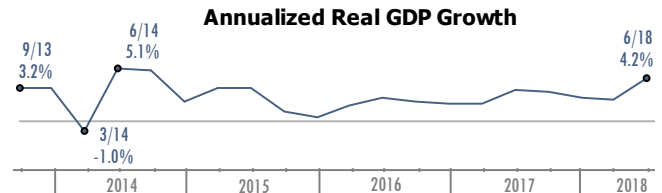


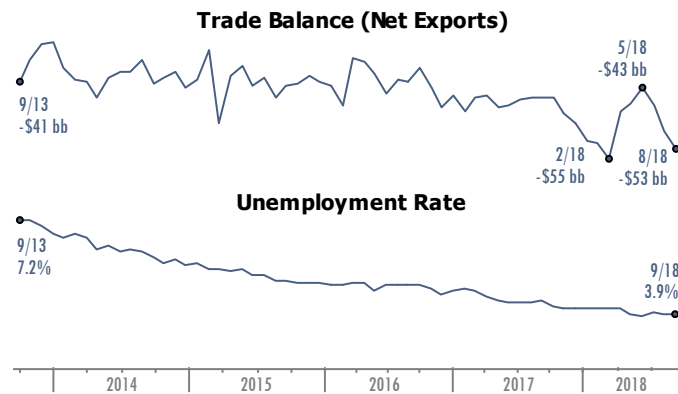
MARKET Recap

The US Economy: “Leading the Duck”

Economic growth surged to a 4.2% annualized pace in the second quarter, rebounding from a slack first quarter. Growth was led by personal consumption expenditures for both goods and services, which contributed 2.6% to the growth rate (consumption of durable goods alone added 0.6%). Set against that, private inventory investment contracted.



Volatility due to fluctuating trade policy began to impact economic indicators in earnest, somewhat inflating the headline growth rate. Exports surged going into the second quarter, driving up the trade balance (that is, making it less negative), and adding 1.2% to Q2 GDP. It was widely viewed as a temporary effect, as merchants accelerated deliveries to get ahead of retaliatory tariffs. July data bore out that assumption, as exports fell \$2.1 billion from June levels. Civilian aircraft and soybeans, the two largest US exports to China, led the way. The trade balance declined again in August, arriving back at roughly pre-surge trend levels. Adjusting for trade policy, growth looks steady at about 3%.



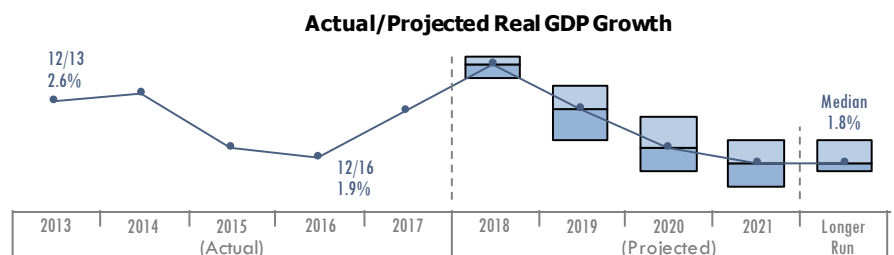
That growth rate prompted laudatory comments from many sources. Ataman Ozyildirim, Director of Business Cycles and Growth Research at The Conference Board, noted that “The leading indicators are consistent with a solid growth scenario in the second half of 2018 and at this stage of a maturing business cycle in the US, it doesn’t get much better than this.” September’s release was indeed bullish, portending continued robust economic performance for the balance of 2018.

After that, the picture becomes murky. The Federal Open Market Committee announced its third rate hike for 2018 on September 27th. Shortly afterwards, Chairman Powell noted in a speech at the NABE annual meeting that “This historically rare pairing of steady, low inflation and very low unemployment is a testament to the fact we remain in extraordinary times.” He went on to explore the relationship between employment and inflation, concluding as economists tend to conclude, that the outlook for inflation is far from certain. Participants in the ISM’s manufacturing and non-manufacturing surveys increasingly cite tight labor markets as an issue for their businesses, particularly where moderate-to-high skill is required. Traditional measures of inflation like the Consumer Price Index or the PCE Price Index are lagging economic indicators. That limits their usefulness for setting policy, requiring the Fed to shoot ahead of the duck.

Press conference materials following the September meeting reveal a Fed that is concerned about inflation, justifying an outlook for about 3 more hikes in 2018-2019. Key policymakers project an expectation for steady low unemployment and inflation near the 2% target. The variable they are bearish on is economic growth, with every survey participant projecting lower growth for the next several years and for the long run. This stands in contrast to CBO and Administration projections of steady growth, which the Fed appears prepared to cede in order to keep inflation in check.

