	*8.7 (46)*	*4.0 (46)*	*3.0 (48)*	*3.7 (56)*	*2.7 (49)*	
Mercer Mutual Fund US Fixed Core Median			*0.5*	*2.2*	*8.5*	*8.5*	*3.9*	*3.0*	*3.9*	*2.6*	
MetWest Fixed	**156,158,173**	**14.4**	**0.2 (75)**	**2.5 (37)**	**8.9 (43)**	**8.9 (43)**	**4.2 (40)**	**3.1 (46)**	**4.7 (21)**	**2.8 (45)**	**Nov-2012**
Blmbg. Barc. U.S. Aggregate			*0.2 (77)*	*2.5 (37)*	*8.7 (46)*	*8.7 (46)*	*4.0 (46)*	*3.0 (48)*	*3.7 (56)*	*2.7 (49)*	
Mercer Mutual Fund US Fixed Core Median			*0.5*	*2.2*	*8.5*	*8.5*	*3.9*	*3.0*	*3.9*	*2.6*	
Met West Total Return Bond Plan - CONCERN	**13,385,473**	**1.2**	**0.3 (69)**	**2.5 (32)**	**9.2 (38)**	**9.2 (38)**	**4.3 (35)**	**3.1 (45)**	**-**	**3.6 (51)**	**Feb-2016**
Blmbg. Barc. U.S. Aggregate			*0.2 (77)*	*2.5 (37)*	*8.7 (46)*	*8.7 (46)*	*4.0 (46)*	*3.0 (48)*	*3.7 (56)*	*3.4 (58)*	
Mercer Mutual Fund US Fixed Core Median			*0.5*	*2.2*	*8.5*	*8.5*	*3.9*	*3.0*	*3.9*	*3.6*	
Real Estate											
AG Realty Value Fund X, LP	**3,878,497**	**0.4**	**0.0**	**-1.7**	**-**	**-**	**-**	**-**	**-**	**-17.9**	**Jun-2019**
NCREIF Property Index			*1.5*	*3.0*	*6.4*	*6.4*	*6.7*	*8.3*	*10.2*	*3.5*	
Oaktree Real Estate Opportunities Fund VI	**5,121,987**	**0.5**	**0.0**	**0.0**	**0.4**	**0.4**	**3.8**	**5.0**	**-**	**6.8**	**Sep-2013**
NCREIF Property Index			*1.5*	*3.0*	*6.4*	*6.4*	*6.7*	*8.3*	*10.2*	*8.9*	
Walton Street Real Estate Fund VII, L.P.	**4,284,904**	**0.4**	**0.0**	**-1.9**	**-3.0**	**-3.0**	**2.2**	**6.3**	**-**	**10.7**	**Nov-2013**
NCREIF Property Index			*1.5*	*3.0*	*6.4*	*6.4*	*6.7*	*8.3*	*10.2*	*8.9*	
Walton Street Real Estate Fund VIII, L.P.	**8,270,666**	**0.8**	**0.0**	**1.4**	**6.0**	**6.0**	**-**	**-**	**-**	**11.9**	**Jun-2017**
NCREIF Property Index			*1.5*	*3.0*	*6.4*	*6.4*	*6.7*	*8.3*	*10.2*	*6.7*	
Hedge Funds											
Hedge Fund Composite	**148,538,090**	**13.7**	**0.4**	**1.8**	**5.9**	**5.9**	**3.8**	**2.2**	**-**	**2.8**	**May-2013**
HFRI Fund of Funds Composite Index			*3.0*	*2.1*	*8.3*	*8.3*	*3.9*	*2.4*	*2.8*	*3.0*	

Returns are expressed as percentages and are net of investment management fees. Returns for periods greater than one year are annualized.
Peer group percentile ranks are shown in parentheses.

	Allocation		Performance								
	Asset $	%	3 Month	Fiscal YTD	CYTD	1 Year	3 Year	5 Year	10 Year	Inception	Inception Date
Total Plan											
Total Surplus Cash X District	**1,087,836,914**	**100.0**	**3.9**	**4.8**	**15.0**	**15.0**	**7.8**	**5.6**	**5.9**	**5.9**	**Nov-2012**
Total Surplus Cash Benchmark			*4.2*	*4.9*	*15.3*	*15.3*	*7.4*	*5.5*	*5.9*	*5.8*	
Pre-Pavilion Total Surplus Cash Benchmark			*1.4*	*3.0*	*9.8*	*9.8*	*4.3*	*3.5*	*4.4*	*3.7*	

Returns are expressed as percentages and are net of investment management fees. Returns for periods greater than one year are annualized.
Peer group percentile ranks are shown in parentheses.

El Camino Hospital

Private Real Estate Summary (Lagged)

September 30, 2019

PAVILION
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Partnerships	Vintage	Capital Commitment	Drawn Down	Distributed	Market Value (1)	IRR (1)	PME+ FTSE NAREIT Equity REIT Index (4)	TVPI Multiple (1,2)	DPI Multiple (2)	Remaining Commitment (3)
Oaktree Capital Management RE Opportunities Fund VI	2012	14,000,000	14,000,000	14,106,647	9,146,801	13.6	9.9	1.7	1.0	3,220,000
Walton Street Real Estate Fund VII, L.P.	2012	14,000,000	12,438,130	12,777,575	4,723,015	11.6	8.6	1.4	1.0	4,420,768
Walton Street Real Estate Fund VIII, L.P.	2015	13,000,000	9,860,313	2,326,777	8,851,022	9.7	12.4	1.1	0.2	5,477,876
AG Realty Value Fund X	2018	20,000,000	1,500,000	-	1,232,040	-17.9	-17.9	0.8	-	18,500,000
Total Surplus Cash Real Estate		**61,000,000**	**37,798,443**	**29,210,998**	**23,952,878**	**12.4**	**9.7**	**1.4**	**0.8**	**31,618,645**

1) Valuations are typically reported on one quarter lag. If the valuation date is earlier than the statement's date, the market value and performance are estimated by rolling forward the latest reported balance to include relevant new cash flows.
2) Total Value to Paid In (TVPI) reflects total realized and unrealized performance. Distributed to Paid In (DPI) reflects realized performance only.
3) Remaining commitment includes recallable distributions which, if called, could cause drawn to exceed commitment.
4) The public market equivalent (PME+) calculates benchmark performance by using the daily cash flows in a public index, and scaling the fund's distributions so the public market NAV remains positive.
The PME will match the fund's IRR if no distribution/s had occurred during the life of the fund.

	Allocation		Performance								
	Asset $	%	3 Month	Fiscal YTD	CYTD	1 Year	3 Year	5 Year	10 Year	Inception	Inception Date
Total Cash Balance Plan	**293,784,037**	**100.0**	**5.3**	**5.6**	**18.1**	**18.1**	**9.6**	**6.9**	**8.3**	**8.1**	**Nov-2012**
Total Cash Balance Plan Benchmark			*5.1*	*5.7*	*17.4*	*17.4*	*8.5*	*6.3*	*7.9*	*7.4*	
Pre-Pavilion Total Cash Balance Plan Benchmark			*4.5*	*6.3*	*19.4*	*19.4*	*7.6*	*6.4*	*8.8*	*8.5*	
Total Cash Balance Plan X Private Structures	**281,839,047**	**95.9**	**5.6**	**5.8**	**19.1**	**19.1**	**9.9**	**6.8**	**8.2**	**7.9**	**Nov-2012**
Cash Balance Plan Total X Privates Benchmark			*5.3*	*5.8*	*18.0*	*18.0*	*8.5*	*6.2*	*7.9*	*7.2*	
Total Equity Composite	**155,297,473**	**52.9**	**9.0**	**8.5**	**27.7**	**27.7**	**14.0**	**9.4**	**11.0**	**11.4**	**Nov-2012**
Total Equity Benchmark			*9.1*	*9.1*	*27.3*	*27.3*	*12.7*	*9.1*	*11.1*	*11.3*	
Domestic Equity Composite	**102,166,097**	**34.8**	**8.4**	**8.4**	**29.4**	**29.4**	**15.4**	**11.0**	**12.9**	**14.2**	**Nov-2012**
Domestic Equity Benchmark			*9.2*	*10.2*	*30.5*	*30.5*	*14.1*	*11.1*	*13.2*	*14.2*	
Large Cap Equity Composite	**86,487,689**	**29.4**	**8.7**	**9.0**	**30.1**	**30.1**	**16.3**	**11.2**	**13.2**	**14.5**	**Nov-2012**
Large Cap Equity Benchmark			*9.0*	*10.8*	*31.5*	*31.5*	*15.1*	*11.6*	*13.5*	*14.6*	
Small Cap Equity Composite	**15,678,409**	**5.3**	**6.8**	**5.5**	**25.8**	**25.8**	**10.8**	**9.9**	**-**	**12.1**	**Nov-2012**
Small Cap Equity Benchmark			*10.0*	*7.4*	*25.5*	*25.5*	*8.6*	*8.2*	*11.8*	*12.0*	
International Equity Composite	**53,131,376**	**18.1**	**10.1**	**8.7**	**24.5**	**24.5**	**11.3**	**6.6**	**-**	**6.5**	**Nov-2012**
MSCI AC World ex USA (Net)			*8.9*	*7.0*	*21.5*	*21.5*	*9.9*	*5.5*	*5.0*	*6.1*	

Returns are expressed as percentages and are net of investment management fees. Returns for periods greater than one year are annualized.
Peer group percentile ranks are shown in parentheses.

Cash Balance Plan

Composite Asset Allocation & Performance

December 31, 2019

PAVILION
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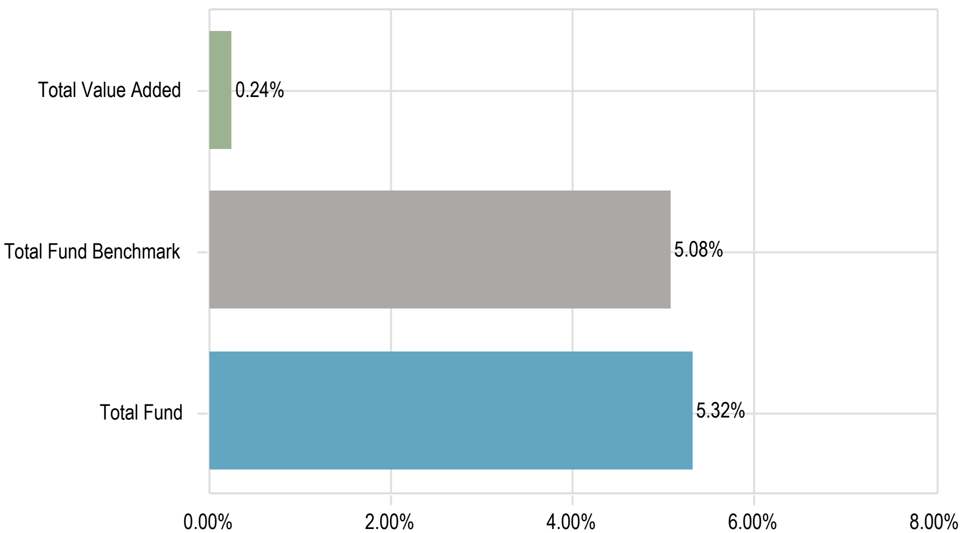
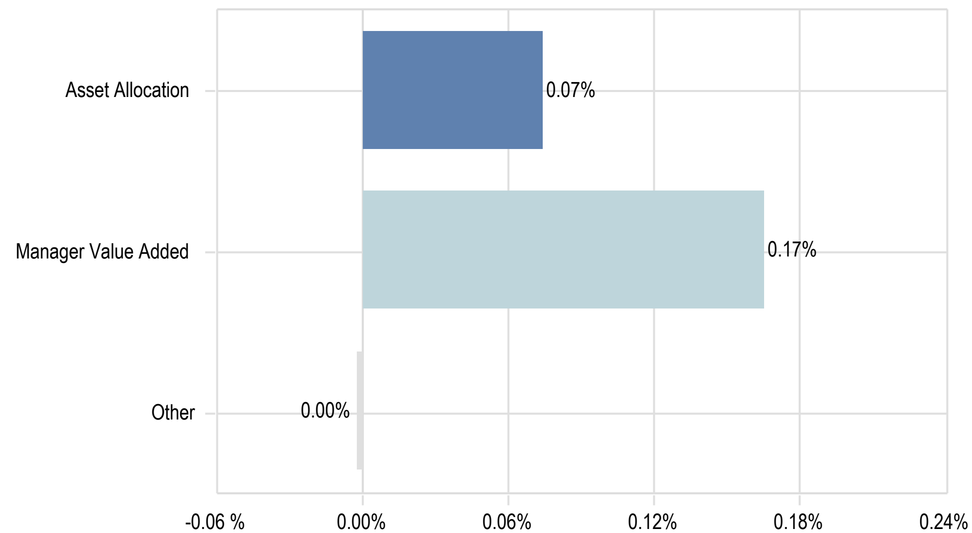
	Allocation		Performance								
	Asset $	%	3 Month	Fiscal YTD	CYTD	1 Year	3 Year	5 Year	10 Year	Inception	Inception Date
Total Fixed Income Composite	**87,549,738**	**29.8**	**0.6**	**2.6**	**8.8**	**8.8**	**4.1**	**3.2**	**4.2**	**2.9**	**Nov-2012**
Total Fixed Income Benchmark			*0.2*	*2.3*	*7.9*	*7.9*	*3.7*	*2.8*	*3.5*	*2.4*	
Short Duration Fixed Income Composite	**11,896,166**	**4.0**	**0.5**	**1.4**	**4.0**	**4.0**	**2.3**	**1.8**	**-**	**1.4**	**Nov-2012**
Short Duration Fixed Income Benchmark			*0.6*	*1.3*	*4.0*	*4.0*	*2.1*	*1.7*	*1.0*	*1.4*	
Market Duration Fixed Income Composite	**75,653,572**	**25.8**	**0.6**	**2.7**	**9.5**	**9.5**	**4.4**	**3.4**	**4.4**	**3.3**	**Nov-2012**
Blmbg. Barc. U.S. Aggregate			*0.2*	*2.5*	*8.7*	*8.7*	*4.0*	*3.0*	*3.7*	*2.7*	
Total Alternatives Composite	**50,936,825**	**17.3**	**3.1**	**2.4**	**9.5**	**9.5**	**5.7**	**5.3**	**-**	**7.2**	**Nov-2012**
Total Alternatives Benchmark			*2.5*	*2.4*	*7.7*	*7.7*	*4.8*	*4.3*	*-*	*5.4*	
Hedge Fund of Fund Composite	**38,991,836**	**13.3**	**4.2**	**3.0**	**12.4**	**12.4**	**6.1**	**4.4**	**-**	**6.3**	**Nov-2012**
HFRI Fund of Funds Composite Index			*3.0*	*2.1*	*8.3*	*8.3*	*3.9*	*2.4*	*2.8*	*3.6*	
Real Estate Composite	**11,944,989**	**4.1**	**0.0**	**0.4**	**2.4**	**2.4**	**4.7**	**6.6**	**-**	**8.7**	**Jan-2013**
NCREIF Property Index			*1.5*	*3.0*	*6.4*	*6.4*	*6.7*	*8.3*	*10.2*	*9.1*	

Returns are expressed as percentages and are net of investment management fees. Returns for periods greater than one year are annualized.
Peer group percentile ranks are shown in parentheses.

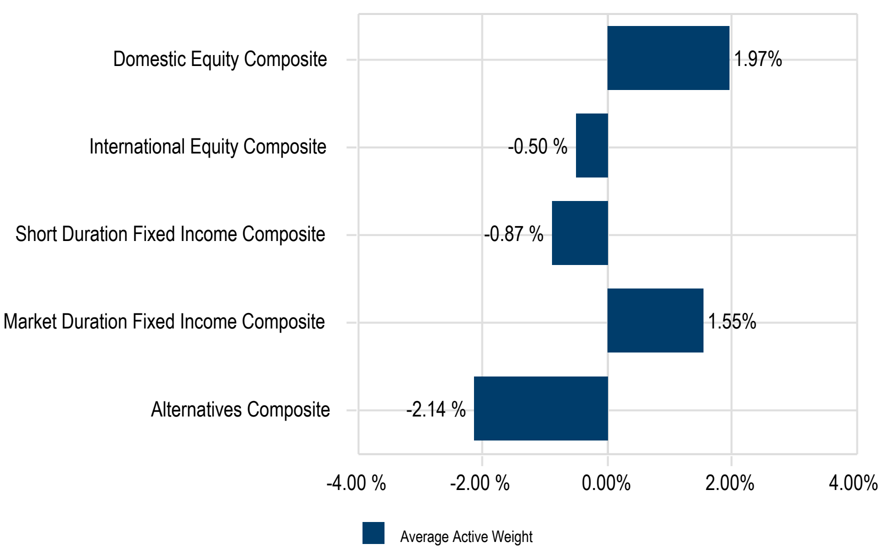
Total Fund Performance



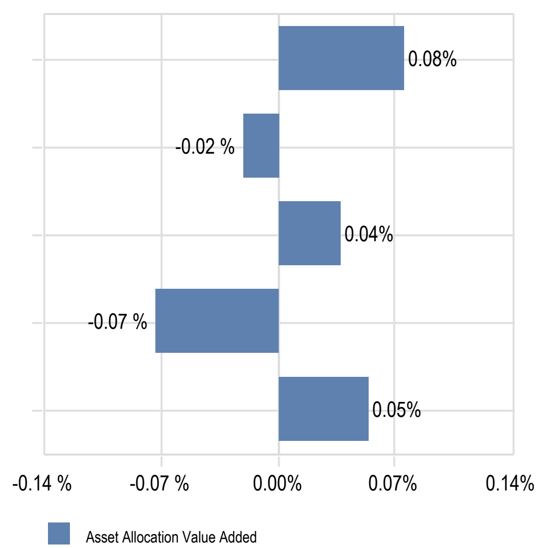
Total Value Added:0.24%



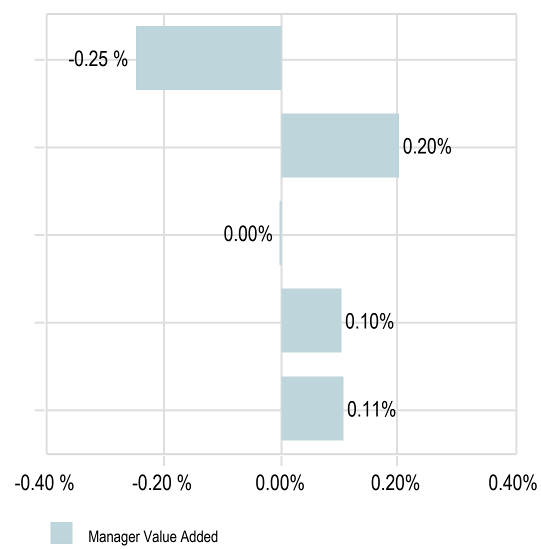
Average Active Weight



Asset Allocation Value Added:0.07%



Total Manager Value Added:0.17%



"Other" includes the effects of all other factors on the Fund's relative return, including rebalancing and other trading activity.

	Allocation		Performance								
	Asset $	%	3 Month	Fiscal YTD	CYTD	1 Year	3 Year	5 Year	10 Year	Inception	Inception Date
Large-Cap Equity											
Vanguard Institutional Index Fund	**42,242,048**	**14.4**	**9.1 (37)**	**10.9 (28)**	**31.5 (31)**	**31.5 (31)**	**15.2 (27)**	**11.7 (16)**	**13.5 (12)**	**14.6 (18)**	**Nov-2012**
S&P 500			*9.1 (37)*	*10.9 (28)*	*31.5 (31)*	*31.5 (31)*	*15.3 (27)*	*11.7 (16)*	*13.6 (12)*	*14.6 (18)*	
Mercer Mutual Fund US Equity Large Cap Core Median			*8.7*	*10.3*	*29.8*	*29.8*	*14.2*	*10.5*	*12.3*	*13.4*	
Sands Large Cap Growth (Touchstone)	**21,946,638**	**7.5**	**10.6 (26)**	**4.7 (96)**	**32.9 (54)**	**32.9 (54)**	**23.9 (5)**	**11.7 (79)**	**15.6 (8)**	**15.5 (53)**	**Nov-2012**
Russell 1000 Growth Index			*10.6 (26)*	*12.3 (7)*	*36.4 (15)*	*36.4 (15)*	*20.5 (39)*	*14.6 (20)*	*15.2 (12)*	*16.8 (20)*	
Mercer Mutual Fund US Equity Large Cap Growth Median			*9.7*	*9.5*	*33.1*	*33.1*	*19.5*	*13.1*	*13.9*	*15.6*	
Barrow Hanley Large Cap Value	**22,299,002**	**7.6**	**6.4 (80)**	**9.7 (42)**	**25.0 (63)**	**25.0 (63)**	**11.3 (35)**	**9.2 (26)**	**12.0 (26)**	**13.0 (11)**	**Nov-2012**
Russell 1000 Value Index			*7.4 (57)*	*8.9 (63)*	*26.5 (45)*	*26.5 (45)*	*9.7 (68)*	*8.3 (55)*	*11.8 (29)*	*12.2 (39)*	
Mercer Mutual Fund US Equity Large Cap Value Median			*7.6*	*9.4*	*26.3*	*26.3*	*10.2*	*8.4*	*11.1*	*11.8*	
Small-Cap Equity											
Wellington Small Cap Value	**8,008,446**	**2.7**	**8.2 (51)**	**9.6 (13)**	**26.2 (9)**	**26.2 (9)**	**4.5 (29)**	**6.8 (16)**	**11.4 (16)**	**10.8 (23)**	**Nov-2012**
Russell 2000 Value Index			*8.5 (42)*	*7.9 (31)*	*22.4 (33)*	*22.4 (33)*	*4.8 (27)*	*7.0 (14)*	*10.6 (36)*	*10.6 (28)*	
Mercer Mutual Fund US Equity Small Cap Value Median			*8.2*	*7.2*	*21.1*	*21.1*	*3.1*	*5.2*	*10.1*	*9.7*	
Conestoga Small Cap Growth	**7,669,962**	**2.6**	**5.4 (90)**	**1.6 (79)**	**25.4 (69)**	**25.4 (69)**	**17.6 (27)**	**15.0 (4)**	**14.8 (16)**	**18.7 (23)**	**Jul-2016**
Russell 2000 Growth Index			*11.4 (24)*	*6.7 (28)*	*28.5 (50)*	*28.5 (50)*	*12.5 (65)*	*9.3 (67)*	*13.0 (53)*	*14.6 (64)*	
Mercer Mutual Fund US Equity Small Cap Growth Median			*9.1*	*4.7*	*28.4*	*28.4*	*14.4*	*10.3*	*13.1*	*15.8*	
International Equity											
Causeway International Value	**20,043,405**	**6.8**	**11.3 (3)**	**8.8 (18)**	**20.1 (19)**	**20.1 (19)**	**7.5 (26)**	**3.9 (44)**	**5.8 (20)**	**-0.4 (34)**	**May-2018**
MSCI AC World ex USA (Net)			*8.9 (46)*	*7.0 (51)*	*21.5 (9)*	*21.5 (9)*	*9.9 (1)*	*5.5 (9)*	*5.0 (28)*	*2.3 (3)*	
MSCI AC World ex USA Value (Net)			*8.2 (64)*	*5.2 (86)*	*15.7 (76)*	*15.7 (76)*	*6.9 (42)*	*3.6 (58)*	*3.6 (81)*	*-0.8 (39)*	
Mercer Mutual Fund World ex US/EAFE Equity Large Cap Value Median			*8.8*	*7.0*	*17.9*	*17.9*	*6.5*	*3.9*	*4.3*	*-1.2*	
BNY Mellon International Stock Fund	**25,775,372**	**8.8**	**8.6 (67)**	**8.7 (31)**	**27.8 (41)**	**27.8 (41)**	**14.5 (17)**	**9.3 (13)**	**7.3 (23)**	**7.8 (35)**	**Nov-2012**
MSCI AC World ex USA (Net)			*8.9 (61)*	*7.0 (71)*	*21.5 (87)*	*21.5 (87)*	*9.9 (71)*	*5.5 (75)*	*5.0 (81)*	*6.1 (78)*	
MSCI AC World ex USA Growth (Net)			*9.6 (48)*	*8.6 (33)*	*27.3 (47)*	*27.3 (47)*	*12.9 (27)*	*7.3 (34)*	*6.2 (50)*	*7.5 (44)*	
Mercer Mutual Fund World ex US/EAFE Equity Large Cap Growth Median			*9.4*	*7.8*	*26.9*	*26.9*	*11.7*	*6.3*	*6.2*	*7.3*	
Harding Loevner Inst. Emerging Markets I	**7,312,599**	**2.5**	**12.2 (25)**	**8.3 (29)**	**25.8 (21)**	**25.8 (21)**	**11.5 (40)**	**6.3 (31)**	**5.5 (14)**	**9.4 (39)**	**Nov-2016**
MSCI Emerging Markets (Net)			*11.8 (32)*	*7.1 (46)*	*18.4 (56)*	*18.4 (56)*	*11.6 (39)*	*5.6 (43)*	*3.7 (53)*	*9.4 (39)*	
Mercer Mutual Fund Emerging Markets Equity Median			*11.0*	*6.9*	*19.2*	*19.2*	*10.8*	*5.3*	*3.9*	*8.6*	

Returns are expressed as percentages and are net of investment management fees. Returns for periods greater than one year are annualized.
Peer group percentile ranks are shown in parentheses.

