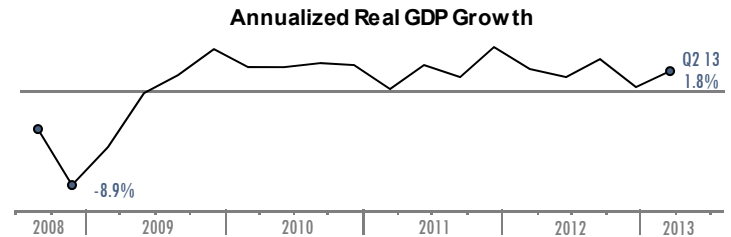


# MARKET Recap

## The Economy: “Revenge of the Interest Rate”

Economic growth ticked along at a 1.8% pace in the first quarter. The back-story is familiar, personal consumption expenditures and residential fixed investment drove the increase in GDP, which was partially offset by declines in government spending. The Commerce Department’s final estimate was revised downward from 2.4% due to lower than expected personal consumption expenditures, which dipped in March. The downturn proved temporary; personal income bounced back in April, as did spending in May.



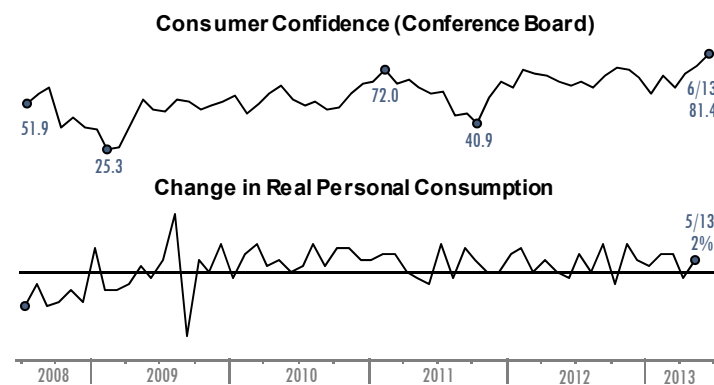
Consumers had reasons to feel good about the economy – their incomes are up, and prices on a broad range of goods and services are stable. Indeed, consumer confidence ended the second quarter at levels not seen since before the credit crisis. Other leading and concurrent indicators were largely positive as well. Against this data, Chairman Bernanke commented during testimony before Congress on May 22 that a tapering of the quantitative easing program could begin later in 2013 if supported by the data. The bond and gold markets saw it coming, but global stock markets were blind-sided.

From the May 21 peak, the S&P 500 fell 5.6%, and the EAFE index fell 8.6% in dollar terms. The speed and magnitude of the market reaction clearly caught policymakers off guard, prompting a stream of comments from Fed governors (Stein, Lockhart, Fisher, Bullard, Kocherlakota, Dudley) in the final week of June to shore up the markets. William Dudley, president of the New York branch, offered four points for emphasis in a speech on June 27:

- Fed actions will be driven by progress toward policy goals, not a specific timetable;
- Even as the Fed “tapers” the QE program, it would be adding monetary accommodation, not tightening;
- The Fed is likely to keep the assets acquired through QE on its balance sheet for a long time;
- A rise in short-term interest rates is very likely to be a long way off.

Publicly critiquing the action of free markets is an unusual step for the Fed, but the motivation is simple: the economy of United States cannot afford to deal with higher interest rates at this time. Only the corporate balance sheet is in any way prepared; household and government finances are too weak. For further discussion refer to last quarter’s Focus article, “Leverage, Leverage (Almost) Everywhere”.

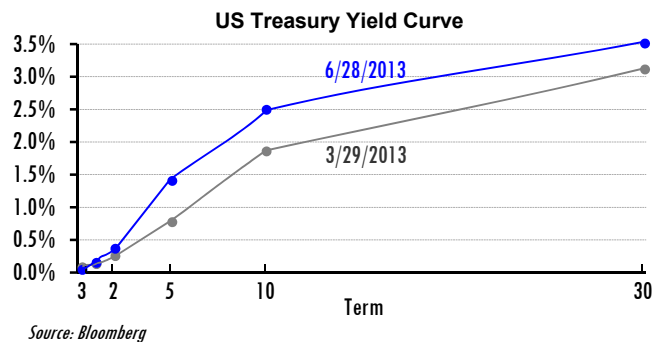
That the value of bonds would fall as interest rates rise is hardly surprising, but the drop in equities left some scratching their heads. Recall that the purpose of programs like ZIRP and QE was two-fold – to stimulate economic activity, and to reflate the value of assets which were devastated in the 2007-2008 sell-off. Equities are worth, in theory, the present value of their future earnings. Even if the picture for future earnings is rosy, an increase in the discount rate deflates their present value. Exactly how much intrinsic “duration”, or interest rate sensitivity, is embedded in stocks is the subject of much inconclusive study; but it is not shocking that the reversal of policies specifically intended to inflate the value of equities would cause their markets to sell off.