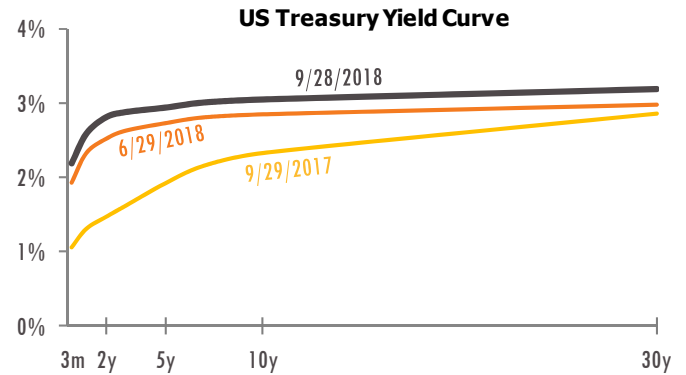
9/18 Survey of Fed Board Members & Bank Presidents

	Median					Range				
	2018	2019	2020	2021	Longer Run	2018	2019	2020	2021	Longer Run
Change in Real GDP	3.1	2.5	2.0	1.8	1.8	2.9-3.2	2.1-2.8	1.7-2.4	1.5-2.1	1.7-2.1
Unemployment	3.7	3.5	3.5	3.7	4.5	3.7-3.8	3.4-3.8	3.3-4.0	3.4-4.2	4.0-4.6
Core PCE Inflation	2.0	2.1	2.1	2.1	n/a	1.9-2.0	2.0-2.3	2.0-2.2	2.0-2.3	n/a
Fed Funds Rate	2.4	3.1	3.4	3.4	3.0	2.1-2.4	2.1-3.6	2.1-3.9	2.1-4.1	2.5-3.5



The US Bond Market

Despite trade wars and an FOMC rate hike, it was a smooth third quarter for US Treasuries and, more broadly, the US bond market. Rates increased at the front end of the curve, with the 2-year key rate leading the way as it climbed almost 30 basis points to end the quarter at 2.81% - exactly where the 7-year rate began the quarter. As rates rose, the yield curve flattened initially. The 2-year/10-year spread narrowed to around 21 basis points before widening back out to 34 bps in the second half of September. Coinciding with the reporting of foreign holdings of US Treasury securities, the 10-year note yield once again broke through 3%, after being bound to a range of 2.8% to 3.0% since May. The report showed a small, and possibly insignificant, decrease in US Treasuries held by the People's Bank of China (PBOC). However, investors are sensitive to the possibility of tariff tensions decreasing demand at the same time the Treasury is increasing supply.



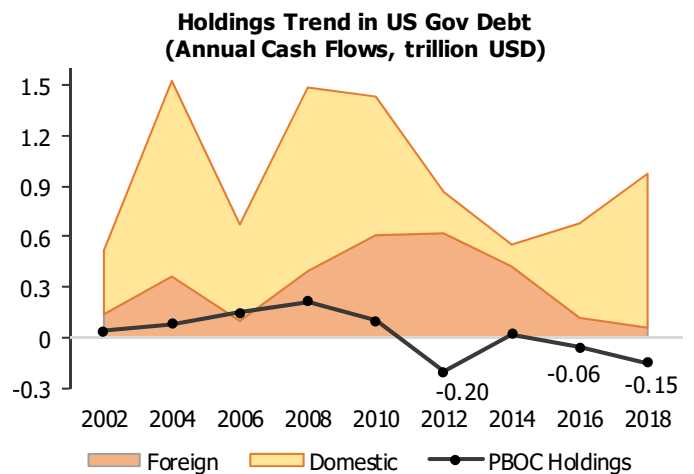
US Bond Index Returns	
Bimbrg Barclays	3Q18
Aggregate	0.02%
Interm. Gov't	-0.11%
Long Gov't	-2.82%
TIPS	-0.82%
Municipal	-0.15%
Interm. Credit	0.73%
Long Credit	1.26%
High Yield	2.40%
MBS	-0.12%

The Treasury issued \$1.079 trillion in bonds, T-bills and notes in August - the highest since 2008. The department has also announced a new 2-month bill starting in October, and is considering adding a new 5-year TIPS to the auction calendar. US debt issuance is projected to rise further to finance a widening budget gap agitated by tax cuts and spending increases.

There exists a looming threat of China off-loading its \$1.2 trillion in US Treasuries, not to mention Agency debt, corporate bonds, equities, etc. These are big numbers with the potential for a big impact. A 2012 paper published by the Federal Reserve estimates that a \$100 billion flow into US Treasuries would lower the 5-year yield by 40-60 bps in the short term and 20 bps in the long run (Beltran et. al). This might seem to indicate China has the power to inflate US rates by several percentage points, but the authors caveat re-allocation of reserves to other sovereign debt would import an offsetting effect through private sector re-balancing. So, if China did sell US Treasuries in response to tariffs, the impact might be

limited to the short term and would have to be performed quickly to have a sizable impact. Recently, we have already seen China selling US Treasuries without much ill effect. August 2015 reserves of \$1.27tr shrank to \$1.05tr by November 2016. Of all the tools China has for reprisal, selling US Treasuries would be one of the less efficient and more costly options.