Cash Balance Plan

Manager Asset Allocation & Performance

December 31, 2019

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	Allocation		Performance								
	Asset $	%	3 Month	Fiscal YTD	CYTD	1 Year	3 Year	5 Year	10 Year	Inception	Inception Date
Short Duration Fixed Income											
Barrow Hanley Short Fixed	**9,166,011**	**3.1**	**0.6 (34)**	**1.5 (18)**	**4.5 (36)**	**4.5 (36)**	**2.2 (53)**	**1.7 (52)**	**1.5 (75)**	**1.4 (54)**	**Nov-2012**
Blmbg. Barc. 1-3 Year Gov/Credit			*0.6 (44)*	*1.3 (50)*	*4.0 (59)*	*4.0 (59)*	*2.1 (56)*	*1.7 (53)*	*1.5 (72)*	*1.4 (51)*	
Mercer Mutual Fund US Fixed Short Median			*0.6*	*1.3*	*4.2*	*4.2*	*2.3*	*1.7*	*1.9*	*1.4*	
Cash Composite	**2,730,155**	**0.9**	**0.3**	**0.8**	**2.0**	**2.0**	**2.4**	**2.4**	**-**	**2.0**	**Nov-2012**
90 Day U.S. Treasury Bill			*0.5*	*1.0*	*2.3*	*2.3*	*1.7*	*1.1*	*0.6*	*0.8*	
Market Duration Fixed Income											
Dodge & Cox Income Fund	**37,705,874**	**12.8**	**0.8 (21)**	**3.0 (20)**	**9.7 (27)**	**9.7 (27)**	**4.5 (25)**	**3.7 (22)**	**4.4 (26)**	**6.7 (15)**	**Jan-1989**
Blmbg. Barc. U.S. Aggregate			*0.2 (77)*	*2.5 (37)*	*8.7 (46)*	*8.7 (46)*	*4.0 (46)*	*3.0 (48)*	*3.7 (56)*	*6.2 (38)*	
Mercer Mutual Fund US Fixed Core Median			*0.5*	*2.2*	*8.5*	*8.5*	*3.9*	*3.0*	*3.9*	*6.0*	
Met West Total Return Fund Pl	**37,947,698**	**12.9**	**0.3 (69)**	**2.5 (32)**	**9.2 (38)**	**9.2 (38)**	**4.2 (37)**	**3.1 (46)**	**5.0 (15)**	**3.2 (30)**	**Nov-2012**
Blmbg. Barc. U.S. Aggregate			*0.2 (77)*	*2.5 (37)*	*8.7 (46)*	*8.7 (46)*	*4.0 (46)*	*3.0 (48)*	*3.7 (56)*	*2.7 (49)*	
Mercer Mutual Fund US Fixed Core Median			*0.5*	*2.2*	*8.5*	*8.5*	*3.9*	*3.0*	*3.9*	*2.6*	
Hedge Fund of Funds											
Lighthouse Diversified	**19,128,601**	**6.5**	**2.7**	**1.8**	**6.6**	**6.6**	**3.2**	**2.8**	**4.4**	**4.7**	**Nov-2012**
HFRI Fund of Funds Composite Index			*3.0*	*2.1*	*8.3*	*8.3*	*3.9*	*2.4*	*2.8*	*3.6*	
Pointer Offshore LTD	**19,863,235**	**6.8**	**5.6**	**4.3**	**18.7**	**18.7**	**9.3**	**6.2**	**7.9**	**8.0**	**Jan-2013**
HFRI Fund of Funds Composite Index			*3.0*	*2.1*	*8.3*	*8.3*	*3.9*	*2.4*	*2.8*	*3.4*	
Real Estate											
Oaktree RE Opportunities Fund VI	**3,013,410**	**1.0**	**0.0**	**0.0**	**0.4**	**0.4**	**4.0**	**5.1**	**-**	**7.4**	**Feb-2013**
NCREIF Property Index			*1.5*	*3.0*	*6.4*	*6.4*	*6.7*	*8.3*	*10.2*	*9.1*	
Walton Street Real Estate Fund VII, L.P.	**2,569,528**	**0.9**	**0.0**	**-1.7**	**-2.6**	**-2.6**	**2.4**	**6.5**	**-**	**10.3**	**Jul-2013**
NCREIF Property Index			*1.5*	*3.0*	*6.4*	*6.4*	*6.7*	*8.3*	*10.2*	*9.0*	
Walton Street Real Estate Fund VIII, L.P.	**6,362,051**	**2.2**	**0.0**	**1.4**	**6.0**	**6.0**	**-**	**-**	**-**	**11.9**	**Jun-2017**
NCREIF Property Index			*1.5*	*3.0*	*6.4*	*6.4*	*6.7*	*8.3*	*10.2*	*6.7*	
Total Plan											
Total Cash Balance Plan	**293,784,037**	**100.0**	**5.3**	**5.6**	**18.1**	**18.1**	**9.6**	**6.9**	**8.3**	**8.1**	**Nov-2012**
Total Cash Balance Plan Benchmark			*5.1*	*5.7*	*17.4*	*17.4*	*8.5*	*6.3*	*7.9*	*7.4*	
Pre-Pavilion Total Cash Balance Plan Benchmark			*4.5*	*6.3*	*19.4*	*19.4*	*7.6*	*6.4*	*8.8*	*8.5*	

Returns are expressed as percentages and are net of investment management fees. Returns for periods greater than one year are annualized.
Peer group percentile ranks are shown in parentheses.

El Camino Hospital

Private Real Estate Summary (Lagged)

September 30, 2019

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Partnerships	Vintage	Capital Commitment	Drawn Down	Distributed	Market Value (1)	IRR (1)	PME+ FTSE NAREIT Equity REIT Index (4)	TVPI Multiple (1,2)	DPI Multiple (2)	Remaining Commitment (3)
Oaktree RE Opportunities Fund VI	2012	8,400,000	8,400,000	8,762,908	3,199,176	9.1	8.9	1.4	1.0	1,932,000
Walton Street Real Estate Fund VII, L.P.	2012	8,400,000	7,440,389	7,671,090	2,832,395	11.6	8.1	1.4	1.0	2,652,461
Walton Street Real Estate Fund VIII, L.P.	2015	10,000,000	7,584,856	1,789,828	6,808,479	9.7	12.4	1.1	0.2	4,213,752
Total Cash Balance Real Estate		**26,800,000**	**23,425,244**	**18,223,826**	**12,840,050**	**10.0**	**9.0**	**1.3**	**0.8**	**8,798,212**

1) Valuations are typically reported on one quarter lag. If the valuation date is earlier than the statement's date, the market value and performance are estimated by rolling forward the latest reported balance to include relevant new cash flows.
2) Total Value to Paid In (TVPI) reflects total realized and unrealized performance. Distributed to Paid In (DPI) reflects realized performance only.
3) Remaining commitment includes recallable distributions which, if called, could cause drawn to exceed commitment.
4) The public market equivalent (PME+) calculates benchmark performance by using the daily cash flows in a public index, and scaling the fund's distributions so the public market NAV remains positive.
The PME will match the fund's IRR if no distribution/s had occurred during the life of the fund.

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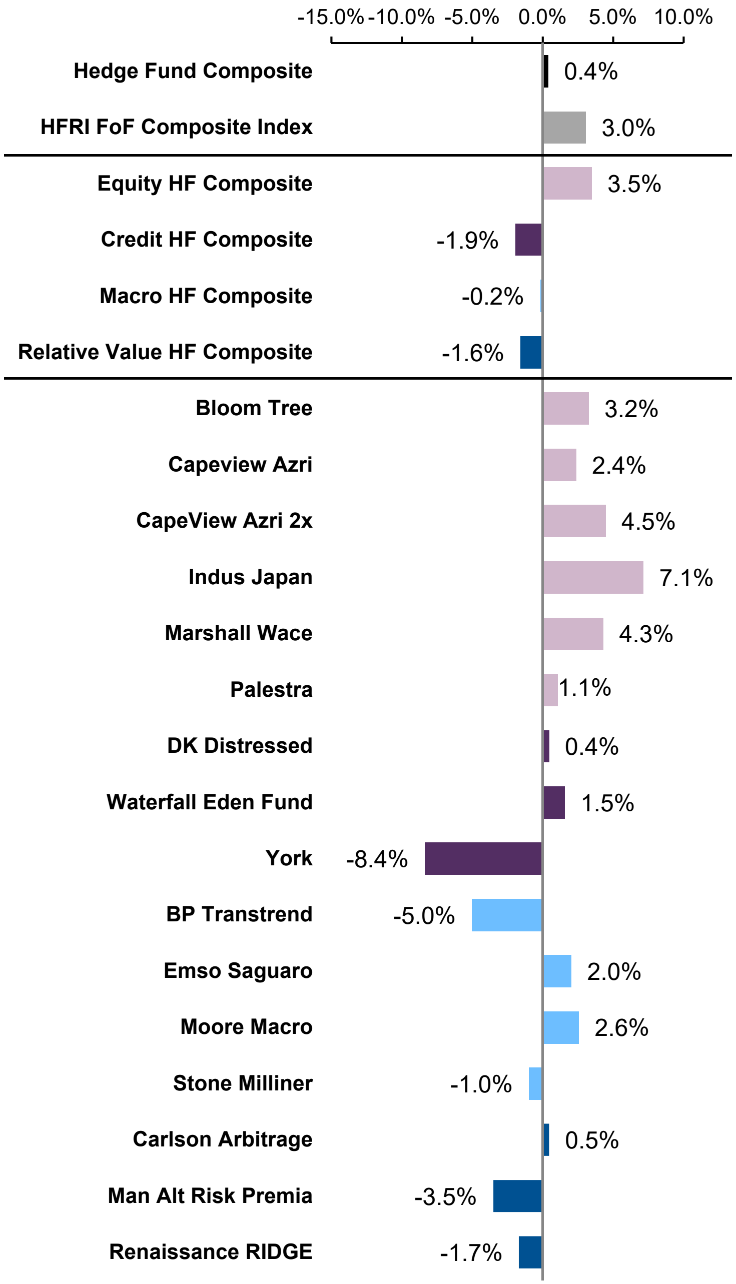
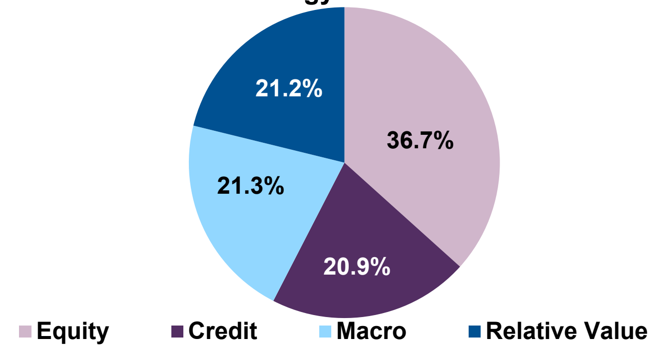
Direct Hedge Fund Portfolio

4Q 2019 Performance



Strategy Allocation



Program Comments:

The *Direct Hedge Fund Portfolio* returned +0.4% during the fourth quarter, underperforming peers as measured by the *HFRI Fund of Funds Composite Index* (+3.0%) amid rallying equity markets. Muted overall performance was driven partly by the portfolio's low-beta stance and focus on idiosyncratic strategies that are expected to be uncorrelated to the market as well as the overall peer universe. In calendar year 2019, managers contributed positively to returns with limited sensitivity to market factors and continued to behave in an uncorrelated fashion.

Equity-oriented strategies posted strong alpha during the quarter. Popular long positions outperformed market indices and short positions underperformed, generating positive alpha on both sides during the quarter and year. Stock correlations fell overall during the year, providing relative value opportunities for equity funds, though varying sector and style performance continued to impact returns. Japan-focused manager **Indus** performed best during the quarter. While **Palestra** posted modest results in the quarter, it had the strongest performance in 2019.

Credit strategy performance was challenged in the quarter, partially a function of relative weakness in the performance of lower-quality credit, continued challenges in the energy sector, and technical pressure. Liquidating manager **York** posted the biggest losses, in part due to its concentration in challenged sectors and names. **Davidson Kempner** posted gains slightly better than the overall distressed peer universe, and ABS-focused manager **Waterfall** posted results in line with expectations.

Macro managers had divergent performance, as systematic managers underperformed discretionary managers in the quarter. Trend-following manager **Transtrend** posted losses alongside other systematic strategies in Q4, but long bond and equity positioning throughout the year drove strong overall results in 2019. EM debt-focused manager **Emso** performed well in the quarter and in 2019, while liquidating discretionary managers **Moore** and **Stone Milliner** posted mixed results.

Relative Value strategies were mixed in Q4 but were positive overall in 2019. **Renaissance RIDGE** was hurt by exposure to the low volatility factor (high quality and low beta stocks underperformed low quality and high beta stocks). Alternative risk premia manager **Man** experienced losses in Q4 following a strong Q3 due to poor performance of equity value and equity quality factors. Merger-focused manager **Carlson** profited modestly.

Portfolio Changes:

- $10 million was allocated to ***Waterfall Eden Fund** as of October 1, 2019*.
- **Stone Milliner** and **Moore Macro** sent notice that the funds are closing and returning capital. Proceeds were received from **Stone Milliner** in December 2019 and from **Moore Macro** in January 2020.
- **York** sent notice that it will be returning client capital. Liquidation proceeds are expected to be distributed through 2020 and 2021. Aggregate distributions in Q1 2020 are expected to be 15-30% of Dec 2019 NAV.

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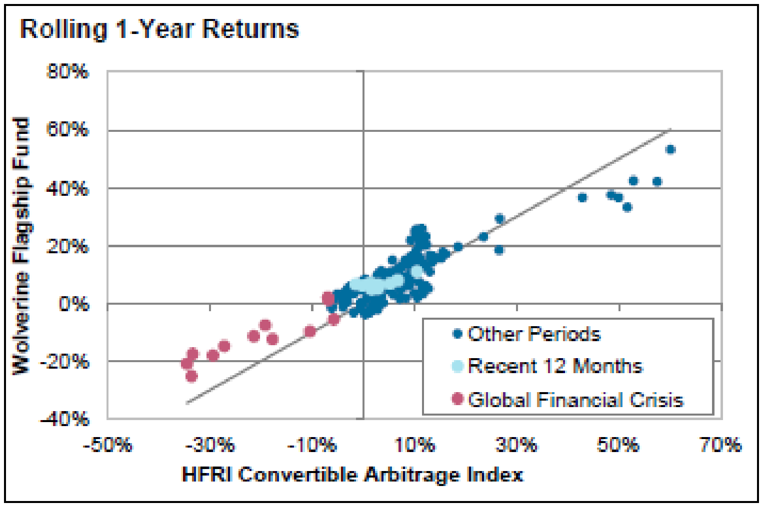
WOLVERINE FLAGSHIP FUND

- **Category:** Convertible Arbitrage
- **Firm/Strategy:** Wolverine Asset Management, LLC ("WAM") was founded by Robert Bellick and Christopher Gust in 2001 under the Wolverine Holdings, L.P. holding company umbrella. The Firm is owned by ten partners with Mr. Bellick and Mr. Gust owning the majority. WAM was created to enable external investors to participate in the trading arbitrage expertise developed by Wolverine Trading, LLC ("WT") which was founded by Mr. Bellick and Mr. Gust in 1994. The Wolverine Flagship Fund Ltd invests primarily in U.S. convertible securities and related hedges to construct a portfolio designed to be market neutral. The majority of portfolio risk (60-80%) is allocated to the capital structure strategy which is designed to capture volatility opportunities across company capital structures.

Mercer Evaluation: Wolverine Asset Management's competitive advantage is driven by its affiliation with Wolverine Trading, a large US options market maker. The manager uses this to create an edge in efficiently pricing and trading options and option-embedded securities. The team uses this advantage to participate in more markets while maintaining an ability to make decisions and execute quickly and cost-efficiently. The proprietary infrastructure also affords that strategy more choices in hedging and a robust risk management process. CIO Christopher Gust is also co-founding partner of Wolverine Trading and his insight into the broader applicability of Wolverine's core competencies has driven the broad development of the product.



Returns (Net of Fees)* As of 12/31/2019	1-yr	3-yr	5-yr	10-yr	Since Inception Std. Deviation
Wolverine Flagship Fund	10.9%	8.8%	8.0%	7.0%	6.1%
HFRI Convertible Arbitrage Index	10.4%	4.3%	4.5%	7.0%	7.1%
S&P 500 Index	31.5%	15.3%	11.7%	13.6%	14.1%
Bloomberg Barclays HY Index	14.3%	6.4%	6.1%	7.6%	9.1%

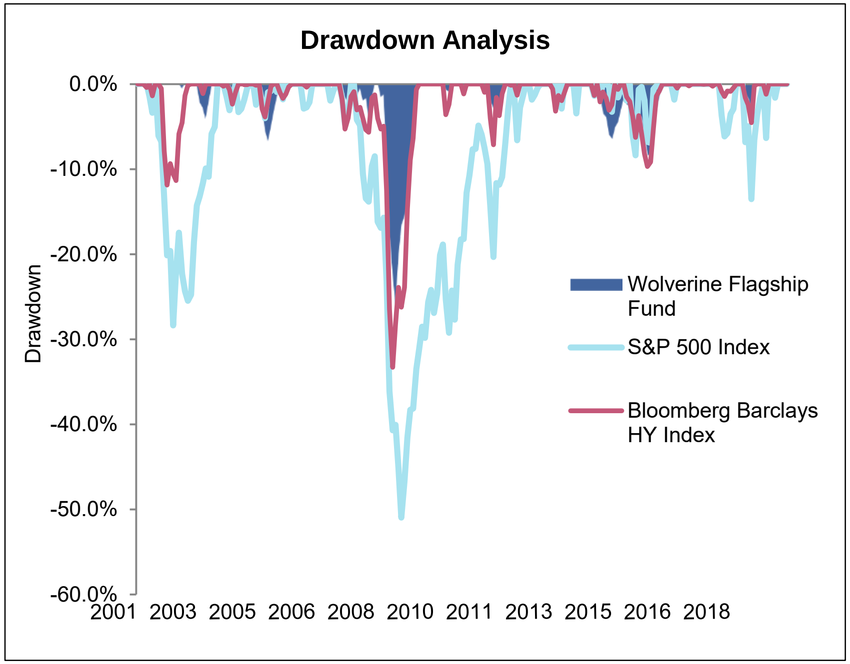
As of 12/31/2019	Wolverine
Total Firm AUM:	$2.7 B
Total Strategy/Product AUM:	$2.5 B
Liquidity Terms:	Quarterly; 60 days notice; 1-yr. soft lock
Management Fee:	1.75%
Performance Fee:	20%

*See performance related footnote on next page.

WOLVERINE FLAGSHIP FUND

Calendar Year Returns (Net of Fees)	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002
Wolverine Flagship Fund	10.9%	5.1%	10.4%	14.9%	-0.4%	-1.3%	7.7%	7.2%	3.1%	14.0%	53.2%	-25.3%	5.8%	23.0%	4.3%	6.3%	3.4%	13.1%
HFRI Convertible Arbitrage Index	10.4%	-3.1%	5.9%	8.1%	1.9%	1.6%	8.1%	8.6%	-5.2%	13.3%	60.2%	-33.7%	5.3%	12.2%	-1.9%	1.2%	9.9%	9.1%
S&P 500 Index	31.5%	-4.4%	21.8%	12.0%	1.4%	13.7%	32.4%	16.0%	2.1%	15.1%	26.5%	-37.0%	5.5%	15.8%	4.9%	10.9%	28.7%	-22.1%
Bloomberg Barclays HY Index	14.3%	-2.1%	7.5%	17.1%	-4.5%	2.5%	7.4%	15.8%	5.0%	15.1%	58.2%	-26.2%	1.9%	11.8%	2.7%	11.1%	29.0%	-1.4%

Risk & Performance (Since Inception)	Wolverine Flagship Fund	HFRI Convertible Arbitrage Index	S&P 500 Index	Bloomberg Barclays HY Index
Sharpe Ratio	1.04	0.50	0.47	0.70
Sortino Ratio	1.71	0.71	0.76	1.11
Correlation	--	0.82	0.39	0.58
Up-Capture	--	109%	32%	60%
Down-Capture	--	66%	6%	26%
Beta	--	0.71	0.17	0.39
Alpha	--	3.8%	5.1%	3.8%
St Dev of Alpha	--	3.5%	5.7%	5.0%
Maximum Drawdown	-26.0%	-35.3%	-50.9%	-33.3%
Max Drawdown Length (months)	6	13	16	18



Representative Investor Returns reflect a blended rate comprised of the asset weighted-returns of Wolverine Flagship Fund's ("WFF or the Fund") U.S. and non-U.S. feeder funds, net of management fees, performance fees, and expenses since inception. The returns assume a theoretical investor in the Fund on 9/1/01, made no redemptions or additional subscriptions, was subject to a high water mark and to a 2% management fee and 20% performance fee. Representative Investor Returns after 12/31/09 represent a blended rate comprised of the asset weighted-returns of the Fund's U.S. and non-U.S. feeder funds, net of management fees, performance fees and expenses for all fee-paying investors only. Individual investor returns may vary materially from the Representative Investor Returns based on a variety of factors, including fee structure. Investors should not expect to achieve the Representative Investor Return results on an individual basis. The returns for 2019 are estimated, unaudited and subject to final confirmation.

The market indices shown are not subject to any of the fees or expenses to which the Fund is subject. The Fund is not restricted to investing in those securities which comprise any of these indices, their performance may or may not correlate to any of these indices and it should not be considered a proxy for any of these indices.

Direct Hedge Fund Portfolio Asset Allocation & Performance

PAVILION
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December 31, 2019

	Allocation		Performance							
	Asset $	%	3 Month	Fiscal YTD	CYTD	1 Year	3 Year	5 Year	Since Invested	Inception Date
Hedge Fund Composite	**148,538,090**	**100.0**	**0.4**	**1.8**	**5.9**	**5.9**	**3.8**	**2.2**	**2.8**	**May-2013**
HFRI Fund of Funds Composite Index			*3.0*	*2.1*	*8.3*	*8.3*	*3.9*	*2.4*	*3.0*	
El Camino HF Composite Benchmark			*2.5*	*1.8*	*8.3*	*8.3*	*3.8*	*3.2*	*3.5*	
Equity HF Composite	**54,454,803**	**36.7**	**3.5**	**5.6**	**12.5**	**12.5**	**6.7**	**2.6**	**3.2**	**May-2013**
HFRI Equity Hedge (Total) Index			*5.7*	*4.1*	*13.7*	*13.7*	*6.2*	*4.6*	*5.0*	
Credit HF Composite	**31,029,596**	**20.9**	**-1.9**	**-4.5**	**-2.2**	**-2.2**	**2.6**	**2.6**	**3.8**	**May-2013**
HFRI ED: Distressed/Restructuring Index			*-0.5*	*-2.2*	*2.5*	*2.5*	*2.3*	*2.5*	*2.8*	
Macro HF Composite	**31,616,092**	**21.3**	**-0.2**	**0.9**	**4.5**	**4.5**	**0.1**	**1.3**	**1.5**	**May-2013**
HFRI Macro (Total) Index			*-0.5*	*1.2*	*6.2*	*6.2*	*1.3*	*0.8*	*1.0*	
Relative Value HF Composite	**31,437,600**	**21.2**	**-1.6**	**2.3**	**5.0**	**5.0**	**4.9**	**2.0**	**2.9**	**May-2013**
HFRI RV: Multi-Strategy Index			*2.0*	*1.7*	*5.6*	*5.6*	*3.1*	*3.3*	*3.4*	

Returns are expressed as percentages and are net of investment management fees. Returns for periods greater than one year are annualized.
The El Camino HF Composite Benchmark consists of 40% HFRI Equity Hedge (Total) Index, 20% HFRI ED: Distressed/Restructuring Index, 20% HFRI Macro (Total) Index, and 20% HFRI RV: Multi-Strategy Index.

Direct Hedge Fund Portfolio

Risk and Return Summary (Net of Fees)

5 Years

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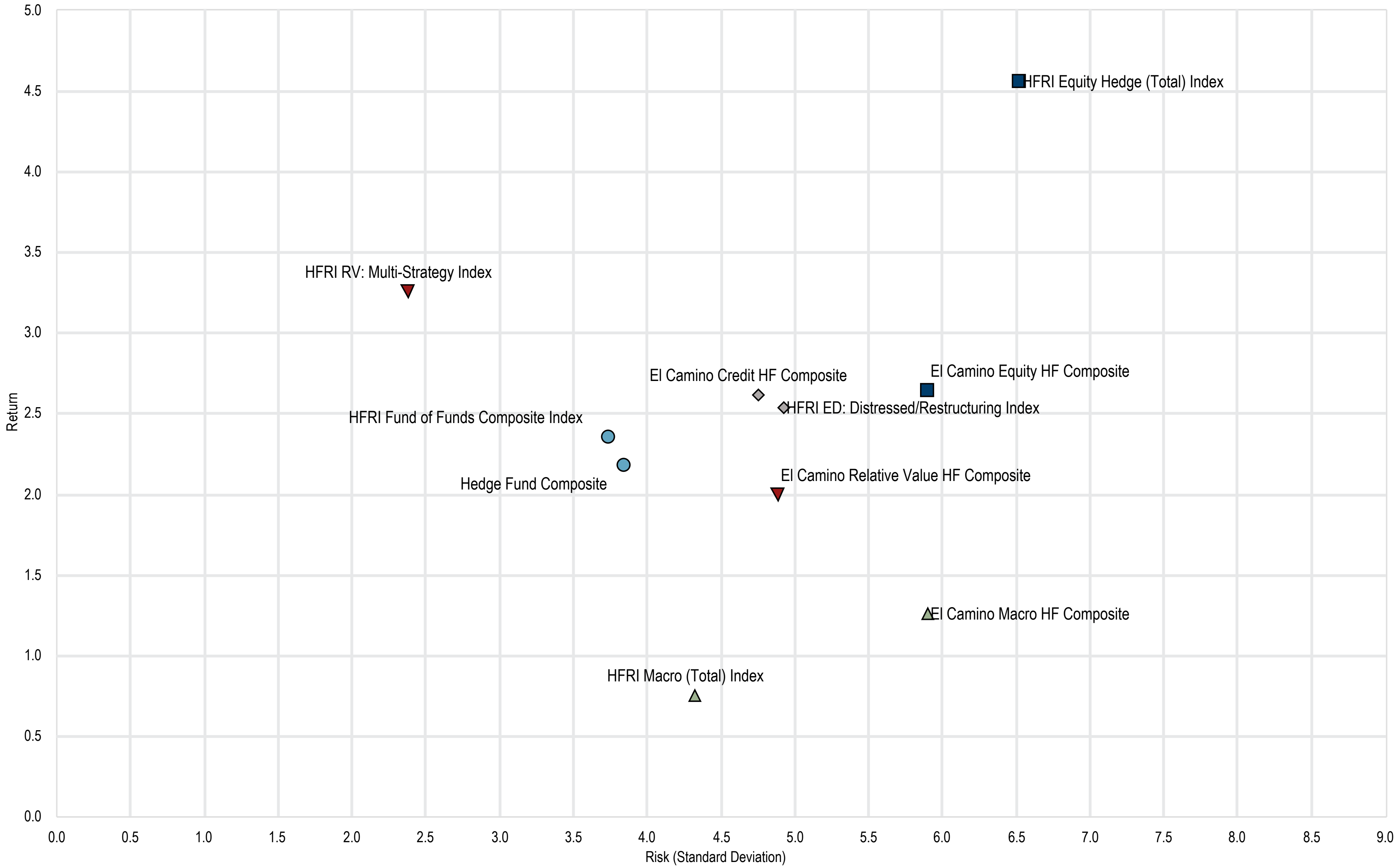

Returns are expressed as percentages and are net of investment management fees. Returns for periods greater than one year are annualized.