What are the lessons of last quarter? First, the Fed is going to move more slowly than the pace predicted by the bond market sell-off – they simply must, and they are making a clear statement to that effect. Second, as the Fed slowly restores monetary normalcy, it is not just an inflated bond market which will suffer.

## The US Bond Market

If Q1 caused the market to wonder if the bond landscape had finally changed, Q2 confirmed it for some. After years of easy credit and associated high returns in the bond market, investors pulled back from the asset class after broadly interpreting Fed comments to mean that the quantitative easing party was over. Returns for the quarter were negative across all sectors but the riskiest high-yield securities. According to Lipper, taxable bond mutual funds and exchange-traded funds saw net withdrawals totaling \$8.6 billion in the week ended June 26 and \$23.7 billion for the four-week period, moves that many analysts characterized as driven more by fear than rational analysis. The latter amount was the biggest four-week divestiture since October 2008, the height of the global financial crisis. The sell-off began on May 10 and gained traction when Fed sources did not step forward to calm markets. Bernanke exacerbated the situation with his May 22 comments to Congress saying, "We could in the next few meetings take a step down in our pace of purchases," while the release of the minutes



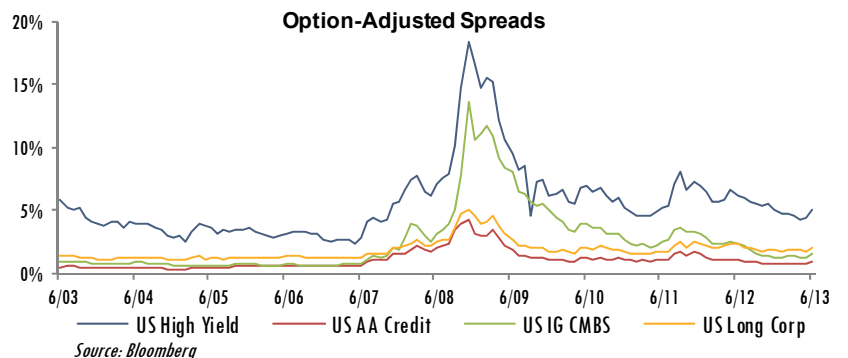
from the May meeting suggested that some Fed governors were prepared to start tapering off bond purchases as soon as their next meeting in June.

Market fears drove yields up, especially on the long end of the Treasury curve. And even though Treasuries began to stabilize as Fed officials used public appearances to calm the market, by June 28 the yield curve had steepened and shifted higher. At quarter-end the spread between the 2-year and 10-year notes was at 213 basis points, up from 161 basis points at the end of March. The 10-year Treasury yield finished the quarter at 2.49%, after peaking at 2.67% in the third week of June. The

Q2 close represented an increase of 64 basis points, the largest quarterly yield rise since Q4 of 2010. Fed fund futures implied three 0.25% rate hikes by the end of 2015, a reaction Fed Governor Jerome Powell characterized as "out of keeping" with his assessment of the Fed's intentions given its forecasts.

The sell-off in bonds seemed to indicate that investors may have accumulated more risk in their fixed income portfolios than intended, as the sustained low interest rate environment drove them to seek yield from riskier asset classes like credit, MBS and, of course, high-yield. The losses in these sectors over the quarter seemed a testament to the skittishness of investors. By June credit spreads responded, reversing their long-term tightening trend. However, the move was relatively minor. Spreads on investment-grade credit, CMBS, and high yield closed the quarter virtually at their 10-year median. Long corporate spreads closed only 30 basis points wider than their 10-year median.

Not surprisingly, anticipation of a higher yield environment drove up mortgage rates. According to Freddie Mac, the average rate for the 30-year fixed-rate mortgage rose to 4.46% in the final week of the quarter, the highest rate since July 2011, and up from 3.93% the prior week. The gain of 53 basis points was the largest weekly change since 1987. One year ago, the 30-year rate averaged 3.66%. Meanwhile, the 15-year fixed-rate mortgage average also jumped in the last week of the quarter, rising to 3.50% from 3.04% in the prior week. Conventional wisdom suggests that rising rates push potential home-buyers out of the market. However, with rates still at historically low levels, it seems possible that the most recent increase will send potential buyers back in before rates climb even further.



## The US Stock Market

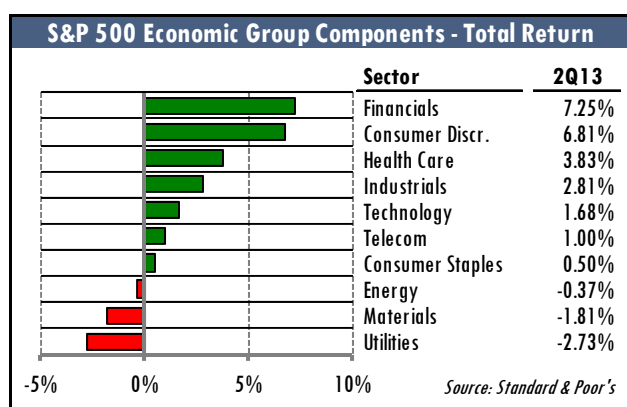
During the second quarter, equity market performance was largely tied to the Federal Reserve's messaging of future policy moves. A dovish Fed tone in late April caused a US stock melt-up rally through late May of over 8%. Market jitters then returned after Bernanke inferred a potential winding down of QE3. In mid-June, investor concerns mushroomed and major US stock indices fell after FOMC comments again indicated a more aggressive exit strategy. While domestic equity markets remained positive for Q2, the Fed's management of future policy decisions is clearly a major catalyst for upcoming market action.