High yield spreads have been range-bound within roughly a 3.2% to 3.8% spread over US Treasuries this year. While the second quarter closed near the high end of that range, the third quarter closed at the bottom (ICE BAML HY Master II OAS). Default rates are decreasing, expected to decline to 2.1% by year-end from 4% in the first quarter. Debt servicing costs have also fallen. Issuance in this quarter has been the lowest in the last two years, at \$330.4 billion. The S&P/Experian Consumer Credit Default Composite Index, which offers a comprehensive measure of changes in consumer credit defaults also suggests that defaults have been steady, rising by just 1 basis point over the last quarter. While the Auto Default Index has risen by 4 bps, the Bankcard Default index declined by 19 bps since the last quarter. In contrast with US Treasuries, these factors point to higher demand and lower supply for the corporate bond market.



On the topic of potential defaults, Puerto Rico general obligation bonds picked up positive momentum in August, appreciating 33% in price. Investment funds holding \$1.9 billion in general obligation bonds saw an opportunity to negotiate a restructuring after deals were reached on power utility and sales-tax authority debt. These funds split off from a group of investors that remain locked in a legal battle with the Commonwealth.

Post-financial-crisis, the market has pushed investors to reach for yield, stretching valuations and adding to the fragility of global financial markets. As we compare 2012 to 2018, a flattening of return expectations across the yield curve, credit spreads, and asset classes may allow investors to achieve adequate yield without abnormal risk exposures.

The US Stock Market

US stocks saw broadly positive returns. The S&P 500, the NASDAQ, and the Dow Jones Industrial Average reached record highs over the quarter while volatility trended toward the calmer levels of 2017.

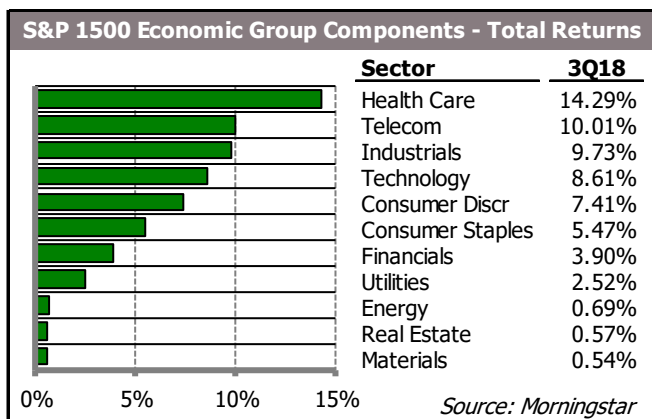
Despite continued concerns over trade tensions, a potential economic slowdown in China, and less accommodative central bank policies, quarterly results reflected increasing investor optimism about US stocks largely driven by the positive outlook for corporate profits and improving economic data. However, as the quarter ended, outlooks from companies in the S&P 500 were revised down across most sectors with the exception of technology, industrials and real estate (FactSet). Out of the 98 companies issuing outlooks, 74 provided negative guidance, potentially making Q3 the worst quarter for earnings warnings since 1Q 2016. In spite of this, a strong quarter is still predicted, with the S&P 500 expected to produce earnings growth of 21.2% (FactSet).

As geopolitical concerns were largely shrugged off, large-cap stocks led their mid- and small-cap peers. While the tech sector stumbled in September as Facebook and Twitter executives were grilled by the Senate Intelligence Committee on their responses to “foreign influence operations,” the sector’s returns still ended up in middle of the pack. Worry continued over the multi-quarter dominance of the FAANG stocks as market drivers. With the combined market cap of these names representing about 16% of the S&P 500, some see the build-up as portending a period of underperformance. While a handful of tech-related names have been the major drivers of market performance in past quarters, Q3 saw evidence of a broader-based rally as most of the market sectors posted solidly positive returns.

Health care was the top-performing sector for the quarter, with investor concerns over government actions and the associated fallout around the Affordable Care Act seeming to abate. Even though oil prices rose in Q3, energy ended the period as one of the worst-performing parts of the stock market. Volatility in the sector was driven by the approaching US deadline for allies to stop using Iranian oil, trade friction, and inventory and supply concerns. In September, a US Energy Department release showed a rise in fuel stockpiles due to weaker demand. With American oil production increasing, investors worried that supply-side discipline would evaporate leaving companies chasing profits and driving down prices.

After the quarter closed, the telecom sector was transformed into “Communication Services” by the addition of stocks previously in the technology and consumer discretionary sectors. The new sector incorporates content companies along with those that facilitate communication. This rejiggering is an attempt to better recognize the way the world connects and resulted in high profile names like Facebook, Alphabet (Google), Walt Disney, and Netflix changing sectors. Analysts expect the new sector to be more cyclical than the defensively-positioned telecom sector. Ultimately, the move makes all three impacted sectors more concentrated which will likely increase their volatility. Facebook and Alphabet currently combine to account for 45% of the market cap of the new communication services sector, while the transferring of names from the consumer discretionary sector increased Amazon’s weight to 32% (Goldman Sachs).