	Since Inception Return	Since Inception Standard Deviation	Since Inception Maximum Drawdown	Since Inception Best Quarter	Since Inception Worst Quarter	Since Inception Sharpe Ratio	Since Inception Sortino Ratio	Inception Date
Total Portfolio								
Hedge Fund Composite	2.8	3.7	-9.5	4.9	-5.7	0.5	0.8	May-2013
HFRI Fund of Funds Composite Index	3.0	3.6	-7.6	4.6	-4.9	0.6	0.9	
Equity Long/Short								
El Camino Equity HF Composite	3.2	5.5	-14.3	5.7	-8.2	0.5	0.6	May-2013
HFRI Equity Hedge (Total) Index	5.0	6.2	-10.3	7.6	-8.5	0.7	1.0	
Credit								
El Camino Credit HF Composite	3.8	5.1	-18.5	7.0	-6.6	0.6	0.9	May-2013
HFRI ED: Distressed/Restructuring Index	2.8	4.8	-17.5	7.4	-6.4	0.4	0.7	
Macro								
El Camino Macro HF Composite	1.5	5.9	-7.4	7.9	-5.0	0.1	0.2	May-2013
HFRI Macro (Total) Index	1.0	4.1	-6.8	6.1	-4.0	0.1	0.1	
Relative Value								
El Camino Relative Value HF Composite	2.9	4.6	-13.8	5.3	-8.1	0.5	0.7	May-2013
HFRI RV: Multi-Strategy Index	3.4	2.3	-4.2	2.9	-2.4	1.1	1.9	

Asset Class Diversification

Hedge Fund Portfolio

As of December 31, 2019

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Manager	Asset Class/Type	Total Assets ($, mil.)	Percent of Total	Target Allocation	Weighting Relative to Target
Equity Hedge Funds		**$ 54.5**	**36.7%**	**40.0%**	**- 3.3%**
Luxor	Event Driven Equity	$ 0.7	0.4%		
CapeView 1x	European Equity	$ 6.5	4.4%		
CapeView 2x	European Equity	$ 3.9	2.6%		
Bloom Tree	Global Equity	$ 11.8	8.0%		
Marshall Wace Eureka	Global Equity	$ 10.9	7.3%		
Indus Japan	Japanese Equity	$ 9.5	6.4%		
Palestra	Long/Short Equity	$ 11.2	7.5%		
Credit Hedge Funds		**$ 31.0**	**20.9%**	**20.0%**	**+ 0.9%**
Davidson Kempner	Distressed Credit	$ 10.9	7.3%		
York	Multi-Strategy Credit	$ 8.9	6.0%		
Chatham Asset	High Yield	$ 1.0	0.7%		
Waterfall Eden	Structured Credit	$ 10.2	6.8%		
Macro Hedge Funds		**$ 31.6**	**21.3%**	**20.0%**	**+ 1.3%**
BP Transtrend	Systematic Macro	$ 10.3	7.0%		
Moore	Discretionary Macro	$ 10.4	7.0%		
Stone Milliner	Discretionary Macro	$ 0.1	0.1%		
EMSO Saguaro	Discretionary Macro	$ 10.7	7.2%		
Relative Value Hedge Funds		**$ 31.4**	**21.2%**	**20.0%**	**+ 1.2%**
Renaissance RIDGE	Quantitative Market Neutral	$ 10.5	7.1%		
Fir Tree	Multi-Strategy	$ 0.2	0.1%		
Pine River	Multi-Strategy	$ 0.0	0.0%		
Black Diamond Arbitrage	Event/Merger Arbitrage	$ 10.7	7.2%		
Man Alternative Risk Premia	Alternative Risk Premia	$ 10.0	6.7%		
Total Hedge Fund Portfolio		**$148.5**	**100.0%**		

*Totals may not add due to rounding.

Direct Hedge Fund Performance Summary

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	3 Month	Fiscal YTD	1 Year	3 Year	5 Year	Since Invested	2019	2018	2017	2016	2015	2014	2013	Inception Date
Total Portfolio														
Hedge Fund Composite	**0.4**	**1.8**	**5.9**	**3.8**	**2.2**	**2.8**	**5.9**	**-1.4**	**7.2**	**1.0**	**-1.6**	**2.2**	**-**	**May-2013**
HFRI Fund of Funds Composite Index	*3.0*	*2.1*	*8.3*	*3.9*	*2.4*	*3.0*	*8.3*	*-4.0*	*7.8*	*0.5*	*-0.3*	*3.4*	*9.0*	
El Camino HF Composite Benchmark	*2.5*	*1.8*	*8.3*	*3.8*	*3.2*	*3.5*	*8.3*	*-4.1*	*7.7*	*6.7*	*-2.1*	*2.2*	*9.9*	
Equity Long/Short														
Equity HF Composite	**3.5**	**5.6**	**12.5**	**6.7**	**2.6**	**3.2**	**12.5**	**-3.7**	**12.1**	**-8.0**	**2.0**	**-0.4**	**-**	**May-2013**
HFRI Equity Hedge (Total) Index	*5.7*	*4.1*	*13.7*	*6.2*	*4.6*	*5.0*	*13.7*	*-7.1*	*13.3*	*5.5*	*-1.0*	*1.8*	*14.3*	
Bloom Tree Offshore Fund, Ltd.	3.2	5.6	15.8	8.1	5.3	5.4	15.8	0.5	8.6	-3.8	6.3	3.0	12.8	Apr-2014
HFRI Equity Hedge (Total) Index	*5.7*	*4.1*	*13.7*	*6.2*	*4.6*	*4.1*	*13.7*	*-7.1*	*13.3*	*5.5*	*-1.0*	*1.8*	*14.3*	
CapeView Azri Fund Limited	2.4	4.1	5.0	4.4	2.7	3.6	5.0	0.6	7.6	-8.3	9.8	4.6	11.4	Jul-2013
HFRI Equity Hedge (Total) Index	*5.7*	*4.1*	*13.7*	*6.2*	*4.6*	*5.2*	*13.7*	*-7.1*	*13.3*	*5.5*	*-1.0*	*1.8*	*14.3*	
CapeView Azri 2X Fund	4.5	8.0	9.0	8.0	5.2	7.2	9.0	-0.4	16.2	-15.9	21.6	9.8	24.4	Jul-2013
HFRI Equity Hedge (Total) Index	*5.7*	*4.1*	*13.7*	*6.2*	*4.6*	*5.2*	*13.7*	*-7.1*	*13.3*	*5.5*	*-1.0*	*1.8*	*14.3*	
Indus Japan Fund Ltd.	7.1	8.9	14.1	3.5	0.9	2.3	14.1	-20.1	21.6	-7.5	1.8	6.3	45.0	Dec-2013
HFRI Equity Hedge (Total) Index	*5.7*	*4.1*	*13.7*	*6.2*	*4.6*	*4.3*	*13.7*	*-7.1*	*13.3*	*5.5*	*-1.0*	*1.8*	*14.3*	
Marshall Wace Eureka Fund Class B2	4.3	5.0	12.6	8.0	7.3	7.1	12.6	-0.2	12.0	1.3	11.7	8.1	21.1	Aug-2017
HFRI Equity Hedge (Total) Index	*5.7*	*4.1*	*13.7*	*6.2*	*4.6*	*4.6*	*13.7*	*-7.1*	*13.3*	*5.5*	*-1.0*	*1.8*	*14.3*	
Palestra Capital Offshore	1.1	4.7	22.4	11.2	10.7	11.7	22.4	-2.3	14.9	8.7	11.4	5.3	23.9	Apr-2019
HFRI Equity Hedge (Total) Index	*5.7*	*4.1*	*13.7*	*6.2*	*4.6*	*5.7*	*13.7*	*-7.1*	*13.3*	*5.5*	*-1.0*	*1.8*	*14.3*	

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	3 Month	Fiscal YTD	1 Year	3 Year	5 Year	Since Invested	2019	2018	2017	2016	2015	2014	2013	Inception Date
Credit														
Credit HF Composite	**-1.9**	**-4.5**	**-2.2**	**2.6**	**2.6**	**3.8**	**-2.2**	**0.7**	**9.9**	**14.7**	**-8.2**	**2.8**	**-**	**May-2013**
HFRI ED: Distressed/Restructuring Index	*-0.5*	*-2.2*	*2.5*	*2.3*	*2.5*	*2.8*	*2.5*	*-1.7*	*6.3*	*15.1*	*-8.1*	*-1.4*	*14.0*	
DK Distressed Opportunities International (Cayman) Ltd.	0.4	0.0	3.4	5.2	5.8	6.5	3.4	2.7	9.5	21.4	-6.2	3.2	21.7	May-2013
HFRI ED: Distressed/Restructuring Index	*-0.5*	*-2.2*	*2.5*	*2.3*	*2.5*	*2.8*	*2.5*	*-1.7*	*6.3*	*15.1*	*-8.1*	*-1.4*	*14.0*	
Waterfall Eden Fund, Ltd.	1.5	3.3	5.4	7.7	6.0	1.5	5.4	6.7	11.1	6.5	0.4	10.9	12.7	Oct-2019
HFRI ED: Distressed/Restructuring Index	*-0.5*	*-2.2*	*2.5*	*2.3*	*2.5*	*-0.5*	*2.5*	*-1.7*	*6.3*	*15.1*	*-8.1*	*-1.4*	*14.0*	
York Credit Opportunities Unit Trust	-8.4	-13.6	-12.2	-2.0	-2.1	0.1	-12.2	-4.8	12.5	4.1	-7.9	3.4	15.6	May-2013
HFRI ED: Distressed/Restructuring Index	*-0.5*	*-2.2*	*2.5*	*2.3*	*2.5*	*2.8*	*2.5*	*-1.7*	*6.3*	*15.1*	*-8.1*	*-1.4*	*14.0*	
Macro														
Macro HF Composite	**-0.2**	**0.9**	**4.5**	**0.1**	**1.3**	**1.5**	**4.5**	**-4.0**	**0.1**	**5.0**	**1.0**	**7.7**	**-**	**May-2013**
HFRI Macro (Total) Index	*-0.5*	*1.2*	*6.2*	*1.3*	*0.8*	*1.0*	*6.2*	*-4.1*	*2.2*	*1.0*	*-1.3*	*5.6*	*-0.4*	
BP Transtrend Diversified Fund LLC	-5.0	-0.5	5.0	-0.4	1.1	2.8	5.0	-7.2	1.4	8.2	-1.1	18.9	0.6	May-2013
HFRI Macro (Total) Index	*-0.5*	*1.2*	*6.2*	*1.3*	*0.8*	*1.0*	*6.2*	*-4.1*	*2.2*	*1.0*	*-1.3*	*5.6*	*-0.4*	
EMSO Saguaro, Ltd.	2.0	2.3	7.5	3.4	5.3	2.2	7.5	-4.6	7.7	10.2	6.2	2.6	2.7	Aug-2017
HFRI Macro (Total) Index	*-0.5*	*1.2*	*6.2*	*1.3*	*0.8*	*1.7*	*6.2*	*-4.1*	*2.2*	*1.0*	*-1.3*	*5.6*	*-0.4*	
Moore Macro Managers Fund Ltd.	2.6	0.5	3.9	0.4	0.8	1.5	3.9	-3.3	0.6	0.0	3.1	5.4	13.4	Apr-2014
HFRI Macro (Total) Index	*-0.5*	*1.2*	*6.2*	*1.3*	*0.8*	*1.7*	*6.2*	*-4.1*	*2.2*	*1.0*	*-1.3*	*5.6*	*-0.4*	
Stone Milliner Macro Fund Inc.	-1.0	0.2	0.7	-1.3	1.3	0.7	0.7	1.2	-5.5	4.9	5.7	14.3	11.2	Mar-2015
HFRI Macro (Total) Index	*-0.5*	*1.2*	*6.2*	*1.3*	*0.8*	*0.2*	*6.2*	*-4.1*	*2.2*	*1.0*	*-1.3*	*5.6*	*-0.4*	

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	3 Month	Fiscal YTD	1 Year	3 Year	5 Year	Since Invested	2019	2018	2017	2016	2015	2014	2013	Inception Date
Relative Value														
Relative Value HF Composite	**-1.6**	**2.3**	**5.0**	**4.9**	**2.0**	**2.9**	**5.0**	**5.3**	**4.4**	**-0.4**	**-4.0**	**1.6**	**-**	**May-2013**
HFRI RV: Multi-Strategy Index	*2.0*	*1.7*	*5.6*	*3.1*	*3.3*	*3.4*	*5.6*	*-0.2*	*4.1*	*6.4*	*0.7*	*3.4*	*7.9*	
(Carlson) Black Diamond Arbitrage Ltd.	0.5	2.1	4.8	6.0	7.8	5.3	4.8	6.4	6.8	10.8	10.5	3.9	7.5	Sep-2018
HFRI ED: Merger Arbitrage Index	*2.4*	*3.5*	*6.8*	*4.8*	*4.3*	*5.3*	*6.8*	*3.3*	*4.3*	*3.6*	*3.3*	*1.7*	*4.7*	
HFRI RV: Multi-Strategy Index	*2.0*	*1.7*	*5.6*	*3.1*	*3.3*	*2.7*	*5.6*	*-0.2*	*4.1*	*6.4*	*0.7*	*3.4*	*7.9*	
Man Alternative Risk Premia SP Fund	-3.5	-0.4	3.8	3.3	4.9	-0.4	3.8	-3.5	10.2	6.8	7.8	28.0	14.9	Jul-2019
HFRI RV: Multi-Strategy Index	*2.0*	*1.7*	*5.6*	*3.1*	*3.3*	*1.7*	*5.6*	*-0.2*	*4.1*	*6.4*	*0.7*	*3.4*	*7.9*	
Renaissance RIDGE	-1.7	5.2	6.7	9.8	13.5	7.3	6.7	10.4	12.4	13.3	25.6	17.0	7.7	Nov-2017
HFRI EH: Equity Market Neutral Index	*0.4*	*0.9*	*2.4*	*2.1*	*2.5*	*1.1*	*2.4*	*-1.0*	*4.9*	*2.2*	*4.3*	*3.1*	*6.5*	
HFRI RV: Multi-Strategy Index	*2.0*	*1.7*	*5.6*	*3.1*	*3.3*	*2.7*	*5.6*	*-0.2*	*4.1*	*6.4*	*0.7*	*3.4*	*7.9*	

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Appendix

Surplus Cash

Surplus Cash Total Benchmark
Beginning March 2015, the Surplus Cash Total Benchmark consists of 40% Total Equity Benchmark - Surplus, 30% Barclays Capital Aggregate, 10% Short Duration Fixed Income Benchmark - Surplus, and 20% Total Alternatives Benchmark - Surplus. From April 2014 to February 2015, the Surplus Cash Total Benchmark consisted of 30% Total Equity Benchmark - Surplus, 40% Barclays Capital Aggregate, 10% Short Duration Fixed Income Benchmark - Surplus, and 20% Total Alternatives Benchmark - Surplus. From August 2013 to March 2014, the Surplus Cash Total Benchmark consisted of 30% Total Equity Benchmark - Surplus, 40% Barclays Capital Aggregate, 20% Short Duration Fixed Income Benchmark - Surplus, and 10% Total Alternatives Benchmark - Surplus. During July 2013, the Surplus Cash Total Benchmark consisted of 30% Total Equity Benchmark - Surplus, 40% Barclays Capital Aggregate, 21% Short Duration Fixed Income Benchmark - Surplus, and 9% Total Alternatives Benchmark - Surplus. From May 2013 to June 2013, the Surplus Cash Total Benchmark consisted of 30% Total Equity Benchmark - Surplus, 40% Barclays Capital Aggregate, 22% Short Duration Fixed Income Benchmark - Surplus, and 8% HFRI Fund of Funds Composite Index. From November 2012 to April 2013, the Surplus Cash Total Benchmark consists of 30% Total Equity Benchmark - Surplus and 70% Total Fixed Income Benchmark - Surplus. From January 2007 to October 2012, the Surplus Cash Total Benchmark consisted of 15% Total Equity Benchmark - Surplus and 85% Total Fixed Income Benchmark - Surplus. From August 2000 to December 2006, the Surplus Cash Total Benchmark consisted of 2% Total Equity Benchmark - Surplus and 98% Total Fixed Income Benchmark - Surplus. From April 1991 to July 2000, the Surplus Cash Total Benchmark consisted of 100% Total Fixed Income Benchmark - Surplus.

Surplus Cash Total Benchmark X Privates
Beginning March 2015 the Surplus Cash Total Benchmark consists of 42.1% Total Equity Benchmark - Surplus, 31.6% Barclays Capital Aggregate, 10.5% Short Duration Fixed Income Benchmark - Surplus, and 15.8% Total Alternatives Benchmark - Surplus. From April 2014 to February 2015 the Surplus Cash Total Benchmark consisted of 31.6% Total Equity Benchmark - Surplus, 42.1% Barclays Capital Aggregate, 10.5% Short Duration Fixed Income Benchmark - Surplus, and 15.8% Total Alternatives Benchmark - Surplus. From August 2013 to March 2014, the Surplus Cash Total Benchmark consisted of 30% Total Equity Benchmark - Surplus, 40% Barclays Capital Aggregate, 20% Short Duration Fixed Income Benchmark - Surplus, and 10% Total Alternatives Benchmark - Surplus. During July 2013, the Surplus Cash Total Benchmark consisted of 30% Total Equity Benchmark - Surplus, 40% Barclays Capital Aggregate, 21% Short Duration Fixed Income Benchmark - Surplus, and 9% Total Alternatives Benchmark - Surplus. From May 2013 to June 2013, the Surplus Cash Total Benchmark consisted of 30% Total Equity Benchmark - Surplus, 40% Barclays Capital Aggregate, 22% Short Duration Fixed Income Benchmark - Surplus, and 8% HFRI Fund of Funds Composite Index. From November 2012 to April 2013, the Surplus Cash Total Benchmark consists of 30% Total Equity Benchmark - Surplus and 70% Total Fixed Income Benchmark - Surplus. From January 2007 to October 2012, the Surplus Cash Total Benchmark consisted of 15% Total Equity Benchmark - Surplus and 85% Total Fixed Income Benchmark - Surplus. From August 2000 to December 2006, the Surplus Cash Total Benchmark consisted of 2% Total Equity Benchmark - Surplus and 98% Total Fixed Income Benchmark - Surplus. From April 1991 to July 2000, the Surplus Cash Total Benchmark consisted of 100% Total Fixed Income Benchmark - Surplus.

Pre-Pavilion Surplus Cash Total Benchmark
Beginning January 2007, the Pre-Pavilion Surplus Cash Total Benchmark consists of 15% Total Equity Benchmark - Surplus and 85% Total Fixed Income Benchmark - Surplus. From August 2000 to December 2006, the Pre-Pavilion Surplus Cash Total Benchmark consisted of 2% Total Equity Benchmark - Surplus and 98% Total Fixed Income Benchmark - Surplus. From April 1991 to July 2000, the Pre-Pavilion Surplus Cash Total Benchmark consisted of 100% Total Fixed Income Benchmark - Surplus.

Total Equity Benchmark - Surplus
Beginning March 2015, the Total Equity Benchmark - Surplus consists of 50% Large Cap Equity Benchmark, 12.5% Small Cap Equity Benchmark, and 37.5% MSCI AC World ex USA (Net). From November 2012 to February 2015, the Total Equity Benchmark - Surplus consisted of 50% Large Cap Equity Benchmark, 16.67% Small Cap Equity Benchmark, and 33.33% MSCI AC World ex USA (Net). From April 1991 to October 2012, the Total Equity Benchmark - Surplus consisted of 100% Large Cap Equity Benchmark.

Domestic Equity Benchmark - Surplus
Beginning March 2015, the Domestic Equity Benchmark - Surplus consists of 80% Large Cap Equity Benchmark and 20% Small Cap Equity Benchmark. From November 2012 to February 2015, the Domestic Equity Benchmark - Surplus consisted of 75% Large Cap Equity Benchmark and 25% Small Cap Equity Benchmark. From April 1991 to October 2012, the Domestic Equity Benchmark - Surplus consisted of 100% Large Cap Equity Benchmark.

Large Cap Equity Benchmark
Beginning November 2012, the Large Cap Equity Benchmark consists of 25% Russell 1000 Value Index, 25% Russell 1000 Growth Index, and 50% S&P 500 Index. From April 1991 to October 2012, the Large Cap Equity Benchmark consisted of 100% Russell 1000 Value Index.

Small Cap Equity Benchmark
Beginning November 2012, the Small Cap Equity Benchmark consists of 50% Russell 2000 Growth Index and 50% Russell 2000 Value Index.

Total Fixed Income Benchmark - Surplus
Beginning March 2015, the Total Fixed Income Benchmark - Surplus consists of 75% Barclays Capital Aggregate and 25% Short Duration Fixed Income Benchmark - Surplus. From April 2014 to February 2015, the Total Fixed Income Benchmark - Surplus consisted of 80% Barclays Capital Aggregate and 20% Short Duration Fixed Income Benchmark - Surplus. From August 2013 to March 2014, the Total Fixed Income Benchmark - Surplus consisted of 66.67% Barclays Capital Aggregate and 33.33% Short Duration Fixed Income Benchmark - Surplus. During July 2013, the Total Fixed Income Benchmark - Surplus consisted of 65.57% Barclays Capital Aggregate and 34.43% Short Duration Fixed Income Benchmark - Surplus. From May 2013 to June 2013, the Total Fixed Income Benchmark - Surplus consisted of 64.52% Barclays Capital Aggregate and 35.48% Short Duration Fixed Income Benchmark - Surplus. From November 2012 to April 2013, the Total Fixed Income Benchmark - Surplus consisted of 57.14% Barclays Capital Aggregate and 42.86% Short Duration Fixed Income Benchmark - Surplus. From January 2007 to October 2012, the Total Fixed Income Benchmark - Surplus consisted of 40% Barclays Capital Aggregate and 60% Short Duration Fixed Income Benchmark - Surplus. From April 1991 to December 2006, the Total Fixed Income Benchmark - Surplus consisted of 100% Short Duration Fixed Income Benchmark - Surplus.

Short Duration Fixed Income Benchmark - Surplus
Beginning in November 2012, the Short Duration Fixed Income Benchmark - Surplus consists of 100% Barclays Capital 1-3 Year Gov't/Credit. From January 2007 to October 2012, the Short Duration Fixed Income Benchmark - Surplus consisted of 66.67% Barclays Capital Intermediate Aggregate and 33.33% Barclays Capital Gov't 1-3 Year. From May 2001 to December 2006, the Short Duration Fixed Income Benchmark - Surplus consisted of 84.69% Barclays Capital Intermediate Aggregate and 15.31% Barclays Capital Gov't 1-3 Year. From April 1991 to April 2001, the Short Duration Fixed Income Benchmark - Surplus consisted of 100% Barclays Capital Gov't 1-3 Year.

Total Alternatives Benchmark - Surplus
Beginning April 2014 the Total Alternatives Benchmark - Surplus consists of 75% HFRI Fund of Funds Composite Index and 25% NCREIF Property Index. From May 2013 to March 2014, the Total Alternatives Benchmark - Surplus consisted of 100% HFRI Fund of Funds Composite Index.

Cash Balance Plan

Cash Balance Plan Total Benchmark
Beginning July 2017, the Cash Balance Plan Total Benchmark consists of 50% Total Equity Benchmark, 30% Total Fixed Income Benchmark, and 20% Alternatives Benchmark. From January 2013 to June 2017, the Cash Balance Plan Total Benchmark consisted of 50% Total Equity Benchmark, 35% Total Fixed Income Benchmark, and 15% Alternatives Benchmark. From November 2012 to December 2012, the Cash Balance Plan Total Benchmark consisted of 50% Total Equity Benchmark, 45% Total Fixed Income Benchmark, and 5% Alternatives Benchmark. From October 1990 to October 2012, the Cash Balance Plan Total Benchmark consisted of 60% Russell 1000 Value Index and 40% Barclays Capital Aggregate.

Cash Balance Plan Total X Privates Benchmark
Beginning July 2017, the Cash Balance Plan Total Benchmark X Privates consists of 33.68% Domestic Equity Benchmark, 18.95% MSCI AC World ex USA Net, 26.31% Barclays Capital Aggregate, 5.27% Short Duration Fixed Income Benchmark, and 15.79% HFRI FOF Composite. From January 2013 to June 2017, the Cash Balance Plan Total Benchmark X Privates consisted of 33.68% Domestic Equity Benchmark, 18.95% MSCI AC World ex USA Net, 26.31% Barclays Capital Aggregate, 10.53% Short Duration Fixed Income Benchmark, and 10.53% HFRI FOF Composite. From November 2012 to December 2012, the Cash Balance Plan Total Benchmark X Privates consisted of 50% Total Equity Benchmark, 45% Total Fixed Income Benchmark, and 5% HFRI FOF Composite. From October 1990 to October 2012, the Cash Balance Plan Total Benchmark X Privates consisted of 60% Russell 1000 Value Index and 40% Barclays Capital Aggregate.