Bond Indices - Total Returns	
	2Q13
BarCap Aggregate	-2.32%
BarCap Inter. Gov't	-1.37%
BarCap Long Gov't	-5.71%
BarCap Inter. Credit	-2.30%
BarCap Long Credit	-6.33%
BarCap High Yield	-1.44%

Interesting return divergences occurred this quarter when comparing growth and value stocks depending on market capitalization. Broadly speaking, value outperformed growth by about 100 basis points in the Russell 3000. As a capitalization-weighted index, the majority of performance is driven by largecap holdings, where value outperformed growth by 114 basis points. Poor quarterly performance of Russell 1000 Growth technology heavyweights IBM, Oracle and Qualcomm, along with continuing woes at Apple, detracted, whereas Russell 1000 Value exposures to hardware bright spots Cisco and Intel helped. Cisco gained 17.3% after the company announced solid earnings and guided up for the year.

Stock Indices - Total Returns			
Largecap Stocks	2Q13	Midcap Stocks	2Q13
S&P 500	2.91%	S&P Midcap 400	1.00%
Russell 1000	2.65%	Russell Midcap	2.21%
Growth	2.06%	Growth	2.87%
Value	3.20%	Value	1.65%
Broad Markets		Smallcap Stocks	
Russell 3000	2.69%	S&P Smallcap 600	3.92%
Growth	2.19%	Russell 2000	3.08%
Value	3.14%	Growth	3.74%
		Value	2.47%

Contrary to the largecap space, midcap growth outperformed value by 122 basis points. Deviation was driven by the Russell Midcap Value's higher exposure to oil and gas refiners, which gave back some stellar gains the industry enjoyed over the previous year. Smallcap growth also outperformed due to its greater weight towards consumer sectors. High consumer confidence and robust spending trends over the past few years have been a tailwind for the consumer discretionary and staples sectors.



While only average performers last quarter, the financial and consumer discretionary sectors were the top sectors in the S&P 500 for Q2. Healthcare, the best-performing sector during Q1 and YTD for 2013, also contributed to positive performance during this quarter. Performance in financials was driven by strong returns from investment banks such as JP Morgan and Morgan Stanley, consumer finance companies responsible for personal loans, and regional banks, all despite poor performance of REITs due to rising interest rates. The consumer discretionary sector benefitted from performance in department stores, all areas of the automotive industry, and home improvement retailers, specifically due to the housing recovery. In the healthcare sector, the managed care industry was the largest contributor of performance.

Utilities, materials, and energy were the biggest S&P 500 laggards. Utilities, the second best-performing sector in Q1, experienced a large sell-off during the last two months of the quarter driven lower by gas utilities as natural gas price increases shifted demand to coal. Utility stock prices are also negatively correlated to interest rates, which weighed on performance. The metals and mining industry continued to detract from performance in the materials sector as commodity values fell. Prices for industrial metals such as aluminum and steel were hurt by slowing demand and rising inventory levels, while prices for precious metals were negatively affected by activity of the Federal Reserve. Also, the energy sector suffered from significant negative performance of oil and gas refineries after an April proposal by the EPA for a reduction of sulfur content in gasoline triggered investor concerns of added refining costs.

Of the companies in the S&P 500, 66% reported earnings over analyst estimates, slightly above the long-term average and slightly below the average for the prior four quarters. Forty-six percent beat revenue expectations, but this was short of the average for the last four quarters and well below the long-term average of 62% (Thomson Reuters). Over the quarter, domestic equity funds saw net outflows each month, totaling \$10.5 billion through the third week in June (Investment Company Institute). Interestingly enough, taxable bond fund flows were net positive for both April and May indicating that the future tapering of the Federal Reserve may have initially been more of a concern to equity investors.

## Overseas Markets

Global equity markets struggled during Q2, with sharply negative performance for emerging markets stocks. Concerns over slowing growth continue to plague China as a surge in credit failed to stimulate growth and interbank borrowing costs jumped to the highest level since 2006. China's economic data has surprised to the downside this year, causing some analysts to believe that the country will miss its 7.5% growth target for 2013. Coming in at 1% in May, exports posted their lowest annual growth rate in nearly a year. Many analysts believe that this number is a more realistic picture of trade as the government has attempted to crack down on currency speculation disguised as export trades used to skirt capital controls. The speculation trade had created double-digit export growth numbers in prior periods even as world growth has remained anemic at best.