The trend of record-setting stock repurchases continued in Q3, with buybacks this year accounting for the largest share of corporate cash spending in the S&P 500 for the first time in 10 years (Goldman Sachs). Through mid-September, buyback authorizations for all US companies were at \$762 billion with expectations for them to top out above \$1 trillion for the full year. While this trend has consumed much of the headlines, capital spending has increased in 2018 as well. Capex has



Large-cap Stocks	3Q18	Mid-cap Stocks	3Q18
S&P 500	7.71%	S&P Midcap 400	3.86%
Russell 1000	7.42%	Russell Midcap	5.00%
Growth	9.17%	Growth	7.57%
Value	5.70%	Value	3.30%
Broad Markets		Small-cap Stocks	
S&P 1500	7.35%	S&P Smallcap 600	4.71%
Russell 3000	7.12%	Russell 2000	3.58%
Growth	8.88%	Growth	5.52%
Value	5.39%	Value	1.60%

been the dominant use of corporate cash for most of the last 2 decades. For the first half of 2018, capex increased 19% over the same period in 2017 and was more broad-based than 2018 buybacks. Spending on R&D has risen as well, increasing 14% in the first half of 2018 versus the first half of 2017. The year-over-year increases in both capex and R&D are on-trend to be their fastest growth rates in the last 25 and 10 years, respectively (Goldman Sachs).

IPO activity remained strong in Q3. Forty-seven companies went public in the US, up 31% from the same period in 2017. The \$11.9 billion raised represented an increase of 150% from 3Q 2017. On a year-to-date basis, proceeds were at \$50.1 billion from 195 IPOs (EY).

International Markets

Volatility continued during the quarter as geopolitical tensions and oil prices rose. Regionally, developed markets delivered positive returns while EM performance was mixed, depending on where you were invested.

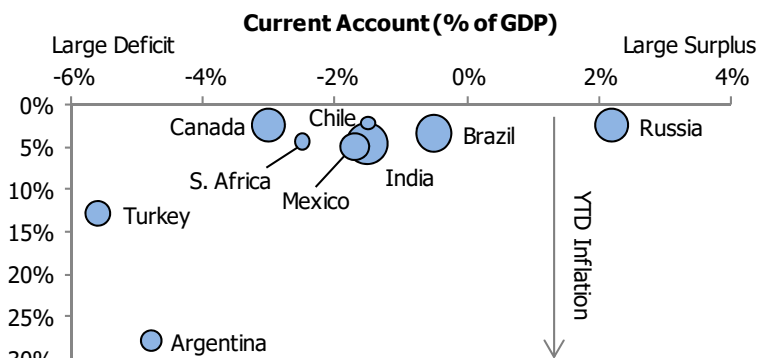
Europe

Over the third quarter, asset valuations were weighed down by concerns stemming from the uncertain political landscape and spillovers from trade fears. Markets were focused on the political situation in Italy, European exposure to the Turkish crisis and trade tensions with the US.

Growth across the Eurozone was confirmed at a disappointing 0.4% for 2Q, with net trade dragging down growth for the second consecutive quarter. However, ECB president Mario Draghi provided an upbeat assessment of economic conditions and reaffirmed that monetary policy would remain loose, even as the ECB looks likely to wind up its €2.5 trillion quantitative easing program by December. On the other hand, an acceleration in wage growth to 2.2% across the Eurozone in 2Q stoked fears of an uptick in inflation and a potential rate hike before mid-2019.

Foreign Stock & Bond Indices - Total Returns			
MSCI Broad Indices	3Q18	Barcap Global Indices*	3Q18
MSCI ACWI ex-US	0.71%	Global Aggregate	-0.92%
EAFE (Developed)	1.35%	Pan-Euro	-1.36%
Emerging Markets	-1.09%	Asian-Pacific	-2.76%
		Eurodollar	0.60%
		Euro-Yen	-1.51%
		Other Currencies	4.14%
MSCI Regions			
Europe	0.80%	* <i>Unhedged</i>	
Japan	3.68%		
Pacific ex-Japan	-0.55%		
Latin America	4.77%		

Italy's new populist coalition is facing a conundrum: how to implement its expensive election promises amid Italy's fragile fiscal situation. The Five Star Movement and the Eurosceptic League had vowed to cut taxes and concurrently raise social benefits, at a cost estimated to be more than €100bn. Fears of unsustainable borrowing, amid a lack of fiscal space to deliver the promises, led to multiple sell-offs in Italian sovereigns through the quarter. Yields on the 10-year sovereigns swung wildly through the quarter from 2.48% to 3.24%. The Italian budget, released on September 30th, raised the deficit target to 2.4%, sparking fears of a potential Italian debt crisis and the possibility of an EU exit as Italian leaders clashed with their EU counterparts over the sustainability of their public spending program.



On the other hand, German economic activity showed surprising strength, with GDP growth of 0.5% QoQ in 2Q 2018, beating expectations. The economy powered ahead despite fears of a major trade dispute with the US. As the quarter progressed, fears of a breakdown in trade relations with the US due to tariffs were allayed as the US administration and the EU began negotiations in July on a bilateral agreement to reduce tariffs and non-tariff barriers.

Eight years since a fiscal debt crisis forced it to seek a bailout from the IMF and the Eurozone, Greece concluded its final bail-out program with official creditors in 3Q 2018. The total borrowings amounted to around €300bn and were accompanied by stringent austerity measures. The economy is growing again, after years of decline and stagnation. In 2Q 2018, the GDP grew at a moderate pace of 1.8%, signaling stronger macroeconomic fundamentals and growing investments.