Pre-Pavilion Cash Balance Plan Total Benchmark
Beginning October 1990, the Cash Balance Plan Total Benchmark consists of 60% Russell 1000 Value Index and 40% Barclays Capital Aggregate.

Total Equity Benchmark
Beginning November 2012, the Total Equity Benchmark consists of 54% Large Cap Equity Benchmark, 10% Small Cap Equity Benchmark, and 36% MSCI AC World ex USA (Net). From October 1990 to October 2012, the Total Equity Benchmark consisted of 100% Large Cap Equity Benchmark.

Domestic Equity Benchmark
Beginning November 2012, the Domestic Equity Benchmark consists of 84.38% Large Cap Equity Benchmark and 15.62% Small Cap Equity Benchmark. From October 1990 to October 2012, the Domestic Equity Benchmark consisted of 100% Large Cap Equity Benchmark.

Large Cap Equity Benchmark
Beginning November 2012, the Large Cap Equity Benchmark consists of 25% Russell 1000 Value Index, 25% Russell 1000 Growth Index, and 50% S&P 500 Index. From October 1990 to October 2012, the Large Cap Equity Benchmark consisted of 100% Russell 1000 Value Index.

Small Cap Equity Benchmark
Beginning November 2012, the Small Cap Equity Benchmark consists of 50% Russell 2000 Growth Index and 50% Russell 2000 Value Index.

Total Fixed Income Benchmark
Beginning July 2017, the Total Fixed Income Benchmark consists of 83.3333% Barclays Capital Aggregate and 16.6667% Short Duration Fixed Income Benchmark. From January 2013 to June 2017, the Total Fixed Income Benchmark consisted of 71.43% Barclays Capital Aggregate and 28.57% Short Duration Fixed Income Benchmark. From November 2012 to December 2012, the Total Fixed Income Benchmark consists of 55.56% Barclays Capital Aggregate and 44.44% Short Duration Fixed Income Benchmark. From October 1990 to October 2012, the Total Fixed Income Benchmark consisted of 100% Barclays Aggregate.

Short Duration Fixed Income Benchmark
Beginning November 2012, the Short Duration Fixed Income Benchmark consists of 100% Barclays Capital 1-3 Year Gov't/Credit. From October 1990 to October 2012, the Short Duration Fixed Income Benchmark consisted of 100% 90 Day U.S. Treasury Bills.

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Total Alternatives Benchmark

Beginning January 2013, the Alternatives Benchmark consists of 66.67% HFRI Fund of Funds Composite Index and 33.33% NCREIF Property Index. From November 2012 to December 2012, the Alternatives Benchmark consisted of 100% HFRI Fund of Funds Composite Index.

Key Performance Indicator	Definition / Explanation
Investment Performance	
Surplus cash balance (millions) Surplus cash return	The Surplus Cash portfolio lagged its benchmark by 30 basis points (bps) for the quarter with a +3.9% return. The portfolio has outgained its benchmark by 10 bps per annum since inception (Nov. 1, 2012) with a return of +5.9% annualized. The assets within the Surplus Cash account excluding debt reserves, balance sheet cash and District assets, but including Foundation and Concern assets ended the quarter at $1,087.8 million, $41.6 million higher than the beginning of the quarter.
Cash balance plan balance (millions) Cash balance plan return	The Cash Balance Plan's performance outgained its benchmark by 20 bps for the quarter with a return of +5.3% and has outperformed its benchmark since inception. The since inception annualized return stands at +8.1%, 70 basis points ahead of its benchmark per year. The assets within the Cash Balance Plan ended the quarter at $293.8 million.
403(b) plan balance (millions)	The 403(b) balance grew significantly during the quarter and now stands at $548.4 million, an increase of $31.7 million or 6.1% from the September 30, 2019 value.
Risk vs. Return	
Surplus cash 3-year Sharpe ratio 3-year return 3-year standard deviation Cash balance 3-year Sharpe ratio 3-year return 3-year standard deviation	The Sharpe ratio is the excess return of an investment over the risk free rate (US Treasuries) generated per unit of risk (standard deviation) taken to obtain that return. The higher the value, the better the risk-adjusted return. It is important to view returns in this context because it takes into account the risk associated with a particular return rather than simply focusing on the absolute level of return. Sharpe ratio = (actual return - risk free rate) / standard deviation The Surplus Cash portfolio's 3-year Sharpe ratio was above that of its benchmark and significantly higher than the expected Sharpe ratio modeled. This was due primarily to muted volatility over the period in comparison to what was modeled. The Cash Balance Plan's 3-year Sharpe ratio significantly exceeded modeling expectations and was above its benchmark as well. Both accounts have demonstrated strong risk-adjusted returns since inception.
Asset Allocation	
Surplus cash absolute variances to target	This represents the sum of the absolute differences between the portfolio's allocations to various asset classes and the target benchmark's allocations to those asset classes. The higher the number, the greater the portfolio's allocations deviate from the target benchmark's allocations, indicating a higher possibility for the portfolio's risk and return characteristics to differ from the Board's expectations.
Cash balance absolute variances to target	The threshold for an alert "yellow" status is set at 10% and the threshold for more severe "red" status is set at 20%. The Surplus Cash portfolio was above the 10% threshold as cash flows from hedge fund manager changes and real estate capital calls were not fully invested over quarter-end. This was adjusted shortly after quarter-end.
Manager Compliance	
Surplus cash manager flags	This section represents how individual investment managers have fared and draws attention to elevated concerns regarding performance and risk-adjusted performance all at the individual manager level. The number of flags are aggregated and a percentage of the total is used to highlight an alert "yellow" status (40% of the flags) and a more severe "red" status (50%). In total there are 60 potential flags for the Surplus Cash account and 68 for the Cash Balance Plan.
Cash balance plan manager flags	Currently, both the Surplus Cash Portfolio and the Cash Balance Plan are in the “green” status.

The **Equity Strategy** is comprised of Equity Long/Short strategies. Equity hedge strategies typically have a directional bias (long or short) and trade in equities and equity-related derivatives. Managers seek to buy undervalued equities with improving fundamentals and short overvalued equities with deteriorating fundamentals.

Trade Example: Long a basket of energy stocks and short a basket of consumer electronics stocks.

The **Credit Strategy** is comprised of Distressed Securities, Credit Long/Short, Emerging Market Debt and Credit Event Driven. Credit strategies typically have a directional bias and involve the purchase of various types of debt, equity, trade claims and fixed income securities. Hedging using various instruments such as Credit Default swaps is frequently employed.

Trade Example: Buying the distressed bonds of a company which has defaulted and participating in the corporate restructuring.

The **Macro Strategy** consists of Global Macro, Managed Futures, Commodities and Currencies. Macro strategies usually have a directional bias (which can be either long or short) and involve the purchase of a variety of securities and/or derivatives related to major markets. Managed futures strategies trade similar instruments but are typically implemented by computerized systems.

Trade Example: Long the US Dollar and short the Japanese Yen.

The **Relative Value Strategy** typically does not display a distinct directional bias. Relative Value encompasses a range of strategies covering different asset classes. Arbitrage strategies focus on capturing movements or anomalies in the price spreads between related or similar instruments. The rationale for Arbitrage trades is the ultimate convergence of the market price relationship to a known, theoretical or equilibrium relationship.

Trade Example: Long the stock of a merger bid target and short the stock of the acquirer.

Statistics		Definition
Alpha	-	A measure of the difference between a portfolio's actual returns and its expected performance, given its level of risk as measured by beta. It is a measure of the portfolio's historical performance not explained by movements of the market, or a portfolio's non-systematic return.
Best Quarter	-	The best of rolling 3 months(or 1 quarter) cumulative return.
Beta	-	A measure of the sensitivity of a portfolio to the movements in the market. It is a measure of a portfolio's non-diversifiable or systematic risk.
Consistency	-	The percentage of quarters that a product achieved a rate of return higher than that of its benchmark. The higher the consistency figure, the more value a manager has contributed to the product’s performance.
Downside Risk	-	A measure similar to standard deviation, but focuses only on the negative movements of the return series. It is calculated by taking the standard deviation of the negative set of returns. The higher the factor, the riskier the product.
Excess Return	-	Arithmetic difference between the managers return and the risk-free return over a specified time period.
Information Ratio	-	Measured by dividing the active rate of return by the tracking error. The higher the Information Ratio, the more value-added contribution by the manager.
Maximum Drawdown	-	The drawdown is defined as the percent retrenchment from a fund's peak value to the fund's valley value. It is in effect from the time the fund's retrenchment begins until a new fund high is reached. The maximum drawdown encompasses both the period from the fund's peak to the fund's valley (length), and the time from the fund's valley to a new fund high (recovery). It measures the largest percentage drawdown that has occurred in any fund's data record.
Return	-	Compounded rate of return for the period.
Sharpe Ratio	-	Represents the excess rate of return over the risk free return divided by the standard deviation of the excess return. The result is the absolute rate of return per unit of risk. The higher the value, the better the product’s historical risk-adjusted performance.
Sortino Ratio	-	A ratio developed by Frank A. Sortino to differentiate between good and bad volatility in the Sharpe ratio. This differentiation of upwards and downwards volatility allows the calculation to provide a risk-adjusted measure of a security or fund's performance without penalizing it for upward price changes.
Standard Deviation	-	A statistical measure of the range of a portfolio's performance, the variability of a return around its average return over a specified time period.
Tracking Error	-	A measure of the standard deviation of a portfolio's performance relative to the performance of an appropriate market benchmark.
Worst Quarter	-	The worst of rolling 3 months(or 1 quarter) cumulative return.

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Download a guide on key index definitions and disclosures.

El Camino Hospital

Tactical Asset Allocation & Market Outlook

December 31, 2019

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Follow-up From Past Meetings

DIVIDEND INVESTING AS A FIXED INCOME SUBSTITUTE

- During the November 11, 2019 Investment Committee meeting, the Committee requested information regarding the suitability of dividend investing as a substitute for traditional fixed income.
- **What is dividend investing?**
  - Dividend investing, or equity income, is investing in stocks of companies that that have a consistent history of paying out dividends or have a track record of increasing dividends over time. The companies that tend to have higher dividends payouts tend to be those that are more mature in their industry, and are generally lower volatility. The emphasis placed on income is what ultimately distinguishes dividend strategies from other broad equity strategies.
- **Potential Benefits**
  - One of the main draws to dividend yield investing is the potential for capital appreciation in addition to dividend income.
  - Most companies will generally try to avoid cutting dividends, even during down markets, leading to stable streams of dividend income.
  - From a portfolio perspective, investing in a high dividend strategy can be a way to add a defensive element to the portfolio, as dividend yielding strategies tend to exhibit lower volatility than the broader U.S. equity market during market drawdowns.
- **Drawbacks**
  - While Pavilion supports the use of dividend investing strategies within an equity portfolio and the income generated can complement that of fixed income, these strategies do not offer the same characteristics to fulfill the role of fixed income in the El Camino Hospital portfolio, which is to provide capital preservation.

Vanguard fund descriptions from Vanguard.com

OVERVIEW OF ANALYSIS

- The following analysis compares the risk/return profile and portfolio characteristics of:

- **Vanguard Dividend Appreciation Index Fund ("Dividend Appreciation") – Ticker: VDADX**
  - Index fund seeking to track a benchmark (NASDAQ US Dividend Achievers Select) that provides exposure to U.S. companies that have a history of increasing dividends. The fund focuses on high-quality companies that have both the ability and the commitment to grow their dividends over time.
- **Vanguard High Dividend Yield Index Fund ("High Dividend Yield") – Ticker: VHYAX**
  - Index fund seeking to track a benchmark (FTSE High Dividend Yield Index) that provides broad exposure to U.S. companies that are dedicated to consistently paying larger-than-average dividends.
- **S&P 500 Index ("S&P 500") –**
  - Capitalization-weighted index of 500 U.S. stocks published by Standard and Poor's. The index, which is heavily dominated by the largest stocks in the U.S. market, contains about 80% of the total stock market capitalization. Widely used for measuring performance of U.S. stocks.
- **Bloomberg Barclays U.S. Aggregate Index ("U.S. Aggregate") –**
  - Index covering the U.S. investment grade bond market, with index components for Treasury, government agencies, corporate credit, mortgage pass-through securities, commercial mortgage-backed securities and asset-backed securities. Widely used for measuring performance of the U.S. fixed income market.

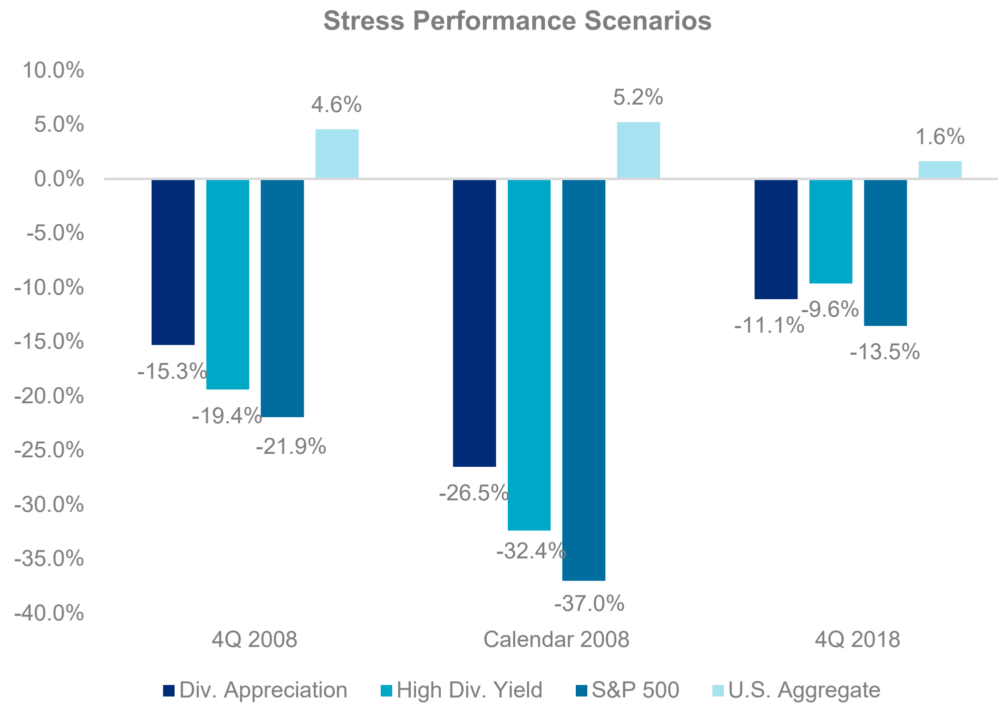
Vanguard fund descriptions from Vanguard.com

DIVIDEND INVESTING: RISK & RETURN

While more defensive than the S&P 500 Index, both dividend strategies still have significant exposure to down markets and fail to provide a similar level of protection as fixed income (U.S. Aggregate)

Risk/Return Statistics (%) – Net of Fees (01/01/07 – 12/31/19) vs. S&P 500 Index

	Dividend Appreciation	High Dividend Yield	S&P 500	U.S. Aggregate
Annualized Return	8.9	8.0	8.8	4.3
Standard Deviation	12.8	14.0	14.6	3.2
Beta	0.8	0.9	1.0	0.0
Down Market Capture	79.8	90.3	100.0	-12.1
Up Market Capture	87.0	90.6	100.0	9.8
Worst Quarter	-21.9	-24.7	-29.6	-3.2
Maximum Drawdown	-41.2	-51.9	-50.9	-3.8



as of 12/31/2019	Calendar Year Performance – Net of Fees (% Return)										
	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Div. Appreciation	29.7	-2.0	22.2	11.8	-1.9	10.0	29.0	11.6	6.2	14.7	19.3	-26.5
High Div. Yield	24.2	-5.9	16.4	16.9	0.3	13.5	30.2	12.7	10.5	14.2	17.6	-32.4
S&P 500	31.5	-4.4	21.8	12.0	1.4	13.7	32.4	16.0	2.1	15.1	26.5	-37.0
U.S. Aggregate	8.7	0.0	3.5	2.6	0.5	6.0	-2.0	4.2	7.8	6.5	5.9	5.2

 Data as of 12/31/19.

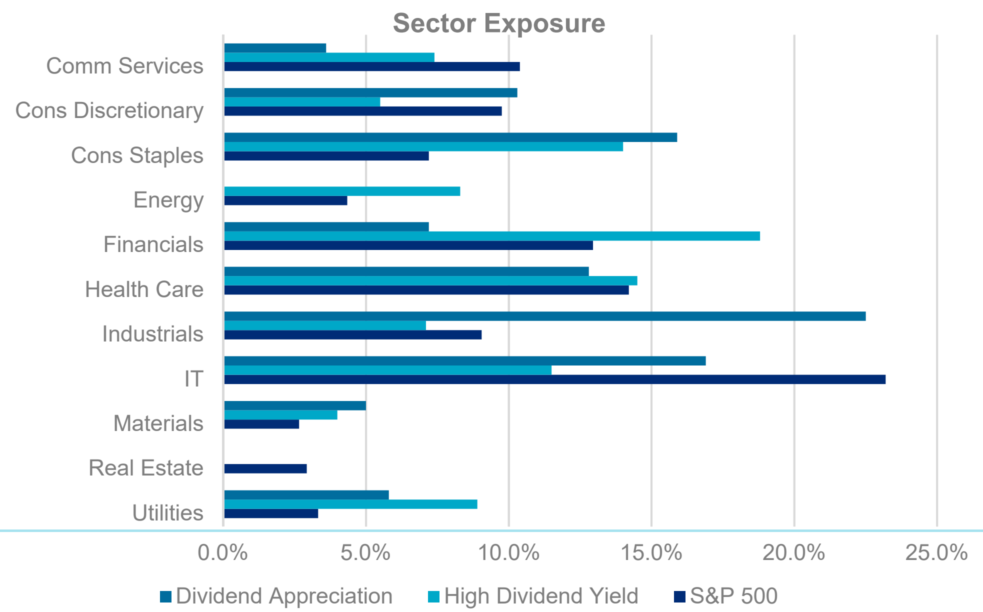
DIVIDEND INVESTING: PORTFOLIO CHARACTERISTICS

Only the Vanguard High Dividend Yield Fund currently offers a higher yield than the U.S. Aggregate Index

Top 10 Holdings	Dividend Appreciation		Top 10 Holdings	High Dividend Yield		Top 10 Holdings	S&P 500
Microsoft Corp	4.86		JPMorgan Chase & Co	4.02		Apple Inc	4.58
Procter & Gamble Co (The)	4.38		Johnson & Johnson	3.58		Microsoft Corp	4.50
Visa Inc	4.28		Procter & Gamble Co	2.86		Amazon.com Inc	2.88
Walmart Inc	4.15		Exxon Mobil Corp	2.73		Facebook Inc	1.85
Johnson & Johnson	3.69		AT&T Inc	2.64		Berkshire Hathaway Inc	1.66
Comcast Corp	3.48		Intel Corp	2.41		JPMorgan Chase & Co	1.63
Abbott Laboratories	2.61		Verizon Communications Inc	2.35		Alphabet Inc	1.50
Medtronic PLC	2.61		Merck & Co Inc.	2.14		Alphabet Inc	1.49
McDonald's Corp	2.59		Chevron Corp	2.13		Johnson & Johnson	1.43
Accenture PLC	2.30		Pfizer Inc	2.02		Visa Inc	1.20
% of Portfolio	**34.95**		**% of Portfolio**	**26.88**		**% of Portfolio**	**22.72**

Characteristics	Dividend Appreciation	High Dividend Yield	S&P 500
Wtd. Avg. Mkt. Cap $M	177,743	149,454	287,781
Median Mkt. Cap $M	10,379	6,186	23,997
Price To Earnings	26.0	18.4	22.9
Price To Book	4.8	2.8	3.7
5 Yr. EPS Growth Rate (%)	8.4	5.0	14.3
Yield (%)	1.8	3.2	1.9
Number of Holdings	182	399	505
Debt to Equity	0.9	0.6	0.6

U.S. Aggregate Yield to Maturity: 2.3%



 Data as of 12/31/19.

CONCLUSION

- **While there can be benefits to including dividend yield strategies within the equity portion of a portfolio, Pavilion does not believe that dividend yield strategies are a suitable replacement for fixed income.**
  - Based on the risk/return profile of a dividend yield strategy versus the broader U.S. equity market, a dividend yielding strategy has the potential for upside in capital appreciation, while also exhibiting lower volatility during market downturns.
  - However, fixed income offers capital preservation during market downturns, protecting capital and exhibiting lower volatility.
    - In looking at historical performance during market stresses, even as recently as the higher market volatility experienced in December 2018, fixed income is able to preserve capital while dividend yield strategies curb only a small portion of the volatility experienced by the U.S. equity market.

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Market Outlook

SUMMARY

- **Incremental reductions in left-tail risks helped support risk assets during the quarter, as the economy appears poised to thread the needle and avoid a near-term recession. With fundamentals suggesting a bottoming, earnings expectations have improved and the yield curve steepened slightly.**
  - Equities capped off a strong year with robust performance during the fourth quarter, benefitting from an easing of tail risks and rising growth expectations.
  - A steepening yield curve held back longer-duration fixed income while stable spreads aided the performance of the credit sector.
  - Growth expectations, trade prospects, and supply forecasts buoyed commodity prices during the quarter.
- **The manufacturing slowdown is causing ripples still, but market participants anticipate growth returning to near trend in 2020. Upticks in growth likely will continue to be driven by consumers, but recoveries in manufacturing and trade demand will be required to shift into a higher gear, which may pressure inflation and eventually rate volatility.**
  - Growth: An uptick in cyclical sectors should be monitored for guidance on the range of potential growth.
  - Labor: Extending the cycle likely will tighten labor markets further, which may restrain growth and increase inflation, but slower labor growth may entice businesses to invest and improve productivity, extending growth.
  - Monetary Policy: Low inflation has enabled policymakers to follow a cautious, data dependent approach and pivot from tightening to easing in 2019. While policy is anticipated to be steady, rising inflation may narrow the gap between central bank and market expectations, pushing rates and volatility higher.
- **Asset performance in 2019 ran counter to 2018 with many risk premiums approaching long-term levels, but the yield curve continues to signal skepticism regarding the path of future growth/capacity.**
  - Equity risk premiums are near long-term levels, but risks are not evenly distributed. Defensive market segments have become more expensive, creating valuation differences across geographies and sectors, and a recovery in trade could stimulate cyclical sectors.
  - Declines in risk-free rates year-to-date now suggest that yields are normalizing below levels implied by fundamentals and the Federal Reserve. These deviations likely will drive interest rate volatility in the intermediate-term.

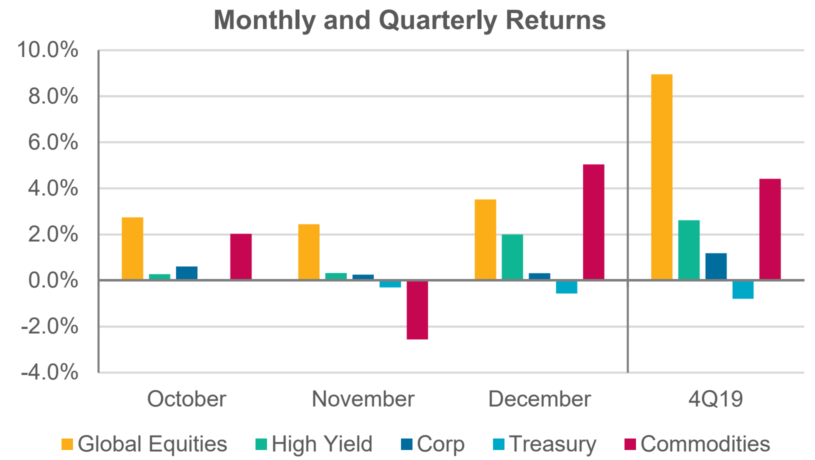
QUARTER RECAP

- Broadly, risk assets rose during the quarter, and while hard, coincident data confirmed decelerating growth, downside risks have diminished and fundamental expectations have improved.

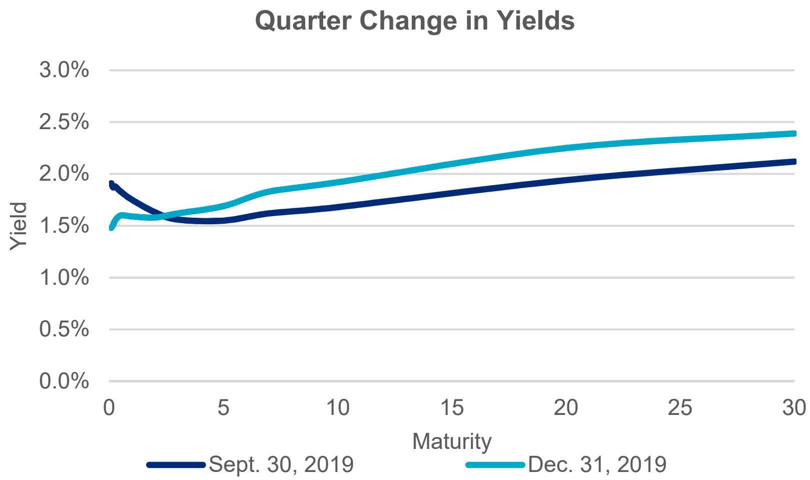
- After spurring market consternation in the third quarter, trade uncertainty diminished in the fourth, as the US & China negotiated a Phase 1 deal and UK elections paved the way for the BREXIT withdrawal agreement. Additionally, international commerce should be promoted by trade agreements like the USMCA[1] and RCEP[2] moving into the final stages of approval.