Authorities have also vowed to boost credit support for industries the government has deemed as strategic and those that are labor-intensive. Within the banking system, the seven-day repurchase rate, a gauge of interbank funding availability,

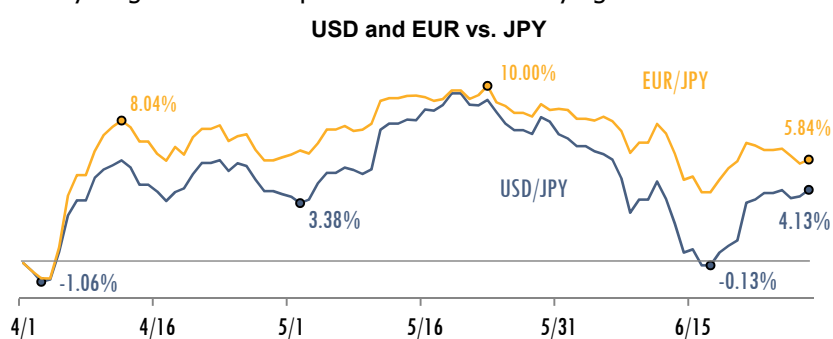
briefly rose to 13.4% near the end of the quarter, the highest in 10 years as slowing economic growth, a crackdown on illegal capital inflows and efforts to rein in shadow banking contributed to a surge in borrowing costs. Reduced bank liquidity in China's onshore loan market is pushing up loan pricing as the country's banks try to curb lending. Some Chinese state-owned and commercial banks have already asked borrowers to increase the interest margins of existing loans or renegotiate the margins on deals in the pipeline after the People's Bank of China said that the onus was on lenders to better-manage their balance sheets. The policy change could push more Chinese companies into borrowing in the off-shore loan market to access cheaper and more readily available funds.

Brazil's central bank cut its growth forecast during the quarter to 2.7%, down from 3.1%, and said the outlook for inflation, which has been running above target, is unfavorable. Inflation is expected to be over 6% this year, up from a March forecast of 5.7%. Annual inflation through mid-June reached 6.7%, the fastest pace since November 2011, even after officials cut energy tariffs and raised the benchmark interest rate earlier this year to cool prices. Brazil's central bank targets annual inflation at 4.5%, plus or minus 2%. Government leadership is trying to steer Brazil's \$2.5 trillion economy out of its second-worst economic performance in the last 14 years without further stoking inflation.

Street protests that started as a result of an increase in public transportation prices have hampered government efforts. The protests grew to include issues surrounding inadequate social services and high tax rates (around 40%) that return little to the average Brazilian. Estimates are that a million people took to the street to press authorities for less corruption, lower prices and better public services. President Rousseff has vowed to improve health care, public education and transportation, while maintaining fiscal austerity.

In Turkey, what started out as a peaceful sit-in to protest the demolition of a park in central Istanbul grew into a much larger issue exposing deep divisions between the religious, largely conservative masses who support Prime Minister Erdogan and the mostly secular middle class. The police crackdown on the park demonstrators set off wider unrest and the protests expanded to include issues with freedom of speech and draconian government. Calls have come for Erdogan to step down. However, having received a mandate of nearly 50% of the vote in the last general elections in 2011, he remains in a position of power. The protests have coincided with a slowing economy which has led many to believe that Erdogan's staying power will rest more with the state of the Turkish economy than anti-government demonstrations.

At his first meeting as the Governor of the Bank of Japan, Haruhiko Kuroda pledged to fight long-running deflation. The BOJ has vowed to achieve a 2% inflation target within two years through a radical overhaul of policy, with a new base money target and a sharp increase in asset buying. The central bank said it would increase its government bond holdings



at an annual pace of ¥50 trillion (\$530 billion), doubling its holdings in the next two years. The announcement at the start of the quarter drove both the dollar and euro up around 4% versus the yen as the market appeared to be surprised by the aggressive movement of the BOJ to initiate its new program. Japan's bumpy ride over the last few years has hurt its recovery efforts – the effects of the earthquake/tsunami, the nuclear crisis and the need to import fossil fuels have hit Japan's current account hard, moving its balance of trade from a surplus to a deficit. "Abenomics" and its aggressive, accommodative policies has improved Japan's outlook. However, with slow global growth, concerns remain that a race to the bottom in the currency exchange rate markets that might curtail Japan's prospects.

South Korea, the second largest country in the MSCI Emerging Markets Index, weighed on returns as its equity markets fell 10% over the quarter. Investor concerns focused on exports, which typically drive about 60% of GDP. Japan's weaker yen adds pressure to South Korea's exports, since a weaker yen makes Japan's exports cheaper for other nations, directly rivaling South Korea's sizeable electronics and automobile trade. China and the US represent South Korea's top two export partners, consuming 24.4% and 10.1%, respectively, in 2011. China's liquidity crunch and the feared US central bank QE exit have added worries about the future growth of South Korea's exports. With all the concerns and market weakness, South Korea's economy has remained resilient, thanks to government stimulus and central bank monetary loosening. Near the end of Q2, the country raised its 2013 growth forecast to 2.7% from 2.3%.