Markets in Turkey were rattled by domestic political and policy uncertainties. Turkey, much like Argentina, ran a persistently large budget deficit and used US dollar debt to fund the shortfall. As the US dollar strengthened against EM currencies, these borrowers faced rising pressure in paying back dollar-denominated debt. Subsequently, the Turkish lira collapsed in August, losing 25% of its value as the US threatened to impose sanctions on the economy amidst political tensions. The lira's slide also sparked a sharp selloff in the European banking sector, which had an estimated exposure of over €140 billion to Turkish borrowers according to CreditBenchmark.

Americas

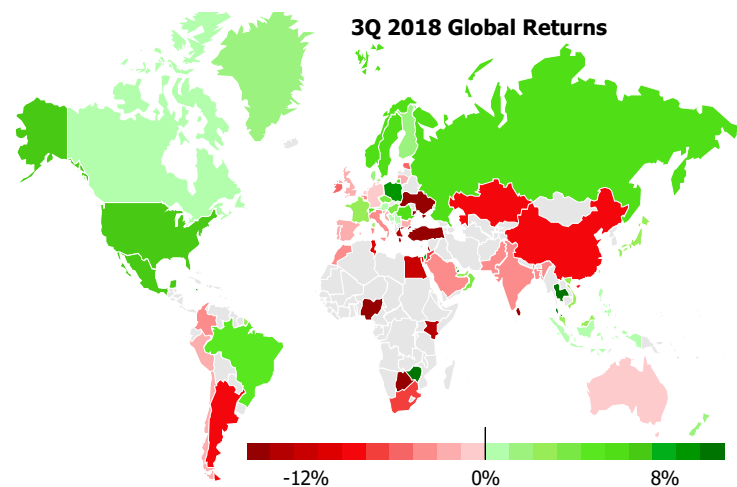
Through the quarter, there were mounting tensions between the US and Canada as negotiations over a replacement to NAFTA intensified. While the US and Mexico were able to come up with an agreeable solution by late August, talks between US and Canadian officials pushed right up to the deadline resulting in a last-minute deal. The new deal, USMCA (or NAFTA 2.0 as many have called it) aims to modernize trade rules in effect from 1994 and also includes a "sunset clause" of 16 years.

Argentinian markets received a reprieve as the government reached a deal with the IMF for intermediate funding. The Argentinian equity index (MERVAL) rallied over 35% through September, as the international body agreed to provide an enhanced bailout package, providing approximately \$50 billion in credit through 2019 – much higher than the \$30 billion expected. The Argentinian central bank also raised rates significantly from 45% to 60% in an effort to shore up the peso, as the currency slumped to a new record low versus the US dollar. Argentina is expected to debut its new monetary policy in October to fight its large current account deficit and rein in high inflation.

Brazilian markets, which had been facing a volatile year, saw the strongest inflow of foreign funds in a year in 3Q, as improving corporate earnings and cheap valuations helped offset the uncertainty around the presidential election in October. The Brazilian equity index, IBOVESPA, was up 5.27% for the quarter while most other EM equity markets continued to show weakness in the face of a stronger US dollar, escalating trade tensions and fears of a slowdown in China.

Asia

In Japan, a revised GDP estimate showed that the economy rebounded in Q2 at a stronger pace than previously reported, fueled by surging non-residential investment. According to the revised data, the economy expanded 3.0% over the previous quarter, up strongly from the preliminary estimate of a 1.9% rise. Corporate earnings and positive business sentiment have helped to propel investment growth. Private consumption accelerated modestly in Q2, but remained weak as a tight labor market has not yet translated into a boost in take home pay. Exports stayed positive in August, mostly due to solid export shipments to China. However, economists believe that the contribution of exports to overall growth will likely diminish in Q3 with rising oil prices applying pressure to the trade balance, which swung to a deficit in July and August.



The Bank of Japan (BoJ) expects the economy will expand between 1.3% and 1.5% in 2018 and sees GDP growth more anemic in 2019 at between 0.7% and 0.9%.

As expected, the BoJ voted 7-2 at its September meeting to hold its monetary policy steady. The BoJ maintained the short-term policy rate to current account balances held by financial institutions at the Bank at -0.1%. The Bank will continue flexible purchases of JGBs at about ¥80 trillion (\$712 billion USD) per year. With respect to asset purchases other than JGBs, the board unanimously decided to purchase exchange-traded funds (ETFs) and Japanese real estate investment trusts at an annual pace of about ¥6 trillion and ¥90 billion, respectively. Similarly, the Bank's purchases of commercial paper and corporate

bonds were kept unchanged at about ¥2.2 trillion and ¥3.2 trillion per year. The BoJ noted the economy continues to expand modestly, propelled by positive business confidence, accommodative financial conditions, and an improving job market.