- Monetary stimulus continued and the Federal Reserve cut rates for the third time in 2019, pushing the front-end of the curve lower, but improving expectations moved yields up for maturities of three years or more, dampening fixed income returns.

- Commodity prices similarly enjoyed positive developments in tail risks which helped stabilize demand expectations, and OPEC[3] agreed to cut production by 1.7 million barrels per day, during the December meeting.



Source: Bloomberg
Proxies Global Equities, MSCI ACWI; High Yield, Bloomberg US HY; Corp, Bloomberg US Corporate; Treasury, Bloomberg US Treasury; and Commodities, Bloomberg Commodities.

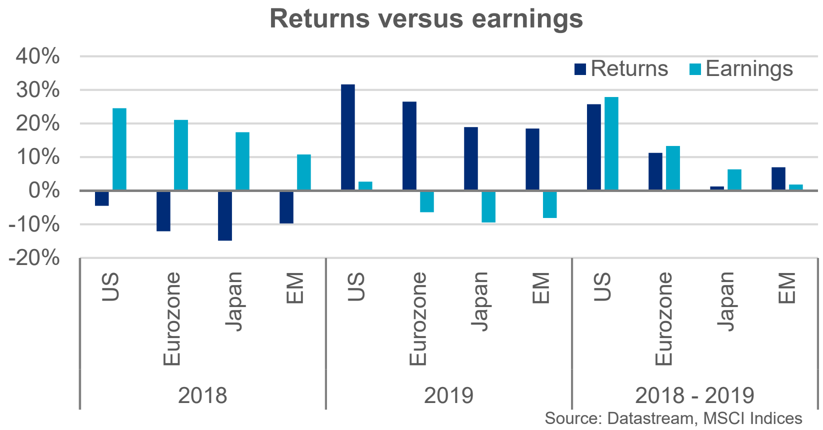


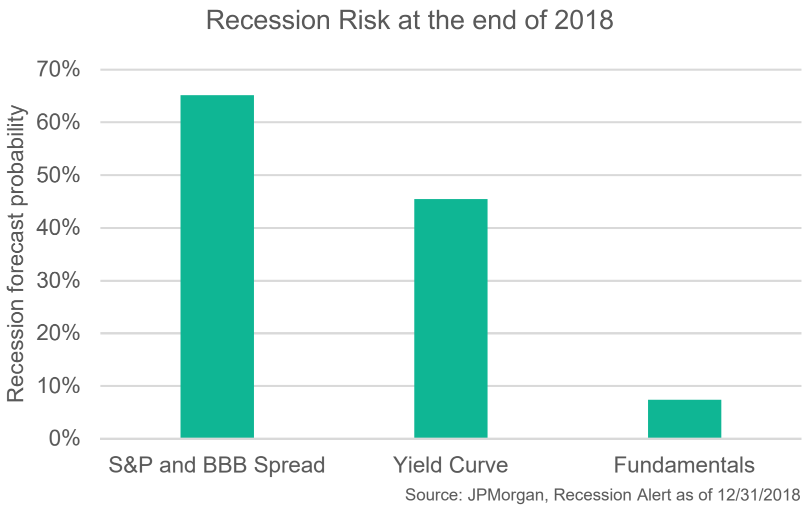
Source: Treasury.gov

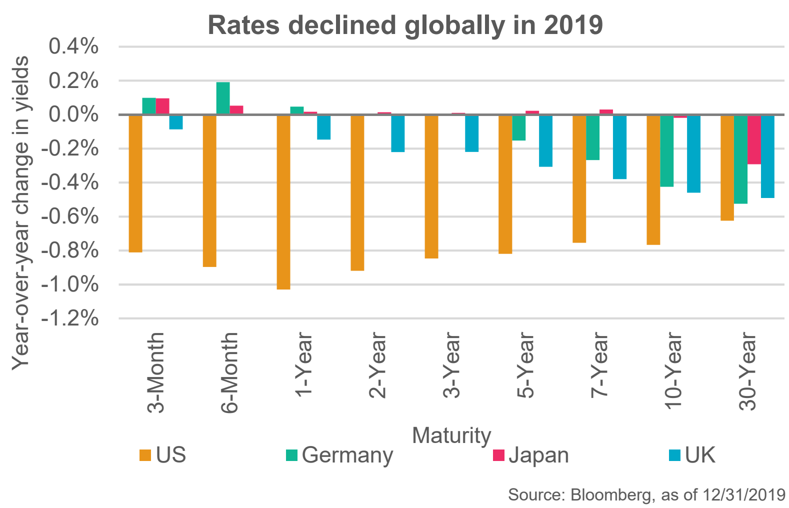
1. United States-Mexico-Canada Agreement which is serving as the NAFTA 's (North American Free Trade Agreement) replacement, Source: https://ustr.gov/usmca
2. Regional Comprehensive Economic Partnership covers 14 nations (excluding India), Source: https://www.csis.org/analysis/last-rcep-deal.
3. Organization of the Petroleum Exporting Countries, https://www.opec.org/opec_web/en/press_room/5797.htm

A YEAR IN REVIEW

- As 2018 concluded, markets priced in a near imminent recession. As data in the first quarter alleviated those fears, risk assets quickly recouped losses.
- While a recession was averted, slowing economic growth and policy uncertainty drove central banks to reverse course and increase accommodation.
- Demand for safe assets remained high in 2019, as yields declined globally, and while short-term US rates experienced greater declines, long-term rates experienced nearly similar declines.
- Corporate earnings and equity returns moved conversely to one another in 2018 and 2019, but diminished tail risks enabled them to converge for the two-year period.







WHERE ARE WE IN THE CYCLE

Broad Indicators

- **Global growth:** **Slightly below trend**
- **Inflation risks:** **Normalizing, wage strength**
- **Interest rates:** **Relatively flat front-end, upward sloping beyond 2-yrs**
- **Volatility:** **Near normal, potential aggressive bouts of volatility, late cycle dynamics have produced abrupt swings**
- **Accommodation:** **Positive**
- **Earnings:** **Bottoming markets, improving forwards**
- **Valuations:** **Near long-term levels**

GLOBAL GROWTH HOLDS POSITIVE TREND

	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19
Global	54.3	54.6	54.8	53.3	53.8	54.0	54.2	53.7	53.4	52.8	53.0	53.2	52.7	52.1	52.6	52.8	52.1	51.2	51.2	51.6	51.3	51.1	50.8	51.4	51.7
Developed	54.8	54.9	55.4	53.6	54.4	54.8	55.0	54.2	54.0	53.3	53.6	53.4	52.7	52.3	52.9	52.7	52.0	51.1	51.3	51.7	51.0	50.7	50.3	50.9	51.2
Emerging	53.0	53.6	53.3	52.3	52.4	52.2	52.3	52.4	51.8	51.6	51.3	52.6	52.5	51.6	51.7	52.9	52.4	51.3	50.9	51.5	51.8	51.8	51.8	52.7	52.2
United States	54.1	53.8	55.8	54.2	54.9	56.6	56.2	55.7	54.7	53.9	54.9	54.7	54.4	54.4	55.5	54.6	53.0	50.9	51.5	52.6	50.7	51.0	50.9	52.0	52.7
Canada*	54.7	55.9	55.6	55.7	55.5	56.2	57.1	56.9	56.8	54.8	53.9	54.9	53.6	53.0	52.6	50.5	49.7	49.1	49.2	50.2	49.1	51.0	51.2	51.4	50.4
U.K	54.8	53.4	54.5	52.4	53.2	54.4	55.1	53.5	54.2	54.1	52.1	50.8	51.4	50.3	51.5	50.0	50.9	50.9	49.7	50.7	50.2	49.3	50.0	49.3	49.3
Euro Zone	58.1	58.8	57.1	55.2	55.1	54.1	54.9	54.3	54.5	54.1	53.1	52.7	51.1	51.0	51.9	51.6	51.5	51.8	52.2	51.5	51.9	50.1	50.6	50.6	50.9
Germany	58.9	59.0	57.6	55.1	54.6	53.4	54.8	55.0	55.6	55.0	53.4	52.3	51.6	52.1	52.8	51.4	52.2	52.6	52.6	50.9	51.7	48.5	48.9	49.4	50.2
France	59.6	59.6	57.3	56.3	56.9	54.2	55.0	54.4	54.9	54.0	54.1	54.2	48.7	48.2	50.4	48.9	50.1	51.2	52.7	51.9	52.9	50.8	52.6	52.1	52.0
Italy	56.5	59.0	56.0	53.5	52.9	52.9	53.9	53.0	51.7	52.4	49.3	49.3	50.0	48.8	49.6	51.5	49.5	49.9	50.1	51.0	50.3	50.6	50.8	49.6	49.3
Spain	55.4	56.7	57.1	55.8	55.4	55.9	54.8	52.7	53.0	52.5	53.7	53.9	53.4	54.5	53.5	55.4	52.9	52.1	52.1	51.7	52.6	51.7	51.2	51.9	52.7
Greece*	53.1	55.2	56.1	55.0	52.9	54.2	53.5	53.5	53.9	53.6	53.1	54.0	53.8	53.7	54.2	54.7	56.6	54.2	52.4	54.6	54.9	53.6	53.5	54.1	53.9
Ireland	60.2	59.0	56.8	53.7	57.6	57.7	58.1	56.8	58.4	58.4	56.1	56.6	55.5	53.3	55.4	54.1	53.4	54.1	54.4	51.8	51.8	51.0	50.6	52.0	53.0
Australia	57.0	58.2	56.4	62.5	58.6	56.8	55.6	52.5	55.9	57.1	54.7	50.8	50.0	52.5	54.0	51.0	54.8	52.7	49.4	51.3	53.1	54.7	51.6	48.1	48.3
Japan	52.2	52.8	52.2	51.3	53.1	51.7	52.1	51.8	52.0	50.7	52.5	52.4	52.0	50.9	50.7	50.4	50.8	50.7	50.8	50.6	51.9	51.5	49.1	49.8	48.6
China	53.0	53.7	53.3	51.8	52.3	52.3	53.0	52.3	52.0	52.1	50.5	51.9	52.2	50.9	50.7	52.9	52.7	51.5	50.6	50.9	51.6	51.9	52.0	53.2	52.6
Indonesia*	49.3	49.9	51.4	50.7	51.6	51.7	50.3	50.5	51.9	50.7	50.5	50.4	51.2	49.9	50.1	51.2	50.4	51.6	50.6	49.6	49.0	49.1	47.7	48.2	49.5
S. Korea*	49.9	50.7	50.3	49.1	48.4	48.9	49.8	48.3	49.9	51.3	51.0	48.6	49.8	48.3	47.2	48.8	50.2	48.4	47.5	47.3	49.0	48.0	48.4	49.4	50.1
Taiwan*	56.6	56.9	56.0	55.3	54.8	53.4	54.5	53.1	53.0	50.8	48.7	48.4	47.7	47.5	46.3	49.0	48.2	48.4	45.5	48.1	47.9	50.0	49.8	49.8	50.8
India	53.0	52.5	49.7	50.8	51.9	50.4	53.3	54.1	51.9	51.6	53.0	54.5	53.6	53.6	53.8	52.7	51.7	51.7	50.8	53.9	52.6	49.8	49.6	52.7	53.7
Brazil	48.8	50.7	53.1	51.5	50.6	49.7	47.0	50.4	47.8	47.3	50.5	51.6	52.4	52.3	52.6	53.1	50.6	48.4	49.0	51.6	51.9	52.5	51.8	51.8	50.9
Mexico*	51.7	52.6	51.6	52.4	51.6	51.0	52.1	52.1	50.7	51.7	50.7	49.7	49.7	50.9	52.6	49.8	50.1	50.0	49.2	49.8	49.0	49.1	50.4	48.0	47.1
Russia	56.0	54.8	55.2	53.2	54.9	53.4	52.0	51.7	52.1	53.5	55.8	55.0	53.9	53.6	54.1	54.6	53.0	51.5	49.2	50.2	51.5	51.4	53.3	52.9	51.8

Key | **Contraction** | **Expansion**

Source: Bloomberg, JP Morgan, composite indices illustrated except for *, which indicates manufacturing PMI data

MANUFACTURING MAY BE BOTTOMING

	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19
Global	54.4	54.3	54.0	53.2	53.3	53.0	52.9	52.7	52.5	52.1	52.0	51.9	51.4	50.7	50.6	50.5	50.4	49.8	49.4	49.3	49.5	49.7	49.8	50.3	50.1
Developed	56.2	56.3	55.7	54.8	55.1	54.7	54.4	54.0	53.8	53.6	53.2	52.8	52.3	51.8	50.3	49.9	50.2	49.2	48.9	48.6	48.7	48.6	48.6	49.5	49.1
Emerging	52.1	51.8	51.9	51.3	51.3	51.1	51.2	51.0	50.8	50.3	50.5	50.7	50.2	49.5	50.6	51.0	50.5	50.4	49.9	50.1	50.4	51.0	51.0	51.0	51.0
United States	55.1	55.5	55.3	55.6	56.5	56.4	55.4	55.3	54.7	55.6	55.7	55.3	53.8	54.9	53.0	52.4	52.6	50.5	50.6	50.4	50.3	51.1	51.3	52.6	52.4
Canada	54.7	55.9	55.6	55.7	55.5	56.2	57.1	56.9	56.8	54.8	53.9	54.9	53.6	53.0	52.6	50.5	49.7	49.1	49.2	50.2	49.1	51.0	51.2	51.4	50.4
U.K	55.7	55.2	55.3	54.8	53.8	54.3	54.0	53.9	52.9	53.7	51.1	53.3	54.3	52.8	52.1	55.1	53.1	49.4	48.0	48.0	47.4	48.3	49.6	48.9	47.5
Euro Zone	60.6	59.6	58.6	56.6	56.2	55.5	54.9	55.1	54.6	53.2	52.0	51.8	51.4	50.5	49.3	47.5	47.9	47.7	47.6	46.5	47.0	45.7	45.9	46.9	46.3
Germany	63.3	61.1	60.6	58.2	58.1	56.9	55.9	56.9	55.9	53.7	52.2	51.8	51.5	49.7	47.6	44.1	44.4	44.3	45.0	43.2	43.5	41.7	42.1	44.1	43.7
France	58.8	58.4	55.9	53.7	53.8	54.4	52.5	53.3	53.5	52.5	51.2	50.8	49.7	51.2	51.5	49.7	50.0	50.6	51.9	49.7	51.1	50.1	50.7	51.7	50.4
Italy	57.4	59.0	56.8	55.1	53.5	52.7	53.3	51.5	50.1	50.0	49.2	48.6	49.2	47.8	47.7	47.4	49.1	49.7	48.4	48.5	48.7	47.8	47.7	47.6	46.2
Spain	55.8	55.2	56.0	54.8	54.4	53.4	53.4	52.9	53.0	51.4	51.8	52.6	51.1	52.4	49.9	50.9	51.8	50.1	47.9	48.2	48.8	47.7	46.8	47.5	47.4
Greece	53.1	55.2	56.1	55.0	52.9	54.2	53.5	53.5	53.9	53.6	53.1	54.0	53.8	53.7	54.2	54.7	56.6	54.2	52.4	54.6	54.9	53.6	53.5	54.1	53.9
Ireland	59.1	57.6	56.2	54.1	55.3	55.4	56.6	56.3	57.5	56.3	54.9	55.4	54.5	52.6	54.0	53.9	52.5	50.4	49.8	48.7	48.6	48.7	50.7	49.7	49.5
Australia	57.0	58.2	56.4	62.5	58.6	56.8	55.6	52.5	55.9	57.1	54.7	50.8	50.0	52.5	54.0	51.0	54.8	52.7	49.4	51.3	53.1	54.7	51.6	48.1	48.3
Japan	54.0	54.8	54.1	53.1	53.8	52.8	53.0	52.3	52.5	52.5	52.9	52.2	52.6	50.3	48.9	49.2	50.2	49.8	49.3	49.4	49.3	48.9	48.4	48.9	48.4
China	51.5	51.5	51.6	51.0	51.1	51.1	51.0	50.8	50.6	50.0	50.1	50.2	49.7	48.3	49.9	50.8	50.2	50.2	49.4	49.9	50.4	51.4	51.7	51.8	51.5
Indonesia	49.3	49.9	51.4	50.7	51.6	51.7	50.3	50.5	51.9	50.7	50.5	50.4	51.2	49.9	50.1	51.2	50.4	51.6	50.6	49.6	49.0	49.1	47.7	48.2	49.5
S. Korea	49.9	50.7	50.3	49.1	48.4	48.9	49.8	48.3	49.9	51.3	51.0	48.6	49.8	48.3	47.2	48.8	50.2	48.4	47.5	47.3	49.0	48.0	48.4	49.4	50.1
Taiwan	56.6	56.9	56.0	55.3	54.8	53.4	54.5	53.1	53.0	50.8	48.7	48.4	47.7	47.5	46.3	49.0	48.2	48.4	45.5	48.1	47.9	50.0	49.8	49.8	50.8
India	54.7	52.4	52.1	51.0	51.6	51.2	53.1	52.3	51.7	52.2	53.1	54.0	53.2	53.9	54.3	52.6	51.8	52.7	52.1	52.5	51.4	51.4	50.6	51.2	52.7
Brazil	52.4	51.2	53.2	53.4	52.3	50.7	49.8	50.5	51.1	50.9	51.1	52.7	52.6	52.7	53.4	52.8	51.5	50.2	51.0	49.9	52.5	53.4	52.2	52.9	50.2
Mexico	51.7	52.6	51.6	52.4	51.6	51.0	52.1	52.1	50.7	51.7	50.7	49.7	49.7	50.9	52.6	49.8	50.1	50.0	49.2	49.8	49.0	49.1	50.4	48.0	47.1
Russia	52.0	52.1	50.2	50.6	51.3	49.8	49.5	48.1	48.9	50.0	51.3	52.6	51.7	50.9	50.1	52.8	51.8	49.8	48.6	49.3	49.1	46.3	47.2	45.6	47.5

Source: Bloomberg & JP Morgan

Key	Contraction	Expansion

SERVICES REMAIN IN EXPANSION

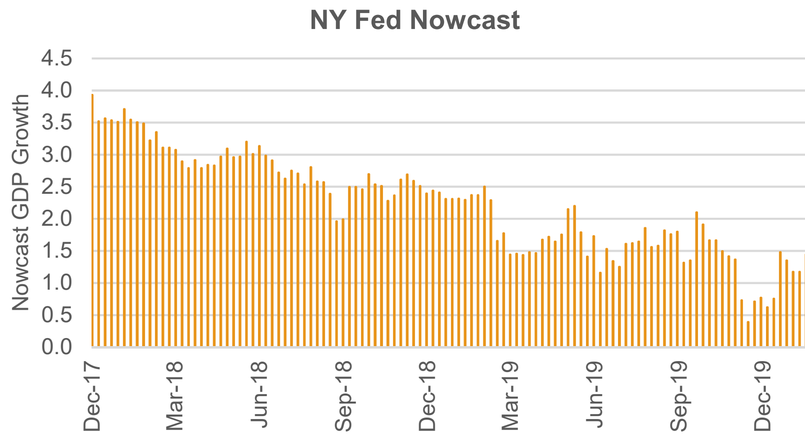
	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19
Global	53.8	54.2	54.8	53.2	53.8	54.3	54.6	54.0	53.5	52.9	53.4	53.7	53.0	52.7	53.3	53.7	52.7	51.6	51.9	52.5	51.8	51.4	51.0	51.6	52.1
Developed	54.1	54.3	55.3	53.4	54.2	54.9	55.3	54.3	54.1	53.2	53.9	53.7	52.8	52.5	53.7	53.7	52.5	51.6	52.0	52.6	51.6	51.3	50.7	51.1	51.9
Emerging	52.8	53.8	53.5	52.5	52.7	52.5	52.6	52.9	51.6	52.1	51.9	53.7	53.6	52.9	52.1	53.7	53.2	51.7	51.5	52.1	52.3	51.8	51.8	53.2	52.4
United States	53.7	53.3	55.9	54.0	54.6	56.8	56.5	56.0	54.8	53.5	54.8	54.7	54.4	54.2	56.0	55.3	53.0	50.9	51.5	53.0	50.7	50.9	50.6	51.6	52.8
Canada	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
U.K	54.2	53.0	54.5	51.7	52.8	54.0	55.1	53.5	54.3	53.9	52.2	50.4	51.2	50.1	51.3	48.9	50.4	51.0	50.2	51.4	50.6	49.5	50.0	49.3	50.0
Euro Zone	56.6	58.0	56.2	54.9	54.7	53.8	55.2	54.2	54.4	54.7	53.7	53.4	51.2	51.2	52.8	53.3	52.8	52.9	53.6	53.2	53.5	51.6	52.2	51.9	52.8
Germany	55.8	57.3	55.3	53.9	53.0	52.1	54.5	54.1	55.0	55.9	54.7	53.3	51.8	53.0	55.3	55.4	55.7	55.4	55.8	54.5	54.8	51.4	51.6	51.7	52.9
France	59.1	59.2	57.4	56.9	57.4	54.3	55.9	54.9	55.4	54.8	55.3	55.1	49.0	47.8	50.2	49.1	50.5	51.5	52.9	52.6	53.4	51.1	52.9	52.2	52.4
Italy	55.4	57.7	55.0	52.6	52.6	53.1	54.3	54.0	52.6	53.3	49.2	50.3	50.5	49.7	50.4	53.1	50.4	50.0	50.5	51.7	50.6	51.4	52.2	50.4	51.1
Spain	54.6	56.9	57.3	56.2	55.6	56.4	55.4	52.6	52.7	52.5	54.0	54.0	54.0	54.7	54.5	56.8	53.1	52.8	53.6	52.9	54.3	53.3	52.7	53.2	54.9
Greece	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ireland	60.4	59.8	57.2	56.5	58.4	59.3	59.5	57.4	58.0	58.7	57.2	57.1	56.3	54.2	55.9	55.3	54.7	57.0	56.9	55.0	54.6	53.1	50.6	53.7	55.9
Australia	--	--	--																						
Japan	51.1	51.9	51.7	50.9	52.5	51.0	51.4	51.3	51.5	50.2	52.4	52.3	51.0	51.6	52.3	52.0	51.8	51.7	51.9	51.8	53.3	52.8	49.7	50.3	49.4
China	53.9	54.7	54.2	52.3	52.9	52.9	53.9	52.8	51.5	53.1	50.8	53.8	53.9	53.6	51.1	54.4	54.5	52.7	52.0	51.6	52.1	51.3	51.1	53.5	52.5
Indonesia	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S. Korea	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Taiwan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
India	50.9	51.7	47.8	50.3	51.4	49.6	52.6	54.2	51.5	50.9	52.2	53.7	53.2	52.2	52.5	52.0	51.0	50.2	49.6	53.8	52.4	48.7	49.2	52.7	53.3
Brazil	47.4	50.0	52.7	50.4	50.0	49.5	47.0	50.4	46.8	46.4	50.5	51.3	51.9	52.0	52.2	52.7	49.9	47.8	48.2	52.2	51.4	51.8	51.2	50.9	51.0
Mexico	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Russia	56.8	55.1	56.5	53.7	55.5	54.1	52.3	52.8	53.3	54.7	56.9	55.6	54.4	54.9	55.3	54.4	52.6	52.0	49.7	50.4	52.1	53.6	55.8	55.6	53.1

Source: Bloomberg & JP Morgan

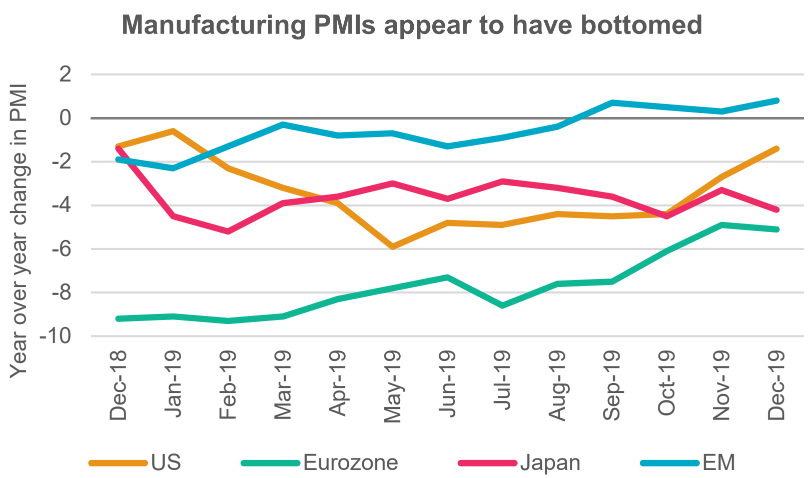
Key	Contraction	Expansion

GDP GROWTH NEAR BOTTOM, SEARCHING FOR INFLECTION

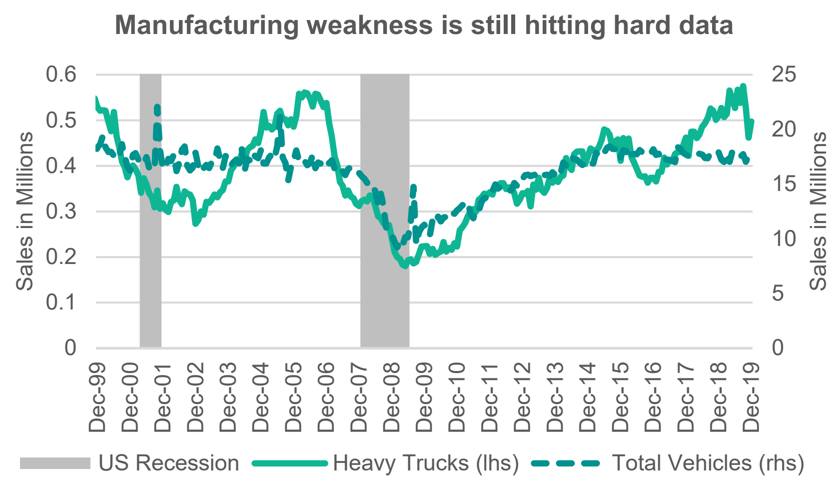
- Nowcasts shows the economic growth slowdown, especially through the fourth quarter.
- The US economy held up better than many other developed markets, but weak manufacturing struck in the second half of 2019. Hard data show the bifurcated economy with heavy truck sales slumping but overall vehicle sales holding.
- While the manufacturing sector is unlikely to recover quickly, recent soft data have been more constructive helping ward off concerns of a more protracted decline with the emerging markets potentially leading the pack.