Foreign Stock & Bond Indices - Total Returns			
MSCI Broad Indices	2Q13	Barcap Global Indices*	2Q13
World Index	0.65%	Global Aggregate	-2.79%
EAFE (Developed)	-0.98%	Pan-Euro	-0.21%
Emerging Markets	-8.08%	Asian-Pacific	-7.06%
		Eurodollar	-1.89%
		Euro-Yen	-5.01%
		Other Currencies	-7.42%
MSCI Regions			
Europe	-0.51%		
Japan	4.40%	*Unhedged	
Pacific ex-Japan	-10.90%		
Latin America	-15.55%		

It was a relatively quiet quarter on the news front in Europe. However, the quarter was not without some drama as Germany, the Eurozone's biggest economy and primary growth engine, showed signs of a slowdown in April based on a preliminary PMI reading, adding to fears that the region will continue to struggle. The composite German PMI fell to a six-month low at 48.8 from 50.6 in March. A reading of less than 50 signals a contraction in private-sector output, Germany's first since November. The German PMI reading has raised fears of a prolonged recession as growth in France, Italy and Spain remained subdued. In the Eurozone as a whole preliminary PMI readings were down. In early May, possibly in response to the PMI news out of Germany, the ECB did deliver a cut in its benchmark interest rate, with ECB President Mario Draghi saying monetary policy has been "extraordinarily accommodative" and reiterating his pledge that the bank stands ready to act further if needed. The ECB's governing council decided to lower its main refinancing rate by 25 basis points to 0.50%, meeting market expectations. The ECB also said it will continue conducting its main refinancing operations until at least July 2014. Eurozone annual inflation fell to 1.2% in April from 1.7% in March. The ECB aims to keep inflation rates around 2% over the medium term. The ECB lowered the interest rate on the marginal lending facility by 50 basis points to encourage bank lending during the economic downturn. Given the current economic climate and lack of clear growth in the Eurozone, it remains unclear as to whether any of these moves will provide the jump-start necessary to accelerate growth.

## Focus On: *Liquidity Traps and Money Market Fund Reform*

If adopted, the SEC Money Market Fund Reform proposals released in June will have significant effects on a needling industry. A floating NAV, redemption gates and withdrawal penalties would meaningfully alter the way investors experience gains and losses in money market products. Feeling the need to proactively address the next time markets are under duress, the SEC is analyzing past market crises and proposing regulations to ensure more stable markets. Liquidity crises have played an integral role in molding financial market regulations. With many lessons learned, the evolution of complex financial markets seems to continually introduce new risks. History provides many examples for study.

### The Great Depression

The Roaring Twenties were an exciting time for Americans, full of economic prosperity, cultural advance and technological innovation. Positive economic influences aligned shortly after the conclusion of World War I. Soldiers returned home ready to spend wartime wages on new products, successive presidents implemented pro-business economic policies and the government increased infrastructure spending. The newly-created Federal Reserve was becoming acclimated with its powers of interest rate targeting and open market operations to manage the money supply. For most of the 1920s, the Fed supported loose policies furthering the economic and credit booms.

Towards the late 1920s, the Fed, concerned with the speculative use of credit, declining loan standards, and outflows of gold reserves to a healthier French economy, implemented tight monetary policies. Along with other deflationary pressures, the massive credit bubble which started a decade earlier began to unravel. At brokerage houses, highly leveraged margin positions were called in, leading to account liquidations and further selling pressure. Consumers began defaulting as the labor market softened, and a broad loss of confidence caused consumers to reduce spending and hoard cash.



Bank failures swelled, fueled by bad loans and the contagion of bank runs. To meet deposit outflows, banks were forced to sell securities into a weak market, leading to losses and potential insolvency. Without deposit insurance, individuals' entire life savings were at risk in accounts they once perceived as safe. Long lines of apprehensive bank depositors became a common site after the Stock Market Crash of 1929. According to the Richmond Federal Reserve, between 1930 and 1933, bank failures averaged 2,300 per year.

To stop bank runs, President Franklin D. Roosevelt declared a "bank holiday" on March 6, 1933, and four days later Congress passed the Emergency Banking Act giving the President power to declare future bank holidays. The act was designed to provide temporary relief to banks during times of market stress until depositor fear subsided. From 1929 to 1933 depositors had lost \$1.4 billion, prompting lawmakers to establish a nationwide depositor insurance program through the Federal Deposit Insurance Corporation (FDIC) in the Banking Act of 1933. FDIC insurance guaranteed bank accounts up to a limit, initially \$2,500, giving depositors confidence in accessing their money during times of market stress. Also included in the bill, the Glass-Steagall Act separated commercial banks and securities firms, significantly limiting commercial bank investment risk. Since banks would receive a federal insurance guarantee, regulators felt it necessary to limit the risks a bank took.