Despite its positive growth outlook, the BoJ warned that inflationary pressures remain subdued with core inflation well below its 2% target. However, the BoJ believes that inflation will gradually move towards its target in the mid- to long-term thanks to rising inflation expectations and continued economic expansion. The main downside risks, according to the Bank's economic outlook, are the consequences of a planned consumption tax hike in Q3 2019, a disorderly Brexit, rising trade protectionism in the US and other markets, and other geopolitical risks. The Bank expects to continue its quantitative and qualitative monetary easing with a yield curve control framework in order to achieve its inflation target in a stable manner. The board members reiterated that they will keep the ultra-loose stance for an extended period of time, continuing to diverge from that of the Fed and the ECB.

The Chinese economy grew 6.7% in Q2 from a year earlier, down slightly from 6.8% in 1Q 2018. While growth remains above Beijing's target of 6.5% for the year, signs of a slowdown have been accumulating in recent months, including weakening investment in factories and infrastructure. Investment in buildings, factories, and other fixed assets rose 6.0% in the first half of the year, decelerating slightly from the 6.1% rate in the first five months. Industrial output grew 6% in June from a year earlier, significantly slower than the 6.8% pace in May.

Much of the slowdown has been attributed to Beijing's initiative to reduce risky borrowing and lending, which has made credit harder to come by for some businesses. However, with the ongoing trade wars with the US, China's leadership started moving its focus away from risk control and instead supported expansion. The central government approved

subway and other rail projects in urban areas that it had halted because of debt concerns. Commercial banks have also stepped up lending over the past month to spur business activity. Even so, the trade fight is still expected to be a drag on the economy. China and the US have already applied tariffs on \$50 billion of each other's goods, and the Trump administration announced new tariffs of around 10% on another \$200 billion. The new tariffs were bound to complicate talks with top Chinese officials, which had been scheduled in Washington for the end of September but were canceled.

Focus On: Securities Lending – Old Dog, New Tricks

Through a decade of surging prices for risky assets, investors have had a hard time generating incremental return for their portfolios. Index funds struggle to match benchmark returns while still leaving some room for manager profit, as headline fees race to zero. Active managers face increasingly efficient and crowded markets, reducing potential returns from traditional alpha sources. Corporate pension plan sponsors struggle with maintaining an edge over liabilities while simultaneously de-risking, facing headwinds due to operating costs and downward credit migration. Sometimes, a small return premium can make a big difference.

It should be no surprise that, as a result, investors are increasingly exploring additional ways to enhance returns and limit expenses. Securities lending seeks to achieve just that – for long-term investors with desirable assets, it is a means to be paid for providing liquidity to the markets. It has often been described as risk-free return; of course, that is not the case. Remember the financial crisis of 2008-2009? Securities lending, specifically, was severely impacted. Losses on securities-lending collateral led many investors to exit the space, either temporarily or for an extended period.

Ten years later, it is time to take a fresh look at securities lending. Much has changed since the global financial crisis, and more changes are around the corner for ERISA-governed plans and other regulated investors.

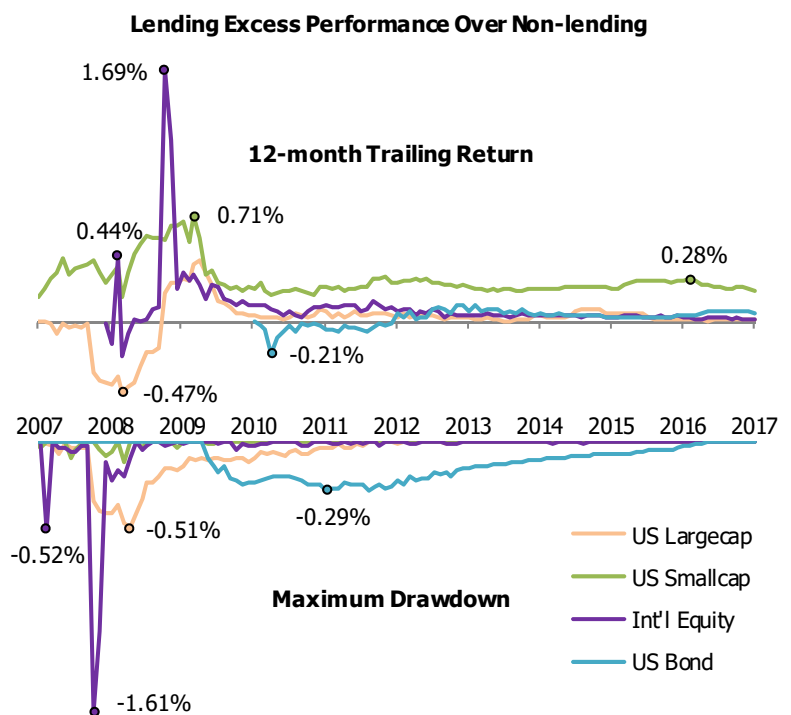
Old-School Lending

Securities lending allows an investor to generate income by temporarily loaning stocks, bonds, or other securities while retaining the return stream and risk of those securities. The lender can recall the securities, either to sell them or simply to cancel the loan. As a protection against failure to deliver the securities, the borrower must post collateral assets in excess of 100% of the value of the borrowed securities.