Source: New York Federal Reserve
Seasonally Adjusted Annual Rate



Source: Bloomberg, Markit Manufacturing Indices

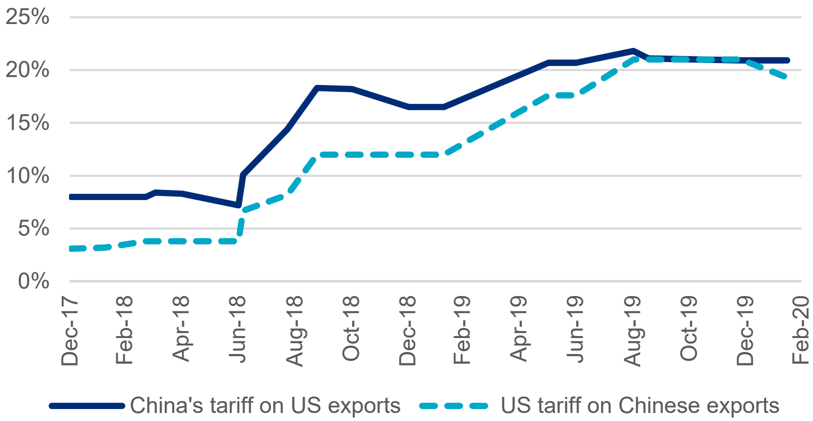


Source: St. Louis FRED, Seasonally Adjusted Annual Rates

FUTURE TENSIONS MAY CHALLENGE GROWTH UPSWING

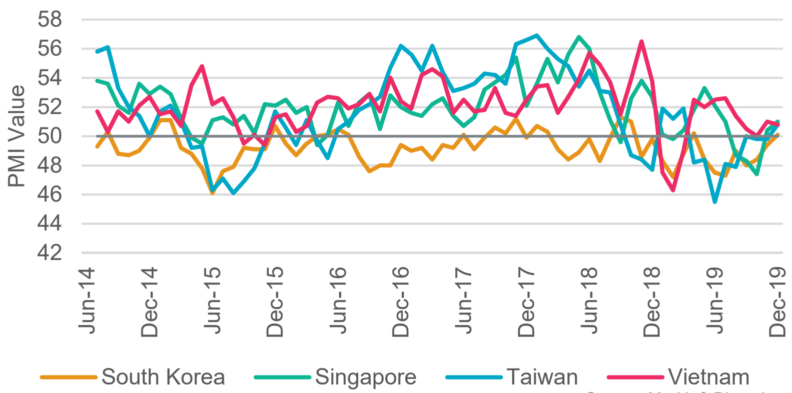
- The fourth quarter saw incremental progress on several trade fronts, but core disagreements and hurdles remain, which will continue to generate uncertainty over the intermediate-term.
- For the US and China, the Phase 1 deal has reduced tail risks and should provide a framework for pursuing a Phase 2 deal, which is not expected in the near future.
- The initial agreement includes purchase commitments for China. These provisions increase imports by $200 billion over two years along with $50 billion in agricultural goods, which may be a monumental task, as both figures would more than double 2017's trade figures.[1] This substantial increase will promote cross country trade but may be disruptive to other markets, as demand is unlikely to double. This will continue to disrupt supply chains.
- Tensions between the US and Europe have been more muted. Flash points like the potential for a digital tax affecting US tech companies may trigger retaliation; however, this risk appeared to subside during the World Economic Forum.
- In the UK, Johnson's BREXIT withdrawal bill has passed and likely will be approved by the EC[2] before the deadline. Passage, however, only represents one step, as the UK will move to negotiate the trade agreements next.

Phase 1 deal marginally decreases tariffs



Source: Source: Chad P. Bown. 2019. US-China Trade War Tariffs: An Up-to-Date Chart. PIIE Chart, Peterson Institute for International Economics (December 2019).

US/China trade uncertainty has already disrupted supply chains



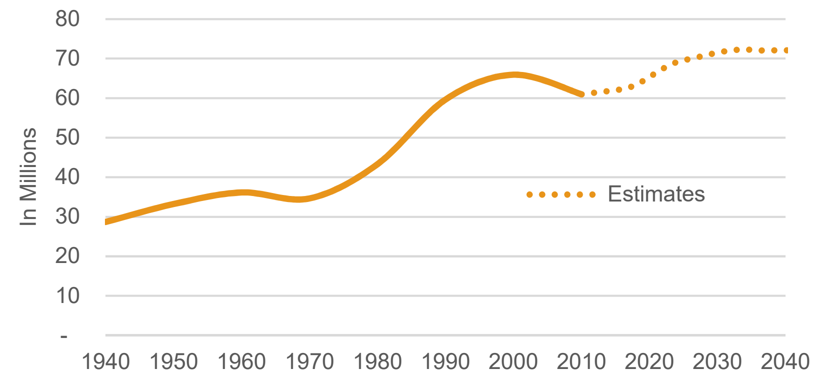
Source: Markit & Bloomberg

1. https://www.piie.com/blogs/trade-and-investment-policy-watch/phase-one-china-deal-steep-tariffs-are-new-normal
2. European Commission

EXTENDING THE ECONOMIC CYCLE

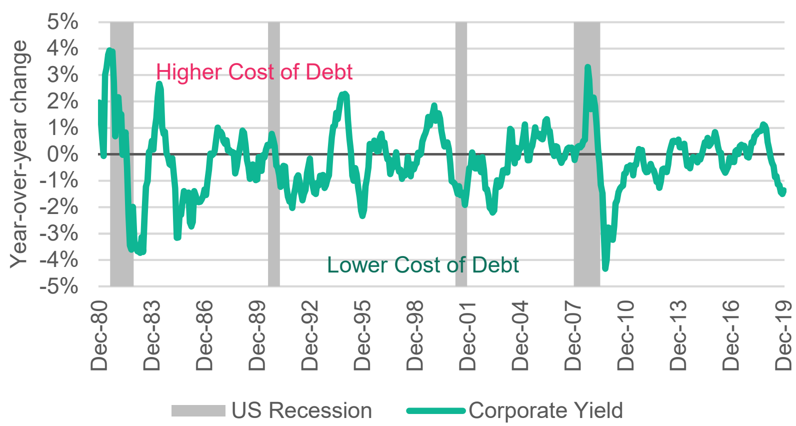
- The long recovery from the GFC[1] has reduced margins of safety, as growth is near potential. While there is currently less gas in the tank, key demographic groups, strong consumer income, and low corporate financing costs may help keep wind in the economy's sails.
- While demographics broadly are limiting labor force growth, one critical group (ages 30-44) where individuals are buying homes and in their heavy spending years is expected to continue growing in the near-term.

Demographic trends
US population ages 30 - 44



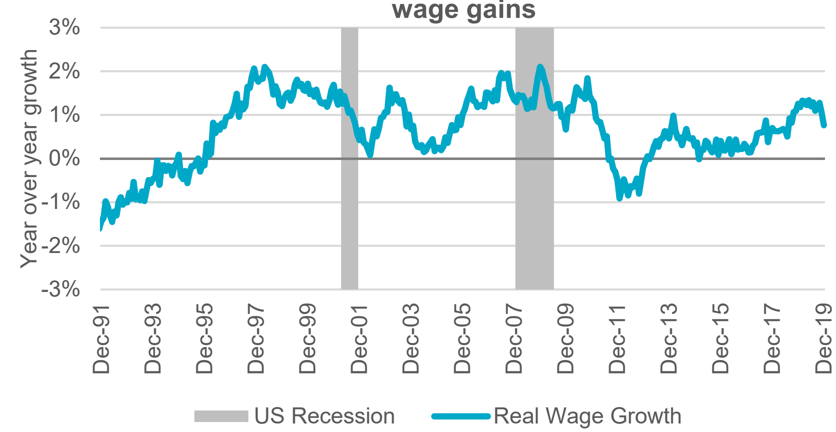
Source: US Census Bureau

Companies have taken advantage of lower rates



Source: Bloomberg US Corporate Investment Grade Redemption Yield

Tight labor markets should support continued wage gains



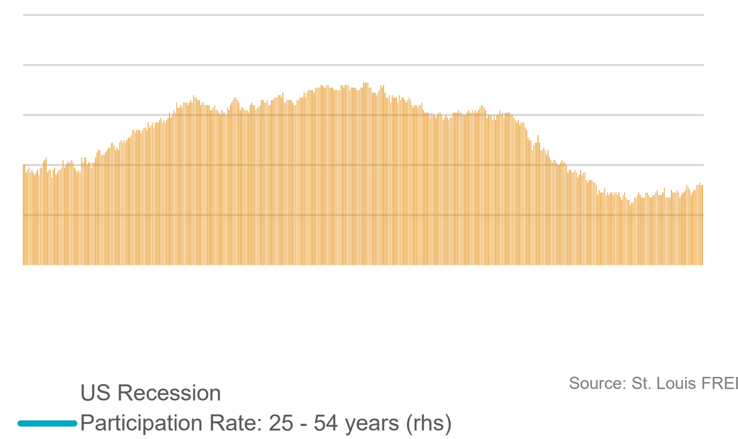
Source: St. Louis Fed FRED
Average hourly earnings of non supervisory employees less core CPI

1. Great financial crisis

CAN AN ADVANCING LABOR MARKET PRESSURE INFLATION, CAPITAL INVESTMENT?

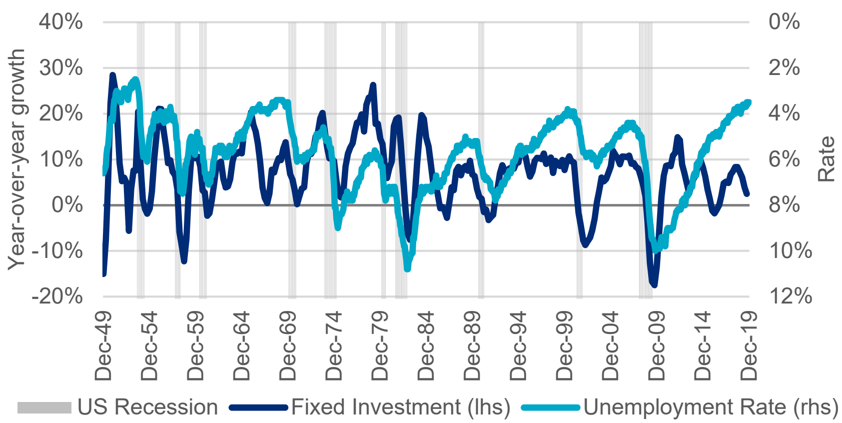
- The labor market has diminishing capacity to boost growth. The tightness of labor markets can be seen in the unemployment rate, prime labor force participation rate, and even business surveys where construction labor has been in short supply for 45 months.[1]

- While labor growth has produced wage gains, the Fed's[2] preferred measure of inflation has persistently run below its target since the GFC, so how will businesses react? Will these wage costs be passed through to consumers, and/or will businesses seek to enhance productivity through investment?



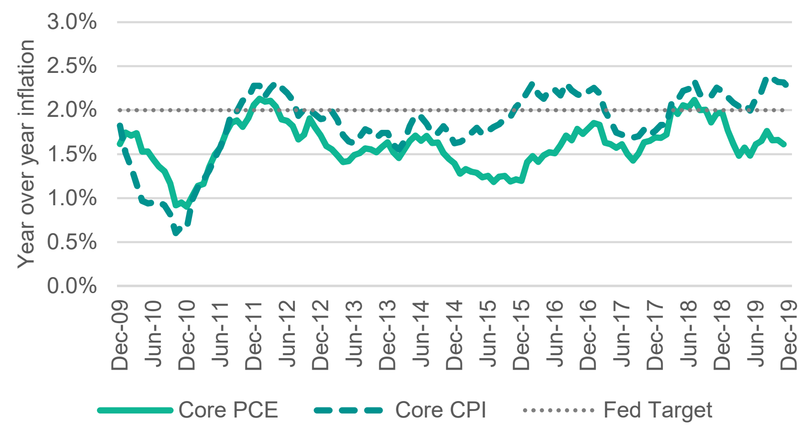
Source: St. Louis FRED

Will tight labor markets drive investment?



Source: St. Louis FRED

The Fed's inflation barometer below target



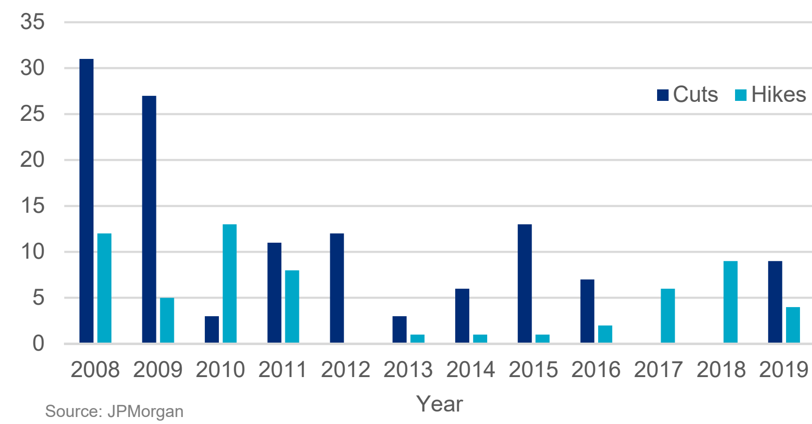
Source: St. Louis FRED

1. Institute for Supply Management, https://www.instituteforsupplymanagement.org/ISMReport/NonMfgROB.cfm?SSO=1
2. Federal Reserve

ACCOMMODATIVE POLICY, WHERE DO WE GO FROM HERE?

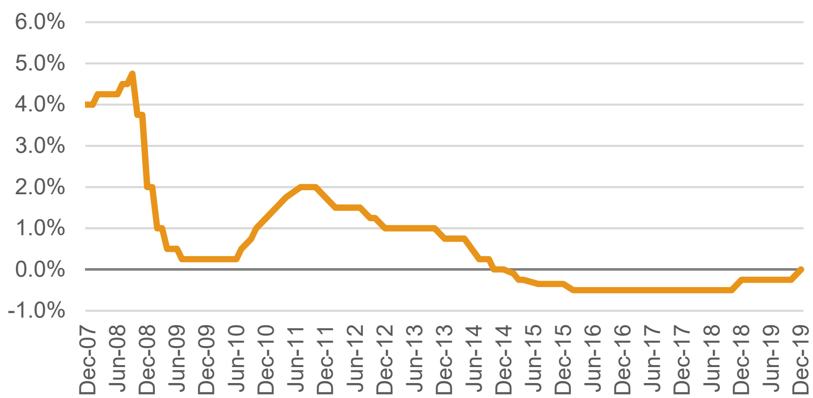
- After lifting short-term rates from 0% in December 2015 and beginning to normalize rates for three years, the Fed along with other central banks increased accommodation in 2019.
- The Fed likely will be patient, but the current market projections may overstate the duration of being on pause. A pickup in growth and inflation would produce upward pressure on rates and spikes in volatility.
- Similarly in Europe, the ECB[1] will be restrained, seeking to avoid the policy misstep that set off the double dip recession. Sweden, however, may be a nation to watch, as the central bank removed negative rates in December.

Number of rate changes by large central banks



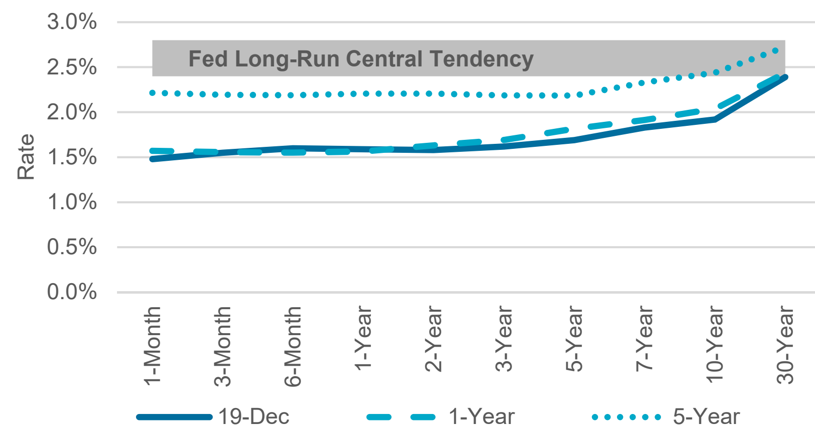
Source: JPMorgan
Includes: Australia, Canada, Denmark, Eurozone, Japan, Norway Sweden, Switzerland, UK, and US

Sweden Repo Rate



Source: Bloomberg

Markets are pricing little movement in yields



Source: Bloomberg

1. European Central Bank

POLITICAL TENSIONS UNLIKELY TO FADE

- Outside of trade policy, political risks have continued to ruffle markets, and while some risks have intensified, improving fundamentals have helped markets to weather the storm.

- Tensions in the Middle East continued in 2020. The killing of Iran's general Soleimani and Iranian military action in the region has aggravated an already tense relationship between the US and Iran. While the initial reaction to Soleimani's death did not incite a quick escalation, future military action is not out of the realm of possibilities. Markets will continue to digest the evolving relationship, due to its influence on global oil prices. Reduced reliance on foreign oil in the US may lessen future shocks, but disruptions in supply can have ripple effects through production and confidence.

- In the US, political infighting persists. Fourth quarter's spending bill passage unfortunately represents the exception and not the rule. Tensions will remain high through the impeachment trial and the presidential election.

- For investors, it will be critical to assess the fundamental impact of evolving political developments, as markets have been prone to overreaction.

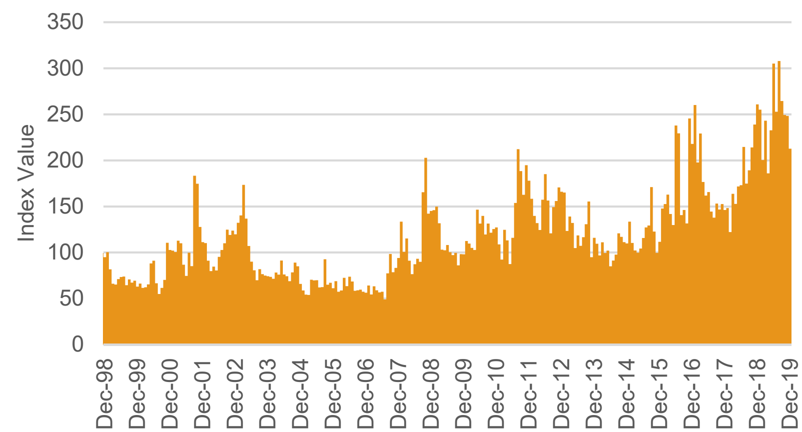
Change in production and consumption of liquid fuels

Production, consumption and inventories, millions of barrels per day

Production	2016	2017	2018	2019	2020	Growth Since '16
US	14.8	15.7	17.9	19.6	21.2	42.9%
OPEC	37.5	37.4	37.3	35.2	34.4	-8.3%
Global	**97.5**	**98.1**	**100.9**	**100.8**	**102.3**	**4.8%**
Consumption						
US	19.7	20.0	20.5	20.6	20.8	5.4%
China	13.0	13.6	14.0	14.5	15.0	15.3%
Global	**96.8**	**98.6**	**100.0**	**100.7**	**102.1**	**5.6%**
Inventory Change	0.8	-0.5	0.9	0.1	0.2	

Source: EIA Short-Term Energy Outlook 12/2019 & JPMorgan

Economic Policy Uncertainty



Source: Economic Policy Uncertainty

CONCLUSIONS

- **The manufacturing slowdown is still causing ripples, but investors anticipate growth returning to near trend in 2020. Upticks in growth likely will continue to be driven by consumers, but recoveries in manufacturing and trade will be required to shift into a higher gear, which may pressure inflation and eventually rate volatility.**
  - <u>Growth</u>: Inflections in cyclical sectors should be monitored for guidance on the range of potential growth.
  - <u>Labor</u>: Extending the cycle likely will tighten labor markets further, which may restrain growth and increase inflation, although slower labor growth may entice businesses to invest and improve productivity, extending growth.
  - <u>Monetary Policy</u>: Low inflation has enabled policymakers to follow a cautious, data dependent approach and pivot from tightening to easing in 2019. While policy is anticipated to be steady, rising inflation may narrow the gap between central bank and markets expectations, pushing rates and volatility higher.
- **Asset performance in 2019 ran counter to 2018 with many risk premiums approaching long-term levels, but the yield curve continues to signal skepticism regarding the path of future growth/capacity.**
  - Equity risk premiums are near long-term levels, but risks are not evenly distributed. Defensive market segments have become more expensive, creating valuation differences across geographies and sectors, and recoveries in trade could stimulate cyclical sectors.
  - Declines in risk-free rates year-to-date now suggest that yields are normalizing below levels implied by fundamentals and the Federal Reserve. These deviations likely will drive interest rate volatility in the intermediate-term.

PAVILION
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Tactical Asset Allocation

Asset Class Diversification

Surplus Cash Investment Program Structure

As of December 31, 2019

PAVILION
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Manager	Asset Class/Type	Total Assets ($, mil.)	Percent of Total	Target Allocation	Weighting Relative to Target	Target Range
Large-Cap Domestic Equity		**$246.9**	**22.7%**	**20.0%**	**+ 2.7%**	**20-30%**
Vanguard S&P 500 Index	Large-Cap Index	$149.3	13.7%	10.0%	+ 3.7%	
Sands	Large-Cap Growth	$ 50.0	4.6%	5.0%	- 0.4%	
Barrow Hanley	Large-Cap Value	$ 47.6	4.4%	5.0%	- 0.6%	
Small-Cap Domestic Equity		**$ 52.4**	**4.8%**	**5.0%**	**- 0.2%**	
Conestoga	Small-Cap Growth	$ 26.6	2.4%	2.5%	- 0.1%	
Wellington	Small-Cap Value	$ 25.8	2.4%	2.5%	- 0.1%	
International Equity		**$159.7**	**14.7%**	**15.0%**	**- 0.3%**	**10-20%**
Causeway	International Value	$ 52.0	4.8%			
BNY Mellon	International Growth	$ 67.4	6.2%			
Harding Loevner	Emerging	$ 40.3	3.7%			
Short-Duration Fixed Income		**$125.0**	**11.5%**	**10.0%**	**+ 1.5%**	**8-12%**
Barrow Hanley	Short Duration	$113.5	10.4%			
Cash	Money Market	$ 11.5	1.1%			
Market-Duration Fixed Income		**$333.8**	**30.7%**	**30.0%**	**+ 0.7%**	**25-35%**
Dodge & Cox	Market Duration	$164.3	15.1%	15.0%	+ 0.1%	
MetWest	Market Duration	$169.5	15.6%	15.0%	+ 0.6%	
Alternatives		**$170.1**	**15.6%**	**20.0%**	**- 4.4%**	**17-23%**
Angelo Gordon Realty Value X	Real Estate	$ 3.9	0.4%			
Oaktree RE Opps VI	Real Estate	$ 5.1	0.5%			
Walton Street RE VII	Real Estate	$ 4.3	0.4%			
Walton Street RE VIII	Real Estate	$ 8.3	0.8%			
Direct Hedge Fund Composite	Hedge Fund	$148.5	13.7%			
Total (X District)		**$1,087.8**	**100.0%**			
District Assets - Barrow Hanley	Short Duration	$ 38.2				
Debt Reserves - Ponder	Short Duration	$ 52.9				
Total Surplus Cash		**$1,178.9**				

*Totals may not add due to rounding.