The new regulations radically changed the way depositors selected banks. Prior to FDIC insurance, customers were incentivized to monitor a bank's risk appetite since their deposits were at risk in a bank failure. Upon its passage, FDIC insurance created a "moral hazard" where depositors no longer needed to be concerned with a bank's level of risk and could assess it on the interest rates offered. To compete, banks increased risk in order to provide more attractive returns, and depositors became conditioned to expect higher returns without taking associated risk. And as Glass-Steagall got in the way of greater profits, institutions evolved around the regulations to meet investor demands for risk-free products that provided attractive returns. When new laws enhance returns (FDIC insurance), industries run with them. On the other hand, when rules restrict profits, companies find ways to circumvent them. These principles drove future evolutions of the commercial paper market and money market funds (MMFs).

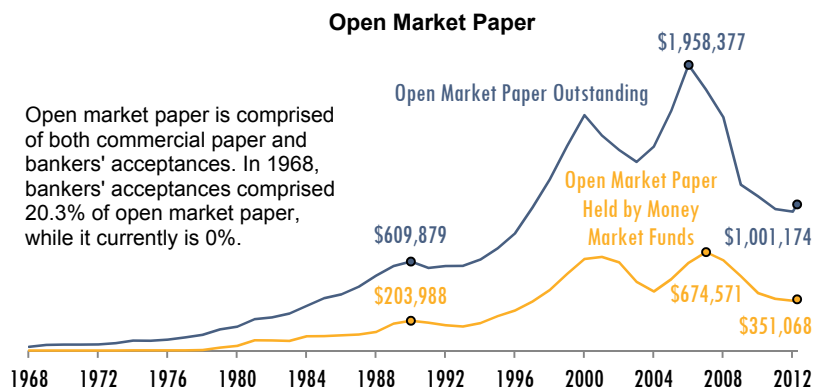
### Commercial Paper Crises

While its roots date back to the 19<sup>th</sup> century, the first major advance in the commercial paper market occurred almost a century later in the mid-1900s. Before that point, issuers of commercial paper, a source of short-term financing for large institutions, had only been non-financial companies operating in industries such as transportation, utilities, textiles, and tobacco. As consumer credit became available on purchases of goods, notably automobiles and televisions, financial institutions began issuing commercial paper to fund the lending. During this time, both issuance and demand grew rapidly, and through several economic recessions, the commercial paper market seemed immune to broad market downturns.

In June of 1970, Penn Central, a railroad company and major issuer of commercial paper, saw its financial health decline rapidly. With the majority of its \$84 million of outstanding paper coming due shortly, concerned debt holders requested government assistance. While initially approved by President Nixon, their appeal was rejected by both Congress and the Federal Reserve leading to a declaration of bankruptcy on June 21. Penn Central's default, amplified by years of a resilient commercial paper market and lack of any prior defaults, resulted in investor panic and a commercial paper liquidity crisis. The primary use of commercial paper is for companies to continuously rollover short-term debt to finance payroll, inventory and receivables, which is more cost-effective than taking bank loans or issuing SEC registered bonds. When fear set in, rapidly falling investor demand left issuers unable to rollover their existing debt, pushing them to the brink of default. In response, the Federal Reserve began encouraging issuers to utilize the discount window, an economic tool used to inject liquidity into markets. In only a few weeks, issuers borrowed \$500 million from the discount window to meet outstanding obligations until investor demand came back to the market. While no reform was ever put in place as a result of the Penn Central bankruptcy, it became standard practice for issuers to develop relationships with commercial banks to establish lines of credit to help reduce rollover risk. Additionally, market participants were reassured that, although the Fed would likely not bail out any individual issuers, there were effective backstops in place to prevent a market collapse.

As the commercial paper market began to normalize in 1971, growth in issuance picked back up with the help of MMFs. The launch of these products indirectly opened up commercial paper to retail investors causing the commercial paper market to expand exponentially from \$32 billion in 1971 to \$452 billion in 1988. During this time, many smaller and lower-quality companies entered the market for the first time due to high investor demand for commercial paper and above average interest rates making bonds and bank loans more costly. This appetite for added risk led to significantly condensed spreads between prime, or high-quality, paper and medium-grade paper until June of 1989. Over the next two years, seven issuers defaulted and panic returned. Of these seven defaults, only one issuer had a prime rating and many were unrated. The effects of the shakeup were significant, but smaller compared to 1970. While a number of sponsors (the investment managers) were forced to bail out their funds, the larger size of the commercial paper market damped investor panic and shortages in liquidity. No immediate government intervention was required from these defaults, although future regulation would follow.