Traditionally, the collateral has been cash. This makes sense in a situation where the borrower wants to sell the security rather than hold it. The classic example is a borrower, a hedge fund for example, intending to short-sell the security.

Borrowers pay for the privilege of course, but in a traditional arrangement the flow of funds is tricky. Rather than pay a direct fee to the lender, the borrower allows the lender to control and invest the cash collateral. The return stream is typically high enough for the lender to pay a portion of it back to the borrower (often referred to as "short interest" or a "lending rebate"). The spread between the return on the collateral and the rebate to the borrower is the lender's compensation – after paying any third-party agents or custodians to run the program.

In traditional cash-collateral arrangements, it is the investment of collateral that generates the risk as well as the returns for the lender. To maximize their share of the lending return stream and to increase the percentage of their portfolio securities that could be profitably loaned, historically, many lenders invested in increasingly risky strategies. This came to a screeching halt in 2008, as investments that were previously considered bullet-proof became illiquid and impaired, leading to losses for a multitude of lending investors.

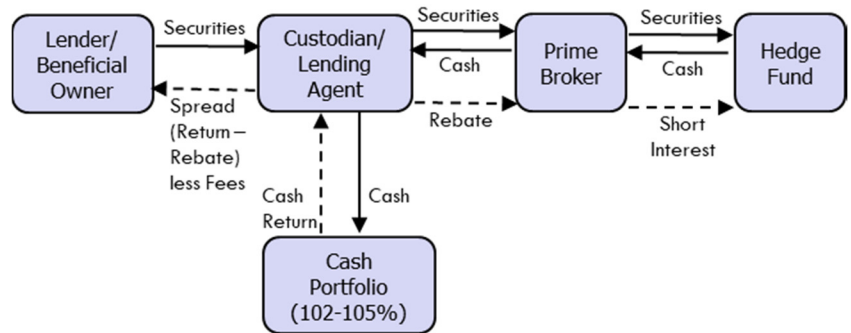


As a result, many investors terminated their securities lending programs after the credit crisis. Others responded by maintaining very conservative collateral investment strategies which generated little incremental income. Although for some, the relatively low return stream simply did not justify the hassle of running a securities lending program.

Corporate pension plans, in particular, have been notably absent from the lending market, not just due to conservative collateral. At any given time, changing investor preferences or market events can impact the demand for specific securities, so appetite for shorting securities can vary considerably.

Traditional borrowers demand very high rebates for safer securities (which they are not particularly interested in shorting) and low, or sometimes even negative, rebates for the higher-risk securities they do want to short. Unfortunately (for securities lending programs), high-quality assets like Treasuries and investment grade corporate bonds increasingly dominate corporate pension portfolios.

Typical Cash Collateral Lending Arrangement



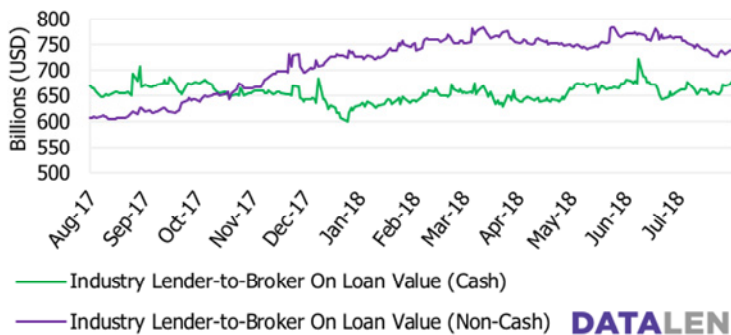
A New Reason to Borrow

The credit crisis gave rise to a number of regulations intending to control the levels of risk undertaken by financial institutions. The Basel Committee on Banking Supervision introduced a Liquidity Coverage Ratio (LCR) requirement, which mandates that banks keep High Quality Liquid Assets (HQLAs) sufficient to withstand a significant market shock on their balance sheets.

This regulation gave rise to a very different type of borrower: regulated financial institutions interested in high-quality assets to meet regulatory obligations. Perhaps no surprise, with a new purpose for borrowing comes a new collateral structure to maximize the impact of the transaction. Rather than borrow risky assets while pledging cash or other "good" assets for collateral, financial institution borrowers prefer to borrow good assets while taking assets of lesser quality off their balance sheets by pledging them as collateral.

According to DataLend, US securities on loan against non-cash collateral crossed over the value of cash-collateralized securities in October 2017, recently composing 53% of the market. In contrast, approximately 85% of non-US assets on loan are booked using non-cash collateral. Much of the difference is due to the regulatory environment in the US, in particular for two major pools of lendable assets.

Cash vs. Non-Cash Collateral, U.S. Securities



Lending by mutual funds is regulated by the SEC's customer protection rule 15c3-3, which limits not only the amount of securities which can be loaned but also limits the types of acceptable collateral to cash, an irrevocable letter of credit issued by a bank, or securities issued or guaranteed by the US government. Lending by ERISA plans (for either separate accounts or commingled vehicles such as collective investment trusts) was similarly limited until 2006 when the DOL issued PTE 2006-16. This rule expanded available collateral to include certain mortgage-backed securities and foreign debt, but (importantly) not equities or high yield debt.