El Camino Hospital

Liquidity Schedule

December 31, 2019

PAVILION
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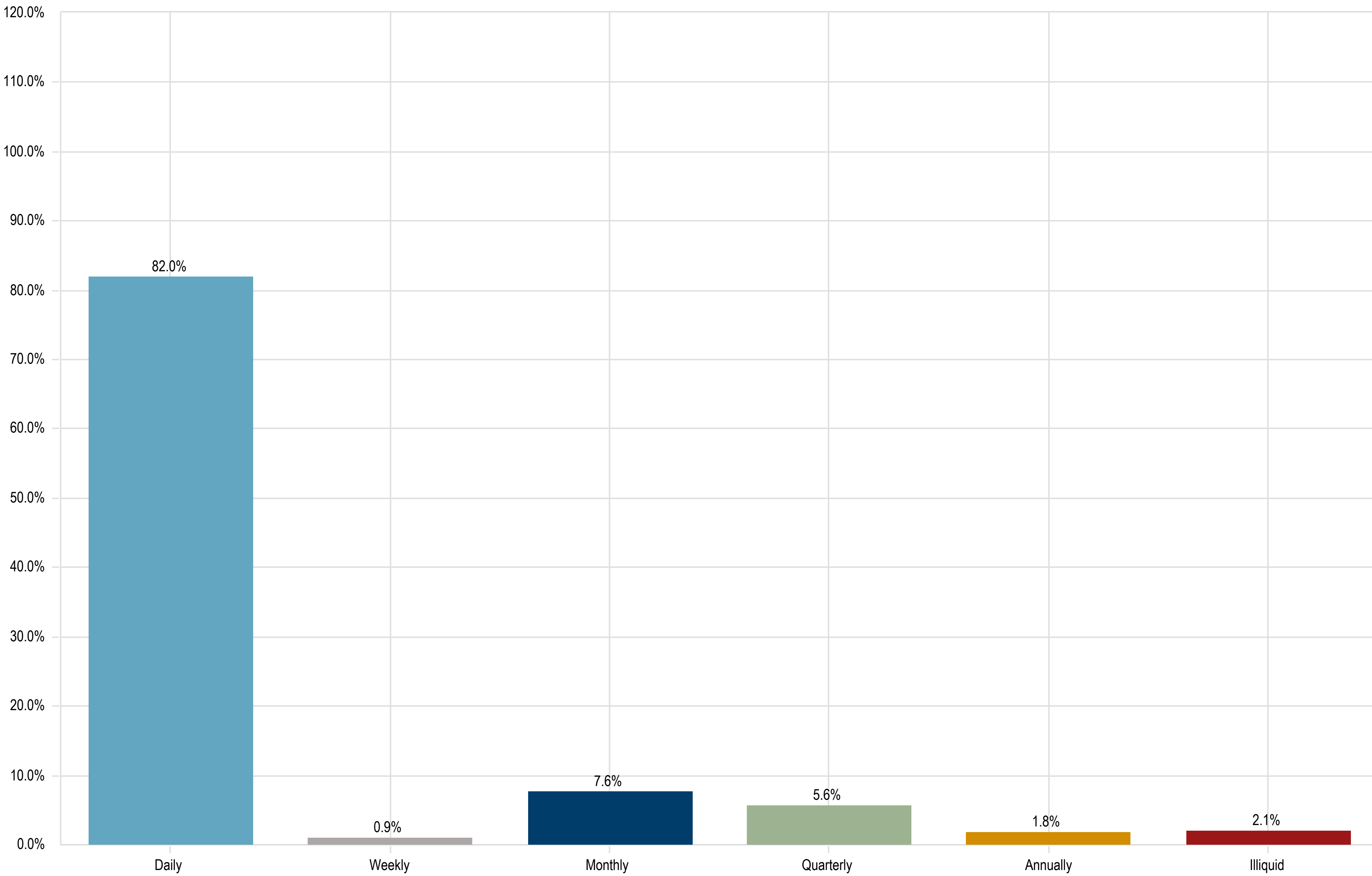
Investments	Market Value	Daily	Weekly	Monthly	Quarterly	Annually	Illiquid	Redemptions	Notes
Vanguard S&P 500 Index	149,291,192	149,291,192	-	-	-	-	-	Daily	Daily, No Lock-Up
Sands Large Cap Growth (Touchstone)	49,986,745	49,986,745	-	-	-	-	-	Daily	Daily, No Lock-Up
Barrow Hanley Large Cap Value	47,587,895	47,587,895	-	-	-	-	-	Daily	Daily, No Lock-Up
Wellington Small Cap Value	25,785,826	-	-	25,785,826	-	-	-	Monthly	10 Day Notice, No Lock-Up
Conestoga Small-Cap Fund I	26,591,719	26,591,719	-	-	-	-	-	Daily	Daily, No Lock-Up
BNY Mellon International Stock Fund	67,374,450	67,374,450	-	-	-	-	-	Daily	Daily, No Lock-Up
Causeway International Value	52,043,907	52,043,907	-	-	-	-	-	Daily	Daily, No Lock-Up
Harding Loevner Inst. Emerging Markets I	40,259,975	40,259,975	-	-	-	-	-	Daily	Daily, No Lock-Up
Barrow Hanley Short Fixed	113,460,396	113,460,396	-	-	-	-	-	Daily	Daily, No Lock-Up
Cash Account	1,437,193	1,437,193	-	-	-	-	-	Daily	Daily, No Lock-Up
Cash Account - CONCERN	86,746	86,746	-	-	-	-	-	Daily	Daily, No Lock-Up
Hedge Funds Cash	10,012,384	10,012,384	-	-	-	-	-	Daily	Daily, No Lock-Up
Dodge & Cox Fixed	164,280,695	164,280,695	-	-	-	-	-	Daily	Daily, No Lock-Up
MetWest Fixed	156,158,173	156,158,173	-	-	-	-	-	Daily	Daily, No Lock-Up
Met West Total Return Bond Plan - CONCERN	13,385,473	13,385,473	-	-	-	-	-	Daily	Daily, No Lock-Up
AG Realty Value Fund X, LP	3,878,497	-	-	-	-	-	3,878,497	Illiquid	Illiquid
Oaktree Capital Management RE Opportunities Fund VI	5,121,987	-	-	-	-	-	5,121,987	Illiquid	Illiquid
Walton Street Real Estate Fund VII, L.P.	4,284,904	-	-	-	-	-	4,284,904	Illiquid	Illiquid
Walton Street Real Estate Fund VIII, L.P.	8,270,666	-	-	-	-	-	8,270,666	Illiquid	Illiquid
Bloom Tree Offshore Fund Ltd.	11,839,950	-	-	-	11,839,950	-	-	Quarterly	45 Day Notice, No Lock-Up
Capeview Azri 2X Fund USD B - U	3,931,729	-	-	3,931,729	-	-	-	Monthly	30 Day Notice, No Lock-Up
Capeview Azri Fund USD B – UV	6,475,813	-	-	-	6,475,813	-	-	Quarterly	30 Day Notice, 2.5% Redemption Penalty
Chatham Asset High Yield Offshore Fund, Ltd	1,045,842	-	-	-	1,045,842	-	-	Quarterly	45 Day Notice, 20% Fund level gate
DK Distressed Opportunities International, Ltd.	10,914,895	-	-	-	-	10,914,895	-	Annually	90 Day Notice, No Lock-Up
EMSO Saguaro, Ltd.	10,740,372	-	-	10,740,372	-	-	-	Monthly	60 Day Notice, 15% Fund level gate
Fir Tree International Value Fund (Non-US), L.P.	192,786	-	-	-	-	-	192,786	Illiquid	Redemption in Progress
Indus Japan Fund Ltd.	9,507,799	-	-	-	9,507,799	-	-	Quarterly	30 Day Notice, No Lock-up
Luxor Capital Partners Offshore, Ltd.	665,534	-	-	-	-	-	665,534	Illiquid	Redemption in Progress
Man Alternative Risk Premia SP Fund	9,988,305	-	9,988,305	-	-	-	-	Weekly	7 Day Notice, No Lock-Up
Marshall Wace Eureka Fund Class B2	10,866,338	-	-	10,866,338	-	-	-	Monthly	30 Day Notice, No Lock-Up
Moore Macro Managers Fund	10,449,859	-	-	-	10,449,859	-	-	Quarterly	60 Day Notice, No Lock-Up
Palestra Capital Offshore	11,167,640	-	-	-	11,167,640	-	-	Quarterly	60 Day Notice, 12 mth soft lock
Pine River Fund Ltd.	36,092	-	-	-	-	-	36,092	Illiquid	Redemption in Progress
Renaissance RIDGE	10,478,206	-	-	10,478,206	-	-	-	Monthly	45 Days Notice, No Lock-Up
Carlson Black Diamond Arbitrage Ltd.	10,742,210	-	-	10,742,210	-	-	-	Monthly	45 Day Notice, No Lock-Up
Robeco Transtrend Diversified Fund LLC	10,325,312	-	-	10,325,312	-	-	-	Monthly	5 Day Notice, No Lock-Up
Stone Milliner Macro Inc Class A NI	100,549	-	-	100,549	-	-	-	Monthly	60 Day Notice, 25% Master Fund level gate
Waterfall Eden Fund, Ltd.	10,153,659	-	-	-	10,153,659	-	-	Quarterly	90 Day Notice, 1 year soft lock
York Credit Opportunities Unit Trust	8,915,200	-	-	-	-	8,915,200	-	Annually	60 Day Notice, No Lock-Up
Total ($)	**1,087,836,914**	**891,956,944**	**9,988,305**	**82,970,542**	**60,640,561**	**19,830,095**	**22,450,466**		
Total (%)	**100.0**	**82.0**	**0.9**	**7.6**	**5.6**	**1.8**	**2.1**		

Liquidity Schedule Summary



Investment Management Fees

Surplus Cash Investment Program Structure

As of December 31, 2019

PAVILION
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	Total Assets ($ millions)	Committed Capital ($ millions)	Contributed Capital ($ millions)	Management Fee (%)	Mercer Mutual Fund Peer Group	Mercer Mutual Fund Peer Group Median (%)
Domestic Equity						
Vanguard S&P 500 Index	$149,291,192			0.035	Mercer Mutual Fund US Equity Large Cap Index	0.18
Sands Large Cap Growth (Touchstone)	$49,986,745			0.80	Mercer Mutual Fund US Equity Large Cap Growth Median	0.69
Barrow Hanley Large Cap Value	$47,587,895			0.38	Mercer Mutual Fund US Equity Large Cap Value Median	0.65
Wellington Small Cap Value	$25,785,826			0.90	Mercer Mutual Fund US Equity Small Cap Value Median	0.97
Conestoga Small Cap Growth	$26,591,719			0.90	Mercer Mutual Fund US Equity Small Cap Growth Median	0.91
International Equity						
Causeway International Value	$52,043,907			0.88	Mercer Mutual Fund World ex US/EAFE Equity Large Cap Value Median	0.81
BNY Mellon International Stock Fund	$67,374,450			0.91	Mercer Mutual Fund World ex US/EAFE Equity Large Cap Growth Median	0.85
Harding Loevner Emerging Markets	$40,259,975			1.27	Mercer Mutual Fund Emerging Markets Equity Median	0.95
Short Fixed Income						
Barrow Hanley Short Fixed	$113,460,396			0.17	Mercer Mutual Fund US Fixed Short Median	0.40
Market Duration Fixed Income						
Dodge & Cox Fixed	$164,280,695			0.17	Mercer Mutual Fund US Fixed Core Median	0.44
MetWest Total Return	$156,158,173			0.28	Mercer Mutual Fund US Fixed Core Median	0.44
MetWest Total Return - CONCERN	$13,385,473			0.37	Mercer Mutual Fund US Fixed Core Median	0.44
Cash						
Cash Account	$11,536,324			N/A	N/A	N/A
Hedge Funds[1]						
Bloom Tree Offshore Fund Ltd.	$11,839,950			1.50	N/A	N/A
CapeView Azri Fund Ltd.	$6,475,813			1.35	N/A	N/A
CapeView Azri 2x Fund	$3,931,729			2.00	N/A	N/A
Indus Japan Fund	$9,507,799			1.50	N/A	N/A
Luxor Capital Partners	$734,918			1.50	N/A	N/A
Pine River Fund	$46,907			1.50	N/A	N/A
Fir Tree International	$207,713			1.50	N/A	N/A
Marshall Wace Eureka Fund Class B2	$10,866,338			2.00	N/A	N/A
Palestra Capital Offshore	$11,167,640			1.50	N/A	N/A
Chatham Asset High Yield Offshore	$1,045,842			1.50	N/A	N/A
DK Distressed Opportunities International	$10,914,895			1.75	N/A	N/A
York Credit Opportunities[3]	$8,915,200			0.75	N/A	N/A
BP Transtrend Diversified Fund	$10,325,312			1.00	N/A	N/A
EMSO Saguaro	$10,740,372			1.25	N/A	N/A
Moore Macro Managers Fund	$10,449,859			2.50	N/A	N/A
Stone Milliner Macro Fund	$100,549			2.00	N/A	N/A
Carlson Black Diamond Arbitrage	$10,742,210			1.00	N/A	N/A
Renaissance RIDGE	$10,478,206			1.00	N/A	N/A
Man Alternative Risk Premia	$9,988,305			1.00	N/A	N/A
Waterfall Eden	$10,153,659			1.50	N/A	N/A
Total (ex Private Real Estate)	**$1,066,375,986**			**0.52%**		
Private Real Estate[2]						
AG Realty Value Fund X	$3,878,497	$ 20.0	$ 1.5	1.50 Of committed Capital[2]	N/A	N/A
Oaktree Real Estate Opportunities VI	$5,121,987	$ 14.0	$ 14.0	1.50 Of committed Capital[2]	N/A	N/A
Walton Street Real Estate VII	$4,284,904	$ 13.0	$ 12.4	1.50 Of committed Capital[2]	N/A	N/A
Walton Street Real Estate Fund VIII	$8,270,666	$ 13.0	$ 9.3	1.50 Of committed Capital[2]	N/A	N/A

1. Hedge fund fees do not include incentive fees.
2. Private Real Estate fees do not include carried interest.
3. York Credit Opportunities Fund is in the process of liquidation. Beginning Jan. 1, 2020 the management fee was reduced by 50% until the end of the calendar year.

Manager	Asset Class/Type	Total Assets ($, mil.)	Percent of Total	Target Allocation	Weighting Relative to Target	Target Range
Large-Cap Domestic Equity		**$ 86.5**	**29.4%**	**27.0%**	**+ 2.4%**	**27-37%**
Vanguard S&P 500 Index	Large-Cap Index	$ 42.2	14.4%	13.5%	+ 0.9%	
Sands	Large-Cap Growth	$ 21.9	7.5%	6.8%	+ 0.7%	
Barrow Hanley	Large-Cap Value	$ 22.3	7.6%	6.8%	+ 0.8%	
Small-Cap Domestic Equity		**$ 15.7**	**5.3%**	**5.0%**	**+ 0.3%**	
Conestoga	Small-Cap Growth	$ 7.7	2.6%	2.5%	+ 0.1%	
Wellington	Small-Cap Value	$ 8.0	2.7%	2.5%	+ 0.2%	
International Equity		**$ 53.1**	**18.1%**	**18.0%**	**+ 0.1%**	**15-21%**
Causeway	International Value	$ 20.0	6.8%			
BNY Mellon	International Growth	$ 25.8	8.8%			
Harding Loevner	Emerging Markets	$ 7.3	2.5%			
Short-Duration Fixed Income		**$ 11.9**	**4.0%**	**5.0%**	**- 1.0%**	**0-8%**
Barrow Hanley	Short Duration	$ 9.2	3.1%			
Cash	Money Market	$ 2.7	0.9%			
Market-Duration Fixed Income		**$ 75.7**	**25.8%**	**25.0%**	**+ 0.8%**	**20-30%**
Dodge & Cox	Market Duration	$ 37.7	12.8%	12.5%	+ 0.3%	
MetWest	Market Duration	$ 37.9	12.9%	12.5%	+ 0.4%	
Alternatives		**$ 50.9**	**17.3%**	**20.0%**	**- 2.7%**	**17-23%**
Lighthouse	HFOF	$ 19.1	6.5%			
Pointer	HFOF	$ 19.9	6.8%			
Oaktree RE Opps VI	Real Estate	$ 3.0	1.0%			
Walton Street RE VII	Real Estate	$ 2.6	0.9%			
Walton Street RE VIII	Real Estate	$ 6.4	2.2%			
Total		**$293.8**	**100.0%**			

*Totals may not add due to rounding.

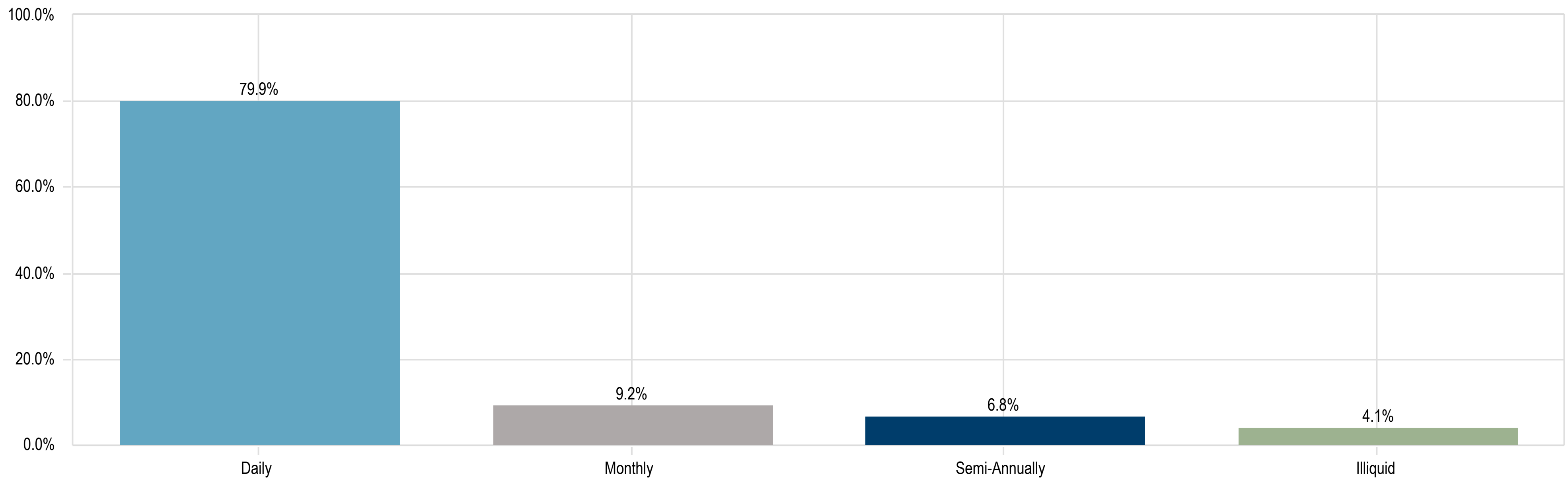
Liquidity Schedule - Cash Balance

Liquidity Schedule

December 31, 2019

Investments	Market Value	Daily	Monthly	Semi-Annually	Illiquid	Subscriptions	Redemptions	Notes
Vanguard Institutional Index Fund	42,242,048	42,242,048	-	-	-	Daily	Daily	Daily, No Lock-Up
Sands Large Cap Growth (Touchstone)	21,946,638	21,946,638	-	-	-	Daily	Daily	Daily, No Lock-Up
Barrow Hanley Large Cap Value	22,299,002	22,299,002	-	-	-	Daily	Daily	Daily, No Lock-Up
Conestoga Small-Cap Fund I	7,669,962	7,669,962	-	-	-	Daily	Daily	Daily, No Lock-Up
Wellington Small Cap Value	8,008,446	-	8,008,446	-	-	Monthly	Monthly	10 Day Notice, No Lock-Up
Causeway International Value	20,043,405	20,043,405	-	-	-	Daily	Daily	Daily, No Lock-Up
BNY Mellon International Stock Fund	25,775,372	25,775,372	-	-	-	Daily	Daily	Daily, No Lock-Up
Harding Loevner Inst. Emerging Markets I	7,312,599	7,312,599	-	-	-	Daily	Daily	Daily, No Lock-Up
Barrow Hanley Short Fixed	9,166,011	9,166,011	-	-	-	Daily	Daily	Daily, No Lock-Up
Cash Account	2,730,155	2,730,155	-	-	-	Daily	Daily	Daily, No Lock-Up
Dodge & Cox Income Fund	37,705,874	37,705,874	-	-	-	Daily	Daily	Daily, No Lock-Up
Met West Total Return Fund Pl	37,947,698	37,947,698	-	-	-	Daily	Daily	Daily, No Lock-Up
Lighthouse Diversified	19,128,601	-	19,128,601	-	-	Monthly	Monthly	90 Day Notice, No Lock-Up
Pointer Offshore LTD	19,863,235	-	-	19,863,235	-	Semi-Annually	Semi-Annually	Notice by Mar 15/Sept 15
Oaktree RE Opportunities Fund V	3,013,410	-	-	-	3,013,410	Illiquid	Illiquid	Illiquid
Walton Street Real Estate Fund VII, L.P.	2,569,528	-	-	-	2,569,528	Illiquid	Illiquid	Illiquid
Walton Street Real Estate Fund VIII, L.P.	6,362,051	-	-	-	6,362,051	Illiquid	Illiquid	Illiquid
Total ($)	**293,784,037**	**234,838,765**	**27,137,047**	**19,863,235**	**11,944,989**			
Total (%)	**100.0**	**79.9**	**9.2**	**6.8**	**4.1**			

Liquidity Schedule Summary



Investment Management Fees

Cash Balance Investment Program Structure

As of December 31, 2019

PAVILION a Mercer Practice

	Total Assets ($ millions)	Committed Capital ($ millions)	Contributed Capital ($ millions)	Management Fee (%)	Mercer Mutual Fund Peer Group	Mercer Mutual Fund Peer Group Median (%)
Domestic Equity						
Vanguard S&P 500 Index	$42,242,048			0.035	Mercer Mutual Fund US Equity Large Cap Index	0.18
Sands Large Cap Growth (Touchstone)	$21,946,638			0.80	Mercer Mutual Fund US Equity Large Cap Growth Median	0.69
Barrow Hanley Large Cap Value	$22,299,002			0.38	Mercer Mutual Fund US Equity Large Cap Value Median	0.65
Wellington Small Cap Value	$8,008,446			0.90	Mercer Mutual Fund US Equity Small Cap Value Median	0.97
Conestoga Small Cap Growth	$7,669,962			0.90	Mercer Mutual Fund US Equity Small Cap Growth Median	0.91
International Equity						
Causeway International Value	$20,043,405			0.88	Mercer Mutual Fund World ex US/EAFE Equity Large Cap Value Median	0.81
BNY Mellon International Stock Fund	$25,775,372			0.91	Mercer Mutual Fund World ex US/EAFE Equity Large Cap Growth Median	0.85
Harding Loevner Emerging Markets	$7,312,599			1.27	Mercer Mutual Fund Emerging Markets Equity Median	0.95
Short Fixed Income						
Barrow Hanley Short Fixed	$9,166,011			0.17	Mercer Mutual Fund US Fixed Short Median	0.40
Market Duration Fixed Income						
Dodge & Cox Income Fund	$37,705,874			0.42	Mercer Mutual Fund US Fixed Core Median	0.44
MetWest Total Return	$37,947,698			0.37	Mercer Mutual Fund US Fixed Core Median	0.44
Cash						
Cash Account	$2,730,155			N/A	N/A	N/A
Hedge Fund of Funds[1]						
Lighthouse Diversified	$19,128,601			1.00	N/A	N/A
Pointer Offshore	$19,863,235			1.00	N/A	N/A
Total (ex Private Real Estate)	**$281,839,046**			**0.55%**		
Private Real Estate[2]						
Oaktree Real Estate Opportunities VI	$3,013,410	$ 8.4	$ 8.4	1.50 Of committed Capital [2]	N/A	N/A
Walton Street Real Estate VII	$2,569,528	$ 8.4	$ 7.7	1.50 Of committed Capital [2]	N/A	N/A
Walton Street Real Estate Fund VIII	$6,362,051	$ 10.0	$ 7.1	1.50 Of committed Capital [2]	N/A	N/A
Total	**$293,784,035**					

1. Hedge Fund of Fund fees do not include management and incentive fees of underlying hedge fund investments.
2. Private Real Estate fees do not include carried interest.