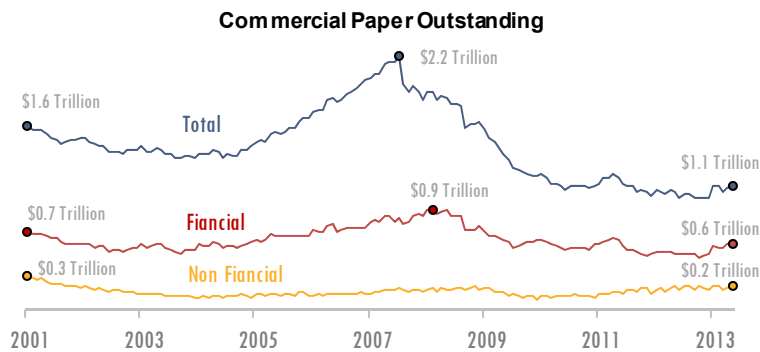
With MMFs owning around 33% of the entire commercial paper market and having a significant exposure to medium-grade and unrated paper, the SEC determined that stricter guidelines were necessary going forward. In 1991, Rule 2a-7 of the Investment Company Act of 1940 was amended by the SEC to require MMFs to abide by new requirements relating to portfolio investment credit quality, diversification and maturity. The amendments restricted the funds from investing more than 5% of assets in medium-grade paper, more than 1% in any one medium-grade issuer and more than 5% in any one prime issuer. Also, the average portfolio maturity requirement was lowered from 120 days to 90 days and funds



were required to include prospectus disclosures stating there is no affiliation with the US government or assurance of capital preservation. The changes quickly drove portfolios away from lower-quality issuers, forcing these companies to leave the commercial paper market and find short-term financing in other money markets. These regulatory standards would stay in place until the aftermath of the 2008 Financial Crisis.

### The 2008 Financial Crisis Reveals Capital Preservation Risks

The 2008 Crisis reminded regulators of the systemic risks that a liquidity crisis, and more specifically, a run on MMFs, poses to the US economy. Bruce Bent Sr., often referred to as the father of the money market fund, launched the Reserve Primary Fund in 1971 and successfully grew it over time. In September 2008, the fund had \$62 billion in assets, just as cracks in the financial system emerged. Investors held tight until the Lehman Brothers' bankruptcy. With holdings of \$785 million in Lehman commercial paper, Mr. Bent's baby experienced extensive capital losses forcing it to "break the buck" and post a negative return. A chain reaction of predictable events followed, and Reserve Primary investors redeemed approximately \$40 billion in two days. Repercussions swiftly spread to the rest of the industry, and \$300 billion in money market fund assets, or 14% of the total market, flowed out the week of September 15, 2008.



The mechanics of a liquidity crisis provide a guide to the investor behavior that overtook the industry. When capital losses at one fund cause a run, investors turn to other products with comparable risk profiles, selling now and asking questions later. Redemptions force funds to liquidate their portfolios, adding pressure to an already stressed market. In September 2008, a

resulting waterfall of MMFs broke below the cherished \$1.00 net asset value (NAV) level. As the commercial paper market froze, companies that depend on the market were taken victim and forced to search elsewhere for loans at considerably higher interest, if they were able to source them at all. The collapse of one institution, Lehman Brothers, illustrated to regulatory authorities the systemic risks within the interconnected financial system. During the crisis, more than 100 MMFs were bailed out by their sponsor in the form of capital infusions.

Without the temporary relief provided by the Treasury and Federal Reserve, the market clearing event would have wiped the slate clean of many shaky financial institutions and investment products. Yet, the implications on main street's savings were too vast to overlook. The Treasury stepped in and guaranteed the \$1.00 NAV on funds, and the Federal Reserve created credit facilities to support short-term debt markets. The backstops calmed investor fears and, along with unprecedented monetary accommodations, led to robust financial market performance since the depths of 2009. Short term: mission accomplished. Long term: concerns abound.

### The Problem with Money Market Funds

In 2010 the SEC released MMF reforms intended to "increase the resilience of MMFs to economic stresses and reduce the risks of runs on the funds." Regulatory reform has proven difficult, because the interests of the very influential money managers in this space are so varied. No one wants another fund default to occur. On the other hand, investors want high yields with no risk. The fund industry worked hard for decades to pry deposits away from banks and insurers, and they are loath to give them back.

Top reforms included mandatory liquidity levels, higher credit quality requirements and shorter maturity limits. Additionally, funds were required to provide more transparency on their portfolios to investors and report a market NAV to the SEC on a monthly basis. While the 2010 reforms were an important step, critical issues remained unaddressed.

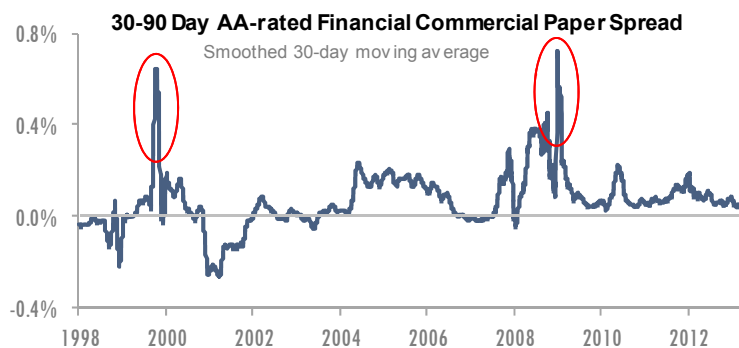
Foremost, many investors view the product as "guaranteed" (notwithstanding a thick slathering of disclosure to the contrary) because of the stable \$1.00 share price. In reality, the fund's NAV (net asset value per share) fluctuates and can dip below \$1.00 without communication to investors. To maintain the illusion of perfect stability, regulators have allowed funds to round up NAV's as low as \$0.995. This has created misplaced expectations among investors who believe (as did bank customers in 1930) that it is impossible to take a loss. Therefore any loss, no matter how small, is perceived as an utter crisis. Every day the share price holds at \$1.00 this misperception is reinforced.