The requirement for high-quality collateral defeats the primary goal of the new financial institution borrowers, and, consequently, limits the value of securities lending programs for mutual funds and ERISA plans. The problem is more acute for corporate pension plans, which have tended to invest in higher-quality assets due to de-risking, leaving them holding highly liquid treasuries against illiquid, traditional, life annuity liabilities. Changes may be afoot, however. The SEC is reviewing a proposal to widen acceptable forms of collateral for mutual funds to include equities, and historically the Department of Labor has tended to follow their lead. If the latter occurs, plan fiduciaries will be tasked with considering and evaluating a new form of risk.

From Credit Risk to Counterparty Risk

Both cash-collateralized and non-cash collateralized forms of securities lending have embedded risks to manage, but they are very different. For old-school cash collateral, the main risk is negative performance on the collateral assets, usually due to credit events. For non-cash collateral, the lender is not exposed to the performance of the collateral assets, as long as the borrower is solvent. Should the borrower default and fail to return the loaned securities, there is a greater chance that the collateral will be insufficient to cover the loss because it is a risky asset as well.

Most investors engage in lending through custody banks or other financial institutions that serve as lending agents. They manage the program and work with intermediaries (such as prime brokers) that match borrowers with lenders. For non-cash collateral, lending agents are principally responsible for evaluating counter-party risk posed by borrowers, and usually provide indemnification against borrower default. If the value of collateral declines, the lending agent makes up the lost value. So for lenders, the credit quality of the lending agent is critical, since the lending agent provides the last line of defense against losses.

It is tempting to think that this system is very safe. In order to generate a loss, a chain of events must occur. First, the borrower must default (fail to return a recalled security). Second, the risky collateral must be insufficient to cover the lender's loss. Finally, the lending agent must also fail to meet its obligation under the indemnification clause of the lending contract. How likely is that? In isolation not very; but systemic events are another matter, as evidenced by the collapse of giant lending agents Lehman and Bear Stearns. Because a single security may be borrowed and lent multiple times over, one fault in this chain can result in many failures to deliver.

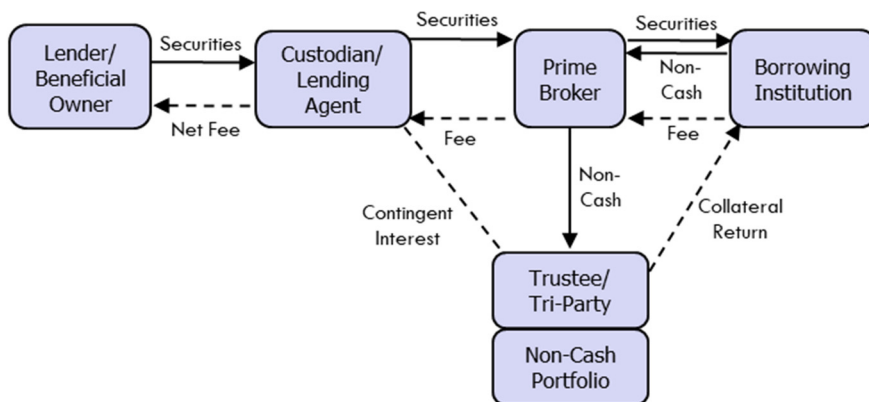
We know from the last credit crisis that default risk can be highly correlated across markets during periods of elevated stress. Market events which generate a "run" on assets in banks and other institutions could trigger the borrower default. Forced to choose between meeting regulatory obligations to remain capitalized and taking care of lenders, it is not hard to guess which option a borrowing financial institution would choose. However, that is also the very environment that would likely cause a major correction in stock and lower-quality fixed income markets, impairing collateral assets and simultaneously placing stress on financial institutions that are serving as lending agents. Multiple layers of protection are not effective if they are exposed to the same risks.

Getting Ready for the Change

For non-regulated investors like endowments or treasury pools, there are decisions around non-cash collateralized securities lending that can be made today. A proper evaluation of risk begins with a review of the policies and framework already in place for your securities lending program. For regulated investors, a wave of non-cash collateral is coming. Building a knowledge base now on the terms and players in the non-cash collateralized space will better position you to evaluate arrangements, whether they be for the lending of plan assets from separate accounts, or by the collective trusts and other commingled vehicles in which your programs invest. Even mutual funds should be evaluated.

Key to managing these types of risk is 1) understanding them, 2) establishing reports and controls to monitor the risk, and 3) having contingency plans in place in case of trouble. For example, being prepared to act at the first sign of a systemic credit crisis will be critical, as the first lenders to the door will be the most likely to avoid losses. In this environment, traditional committee decision-making is simply too slow. For fiduciaries with large portfolios on loan, delegating authority to a Chief Investment Officer so lending could be suspended more quickly would seem prudent. For investors in commingled funds where the manager controls the lending policy, evaluating lending contingency plans should become a standard part of any operational due diligence review.

Typical Non-Cash Collateral Lending Arrangement



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