Surplus Cash Equity Portfolio Characteristics

Total Equity Composite vs. MSCI AC World IMI (Net)

December 31, 2019

PAVILION a Mercer Practice

Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap $000	165,125,540	163,750,099
Median Mkt. Cap $000	19,046,894	1,809,737
Price / Earnings	22.70	19.21
Price / Book	3.51	2.91
5 Yr. EPS Growth Rate (%)	13.03	11.70
Current Yield (%)	1.96	2.40
Beta (5 Years, Monthly)	1.01	1.00
Number of Holdings	821	9,033

Top 10 Holdings

	Portfolio	Benchmark	Return
Microsoft Corp	2.03	1.97	13.82
Amazon.com Inc	1.80	1.34	6.45
Apple Inc	1.49	2.29	31.50
Visa Inc	1.37	0.56	9.42
Simon Property Group Inc.	1.31	0.08	-2.99
Alphabet Inc	1.11	0.69	9.68
Facebook Inc	1.07	0.85	15.26
Alibaba Group Holding	0.97	0.62	26.83
ServiceNow Inc	0.88	0.09	11.22
JPMorgan Chase & Co	0.87	0.77	19.40

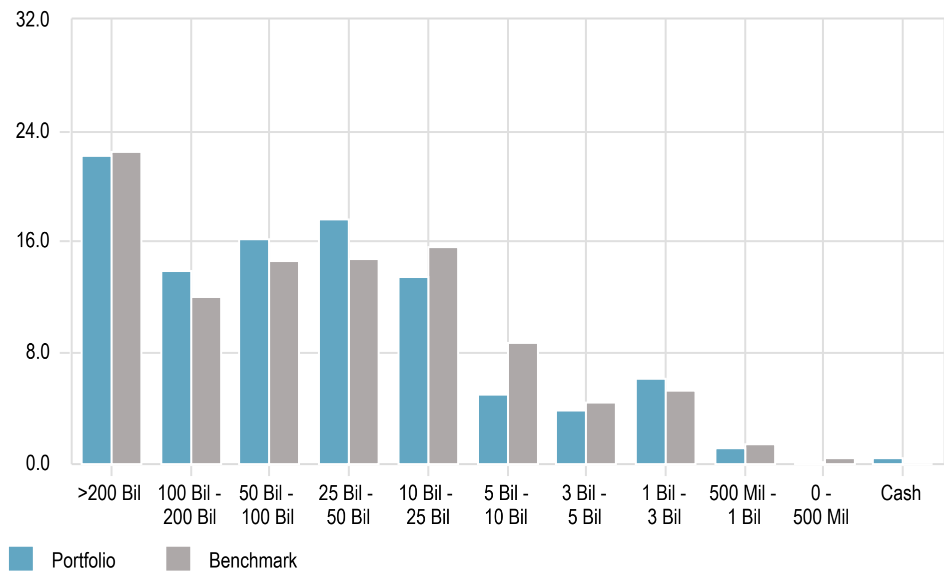
Top Contributors

	Portfolio	Benchmark	Return	Contribution
Apple Inc	1.27	1.94	31.50	0.40
Microsoft Corp	2.03	1.91	13.82	0.28
Alibaba Group Holding	0.84	0.45	26.83	0.23
Unitedhealth Group Inc	0.46	0.39	35.80	0.17
JPMorgan Chase & Co	0.85	0.72	19.40	0.17

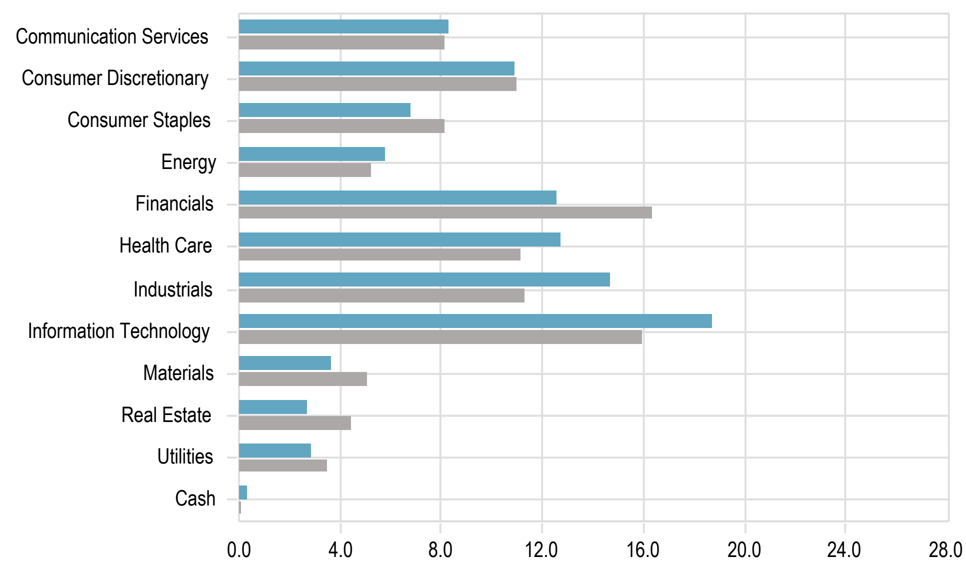
Top Detractors

	Portfolio	Benchmark	Return	Contribution
Boeing Co	0.27	0.38	-13.89	-0.04
Rolls Royce Holdings PLC	0.33	0.03	-8.95	-0.03
Gildan Activewear Inc	0.17	0.01	-16.41	-0.03
American International Group Inc	0.36	0.09	-7.26	-0.03
Albany International Corp.	0.16	0.00	-15.59	-0.02

Distribution of Market Cap



Sector Allocation



Surplus Cash Equity Portfolio - Country/Region Allocation

Total Equity Composite vs. MSCI ACWI IMI Index

December 31, 2019

PAVILION
a Mercer Practice

	Total Equity Composite	MSCI AC World IMI (Net)
Canada	1.2	3.1
United States	61.4	52.9
Australia	0.6	2.1
Hong Kong	3.3	2.4
New Zealand	0.0	0.1
Singapore	0.0	0.4
Pacific ex Japan	**4.0**	**5.0**
Japan	5.5	7.6
Austria	0.0	0.1
Belgium	0.0	0.3
Bermuda	0.2	0.2
Denmark	1.1	0.6
Finland	0.3	0.3
France	2.3	2.9
Germany	2.8	2.5
Ireland	1.6	1.2
Italy	0.5	0.7
Luxembourg	0.2	0.1
Netherlands	1.1	1.8
Norway	0.0	0.2
Portugal	0.2	0.1
Spain	0.5	0.8
Sweden	0.0	0.9
Switzerland	3.1	3.0
Europe ex UK	**14.0**	**15.7**
United Kingdom	5.1	4.9
Israel	0.0	0.2
Middle East	**0.0**	**0.2**
Developed Markets	**91.1**	**89.4**

	Total Equity Composite	MSCI AC World IMI (Net)
China	2.2	2.3
India	0.7	1.1
Indonesia	0.3	0.2
Korea	1.1	1.5
Malaysia	0.0	0.2
Pakistan	0.0	0.0
Philippines	0.0	0.1
Taiwan	1.2	1.5
Thailand	0.1	0.3
EM Asia	**5.6**	**7.3**
Czech Republic	0.1	0.0
Greece	0.0	0.0
Hungary	0.0	0.0
Iceland	0.0	0.0
Poland	0.0	0.1
Russia	0.7	0.4
Turkey	0.0	0.1
EM Europe	**0.8**	**0.7**
Argentina	0.0	0.1
Brazil	0.7	1.0
Cayman Islands	0.0	0.0
Chile	0.0	0.1
Colombia	0.1	0.0
Mexico	0.4	0.3
Peru	0.0	0.0
Virgin Islands	0.0	0.0
EM Latin America	**1.2**	**1.5**
Egypt	0.1	0.0
Qatar	0.0	0.1
Saudi Arabia	0.0	0.3
South Africa	0.2	0.6
United Arab Emirates	0.1	0.1
EM Mid East+Africa	**0.4**	**1.1**
Emerging Markets	**8.0**	**10.6**
Frontier Markets	**0.1**	**0.0**
Cash	0.4	0.0
Other	0.3	0.1
Total	**100.0**	**100.0**

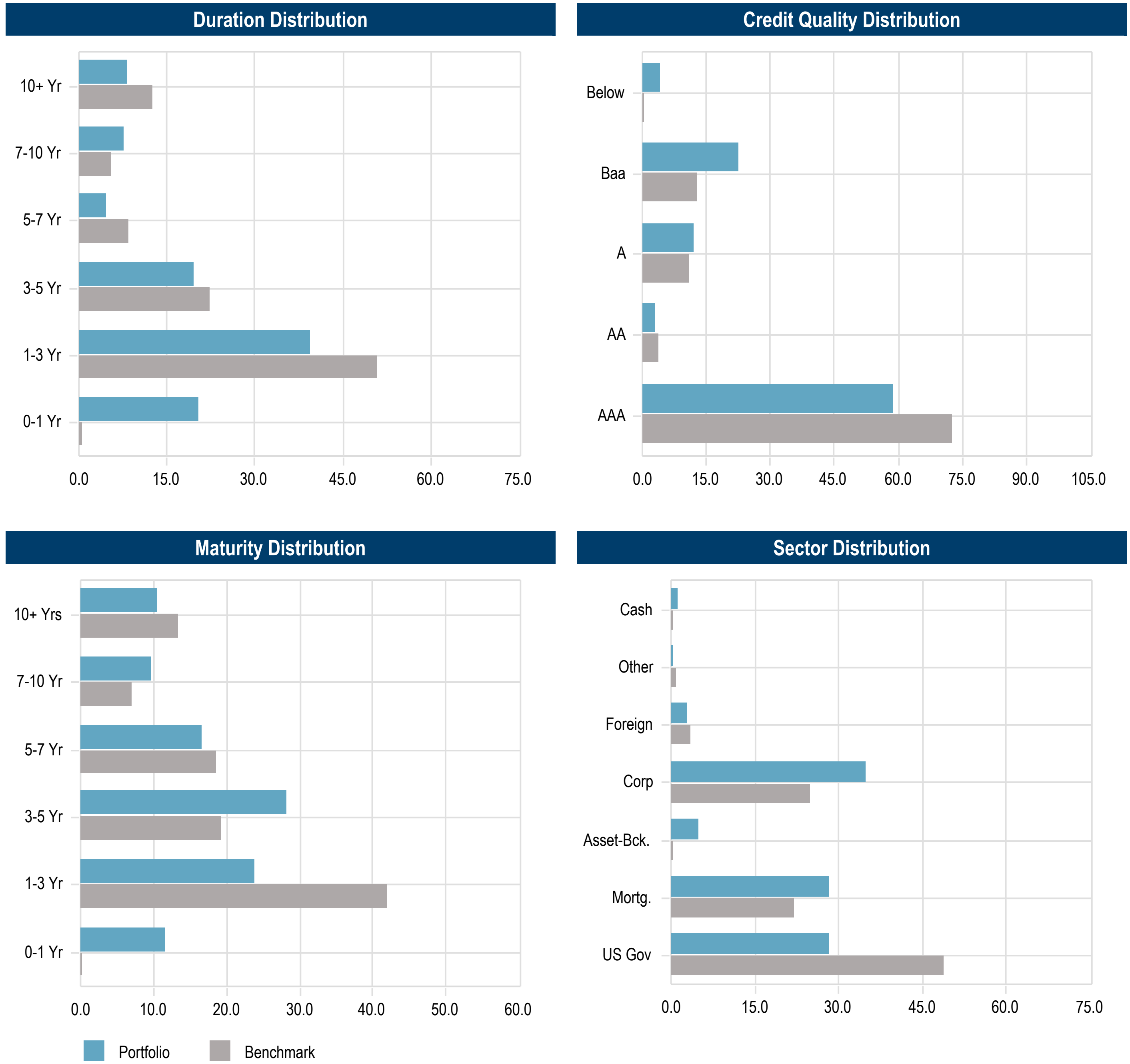
Surplus Cash Fixed Income Portfolio Characteristics

Total Fixed Income Composite vs. Total Fixed Income Benchmark - Surplus

December 31, 2019

PAVILION a Mercer Practice

	Portfolio	Benchmark
Portfolio Characteristics		
Effective Duration	4.20	4.80
Avg. Maturity	6.10	6.50
Avg. Quality	AA	AA
Avg. Coupon	3.10	3.00
Current Yield	3.10	2.80
Yield To Maturity (%)	2.40	2.20
Number of Issues	-	-
Duration Distribution		
0-1 Yr	20.3	0.6
1-3 Yr	39.5	50.8
3-5 Yr	19.7	22.3
5-7 Yr	4.7	8.3
7-10 Yr	7.6	5.4
10+ Yr	8.2	12.6
Maturity Distribution		
0-1 Yr	11.5	0.2
1-3 Yr	23.8	41.8
3-5 Yr	28.2	19.1
5-7 Yr	16.5	18.6
7-10 Yr	9.5	7.0
10+ Yrs	10.5	13.3
Quality Distribution		
AAA	58.5	72.4
AA	2.9	3.8
A	12.1	10.9
Baa	22.4	12.9
Below	4.1	-
Sector Distribution		
US Gov	28.1	48.6
Mortg.	28.2	21.9
Asset-Bck.	4.9	0.4
Corp	34.7	24.9
Foreign	2.9	3.4
Other	0.0	0.8
Cash	1.2	-



Cash Balance Plan Equity Portfolio Characteristics

Total Equity Composite vs. MSCI AC World IMI (Net)

December 31, 2019

PAVILION a Mercer Practice

Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap $000	164,083,684	163,750,099
Median Mkt. Cap $000	19,057,796	1,809,737
Price / Earnings	22.92	19.21
Price / Book	3.49	2.91
5 Yr. EPS Growth Rate (%)	12.96	11.70
Current Yield (%)	1.90	2.40
Beta (5 Years, Monthly)	1.01	1.00
Number of Holdings	818	9,033

Top 10 Holdings

	Portfolio	Benchmark	Return
Microsoft Corp	2.02	1.97	13.82
Amazon.com Inc	1.90	1.34	6.45
Visa Inc	1.60	0.56	9.42
Apple Inc	1.25	2.29	31.50
Alphabet Inc	1.21	0.69	9.68
ServiceNow Inc	1.11	0.09	11.22
Facebook Inc	1.11	0.85	15.26
JPMorgan Chase & Co	0.97	0.77	19.40
Alibaba Group Holding	0.93	0.62	26.83
Netflix Inc	0.92	0.24	20.91

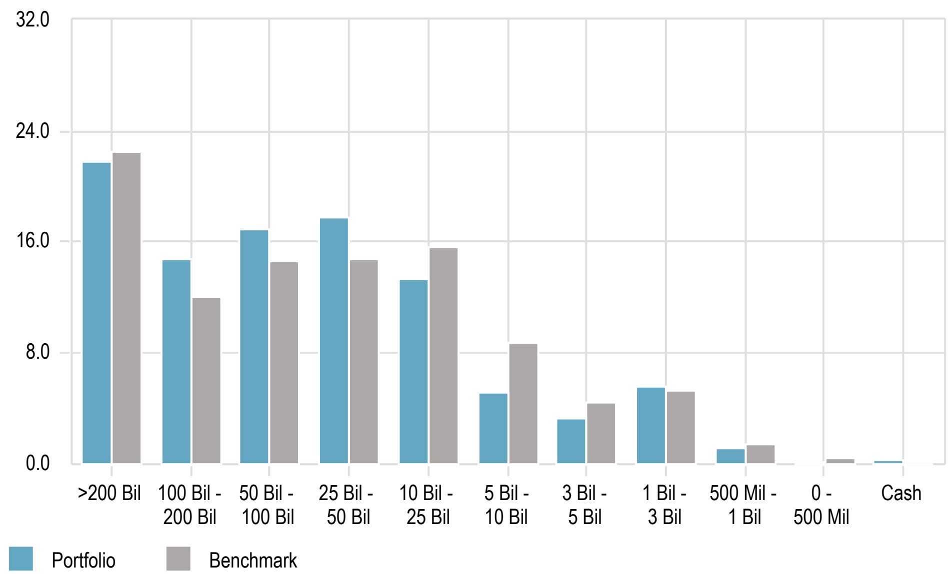
Top Contributors

	Portfolio	Benchmark	Return	Contribution
Apple Inc	1.07	1.94	31.50	0.34
Microsoft Corp	2.02	1.91	13.82	0.28
Alibaba Group Holding	0.80	0.45	26.83	0.22
Unitedhealth Group Inc	0.49	0.39	35.80	0.18
JPMorgan Chase & Co	0.90	0.72	19.40	0.18

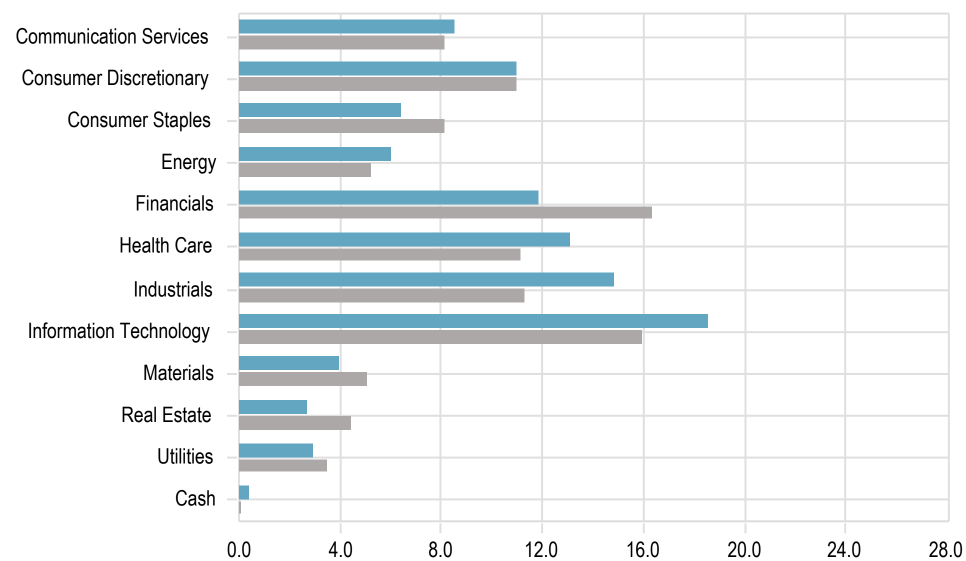
Top Detractors

	Portfolio	Benchmark	Return	Contribution
Rolls Royce Holdings PLC	0.38	0.03	-8.95	-0.03
American International Group Inc	0.47	0.09	-7.26	-0.03
Boeing Co	0.23	0.38	-13.89	-0.03
Gildan Activewear Inc	0.19	0.01	-16.41	-0.03
Johnson Controls International Plc	0.40	0.07	-6.65	-0.03

Distribution of Market Cap



Sector Allocation



Cash Balance Plan Equity Portfolio - Country/Region Allocation

Total Equity Composite vs. MSCI ACWI IMI Index

December 31, 2019

PAVILION
a Mercer Practice

	Total Equity Composite	MSCI AC World IMI (Net)
Canada	1.2	3.1
United States	61.7	52.9
Australia	0.8	2.1
Hong Kong	2.9	2.4
New Zealand	0.0	0.1
Singapore	0.0	0.4
Pacific ex Japan	**3.6**	**5.0**
Japan	6.2	7.6
Austria	0.0	0.1
Belgium	0.0	0.3
Bermuda	0.2	0.2
Denmark	1.3	0.6
Finland	0.4	0.3
France	2.6	2.9
Germany	3.1	2.5
Ireland	1.9	1.2
Italy	0.6	0.7
Luxembourg	0.1	0.1
Netherlands	1.2	1.8
Norway	0.0	0.2
Portugal	0.3	0.1
Spain	0.6	0.8
Sweden	0.0	0.9
Switzerland	3.5	3.0
Europe ex UK	**15.7**	**15.7**
United Kingdom	5.6	4.9
Israel	0.0	0.2
Middle East	**0.0**	**0.2**
Developed Markets	**94.1**	**89.4**

	Total Equity Composite	MSCI AC World IMI (Net)
China	1.7	2.3
India	0.4	1.1
Indonesia	0.2	0.2
Korea	0.8	1.5
Malaysia	0.0	0.2
Pakistan	0.0	0.0
Philippines	0.0	0.1
Taiwan	0.9	1.5
Thailand	0.1	0.3
EM Asia	**4.1**	**7.3**
Czech Republic	0.0	0.0
Greece	0.0	0.0
Hungary	0.0	0.0
Iceland	0.0	0.0
Poland	0.0	0.1
Russia	0.4	0.4
Turkey	0.0	0.1
EM Europe	**0.5**	**0.7**
Argentina	0.0	0.1
Brazil	0.4	1.0
Cayman Islands	0.0	0.0
Chile	0.0	0.1
Colombia	0.1	0.0
Mexico	0.2	0.3
Peru	0.0	0.0
Virgin Islands	0.0	0.0
EM Latin America	**0.7**	**1.5**
Egypt	0.0	0.0
Qatar	0.0	0.1
Saudi Arabia	0.0	0.3
South Africa	0.1	0.6
United Arab Emirates	0.0	0.1
EM Mid East+Africa	**0.2**	**1.1**
Emerging Markets	**5.4**	**10.6**
Frontier Markets	**0.1**	**0.0**
Cash	0.2	0.0
Other	0.2	0.1
Total	**100.0**	**100.0**

Cash Balance Plan Fixed Income Portfolio Characteristics

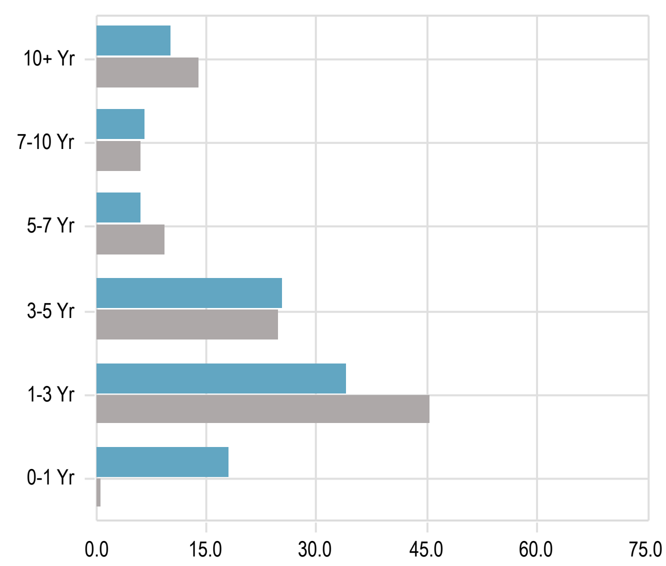
Cash Balance Fixed Income Composite vs. Total Fixed Income Benchmark

December 31, 2019

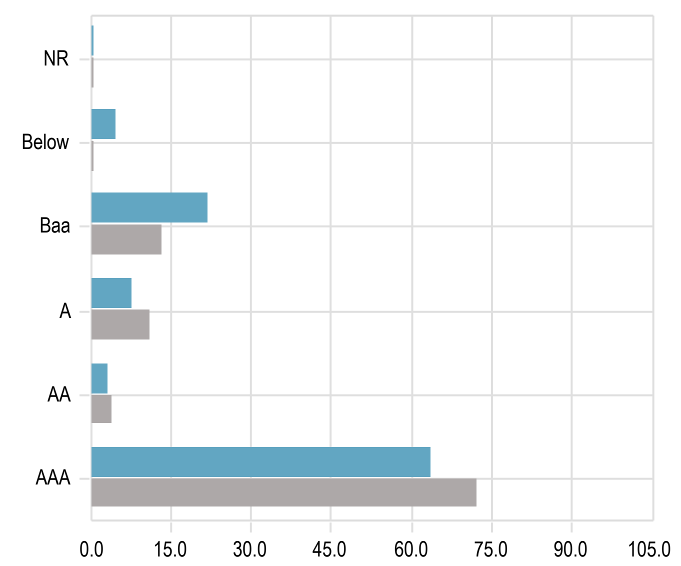
PAVILION
a Mercer Practice

	Portfolio	Benchmark
Portfolio Characteristics		
Effective Duration	4.60	5.20
Avg. Maturity	6.80	7.00
Avg. Quality	AA	AA
Avg. Coupon	3.10	3.00
Current Yield	2.60	2.90
Yield To Maturity (%)	2.60	2.20
Number of Issues	-	-
Duration Distribution		
0-1 Yr	18.0	0.5
1-3 Yr	34.1	45.5
3-5 Yr	25.4	24.8
5-7 Yr	6.1	9.2
7-10 Yr	6.4	6.0
10+ Yr	10.0	13.9
Maturity Distribution		
0-1 Yr	7.2	0.2
1-3 Yr	20.3	35.3
3-5 Yr	30.0	21.2
5-7 Yr	20.7	20.7
7-10 Yr	8.9	7.8
10+ Yrs	12.9	14.8
Quality Distribution		
AAA	63.4	72.3
AA	2.9	3.7
A	7.4	10.8
Baa	21.7	13.2
Below	4.6	-
NR	0.0	-
Sector Distribution		
US Gov	29.9	45.9
Mortg.	33.3	24.3
Asset-Bck.	4.7	0.4
Corp	21.1	25.1
Foreign	10.4	3.3
Other	0.0	1.0
Cash	0.6	-

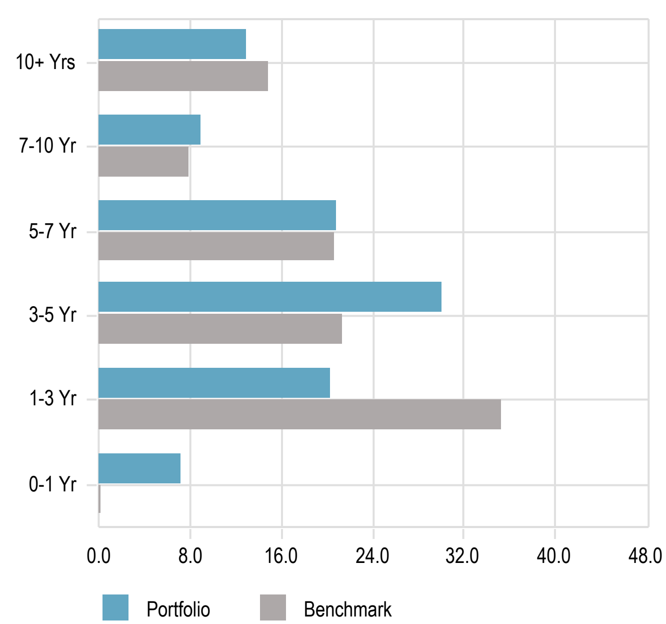
Duration Distribution



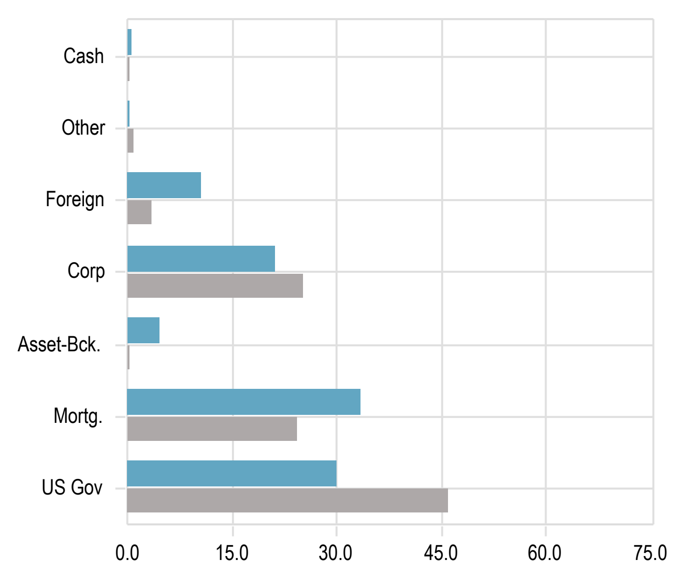
Credit Quality Distribution



Maturity Distribution



Sector Distribution



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Download a guide on key index definitions and disclosures.

FY21 COMMITTEE GOALS - Draft

Investment Committee

PURPOSE

The purpose of the Investment Committee is to develop and recommend to the El Camino Hospital (ECH) Board of Directors ("Board") the investment policies governing the Hospital's assets, maintain current knowledge of the management and investment funds of the Hospital, and provide oversight of the allocation of the investment assets.

STAFF: **Iftikhar Hussain**, Chief Financial Officer (Executive Sponsor)

The CFO shall serve as the primary staff to support the Committee and is responsible for drafting the Committee meeting agenda for the Committee Chair's consideration. Additional members of the Executive Team or hospital staff may participate in the meetings upon the recommendation of the CFO and at the discretion of the Committee Chair. The CEO is an ex-officio member of this Committee.

GOALS	TIMELINE	METRICS
1. Review performance of consultant recommendations of managers and asset allocations	Each quarter - ongoing	Committee to review selection of money managers and make recommendations to the CFO
2. Education Topic: TBD	FY21 Q1	Complete by the August 2020 meeting
3. Asset Allocation, Investment Policy Review and ERM framework	Q4	Completed by May 2021

SUBMITTED BY:
Chair: Gary Kalbach
Executive Sponsor: Iftikhar Hussain