Second, there is a financial incentive to exit a fund quickly because those who withdraw early are likely to get full return of their principal. When an investor redeems at \$1.00 and the actual NAV of the fund is \$0.995 they receive a 0.5% premium, at the expense of remaining shareholders. The transfer of that premium causes the NAV of the fund to fall further, without any market losses. Any time investors can withdraw at "book value" from a fund with sub-par market value, withdrawals will eventually break the fund. Stable value accounts of various kinds address the issue by bringing a large

balance sheet (from a bank or insurance company) into the picture to bear the risk; for MMF's, the only balance sheet present is the investor's. That is the seed crystal that starts a run; no investor wants to be the chump that bears the first loss. Smart money moves out quickly, then the first loss occurs, and the illusion of a guarantee is broken.

Third, as a run picks up steam, managers may be forced to liquidate assets into frozen markets. It is not clear that NAVs were entirely accurate during the credit crisis as markets for the funds' more exotic holdings were locked up. If managers were forced to actually sell those assets, one could expect fire-sale prices and further erosion of NAVs.

Finally, low rates magnify the risk of capital loss. When yields are high, funds have a safety net (albeit thin) to handle ordinary credit events such as downgrades. If losses in the portfolio fall short of the natural yield, the fund will not break the buck and the rounding deficit will quickly be restored by yield. But with yields near 0%, even small problem threatens the stable NAV. Note how spreads between 90-day and 30-day AA-rated financial commercial paper blew out during the unwinding of the Internet Bubble (1999 – 2000) and Credit Crisis (2008 – 2009). Downgrades and defaults are not required – market pricing, combined with withdrawals, can be enough to tank funds with rates at 0%.



In June of 2011, the reemergence of the European debt crisis served as an unhappy reminder to regulators when market jitters over mounting Eurozone country debt had investors fixated on MMFs' exposure to shaky European financial institutions. During a three-week period beginning in mid-June, prime MMFs experienced outflows of approximately \$100 billion as Germany held out from agreeing to emergency funding for the rest of Eurozone countries' troubled banks. In the end, a run on funds was averted after Germany conceded and helped refinance unstable Eurozone banks.

### Another Partial Solution

Money market funds are categorized somewhat informally by the type of issuers they are restricted to, and the amount of risk they can undertake. "Prime" funds are the most risky, in that they invest in the widest range eligible investments in search of the highest yields, including commercial paper issued by financial and non-financial institutions. These distinctions are important under the new reform proposals.

Two new proposals released in June attempt to further address the inherent issues that initiate runs on MMFs. The first institutes a floating NAV for *institutional* municipal and prime funds. These funds would be required to price out to four decimal places and convey gains and losses on a daily basis. Treasury and agency funds would be exempt since they typically experience inflows during times of stress. A floating NAV eliminates the first-mover advantage for withdrawals.

Another outstanding concern, the mismatch between the liquidity of assets and liabilities is partially addressed by the second proposal, which would apply only to municipal and prime funds. Under it, a 2% penalty applies to redemptions if 7-day liquidity of the fund drops below 15%. Additionally, funds would have the ability to put up "gates" halting outflows for up to 30 days, buying time in the hope that market liquidity can be restored.

To say the proposals are a compromise with the industry is an understatement, but it is admirable that the SEC is willing to try given recent and effective lobbying efforts to block stronger reforms. The most obvious flaw is that floating NAVs would apply only to "institutional" funds, a distinction that is not clearly defined. Many funds accept retail and institutional deposits, particularly within 401(k) and other defined contribution plans. That aside, the focus on protecting institutional investors seems misguided – is not the "man on the street" most vulnerable to run risk, and is that not the party to whom the SEC owes its duty? Is it really safe to assume that there is no "smart" money on the retail side, that individuals will stand idly by while their savings are threatened? People standing in the 1930 bank lines were not captains of industry.

With the past as our guide, we expect that another crisis will be required to enact more meaningful reform. Even if the new proposals are adopted, new strategies and (if necessary) products will be developed to evade the intent. The brilliant aspect of the floating NAV is that it shatters the misperception of riskless return, allowing thoughtful investors to make more accurate investment decisions.

### Bellwether Consulting LLC

PO Box 31, Millburn, NJ 07041

[www.bellwetherconsulting.net](http://www.bellwetherconsulting.net)

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