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Preventative Macroprudential Policy: Treasury Debt Management

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Remarks at Bank of England Conference in Honor of William A. Barnett¹

“Financial Services Indices, Liquidity and Economic Activity”

London, England

First, before I begin, I need to offer hearty congratulations to Professor Jane Binner and her colleagues on the editorial board of the special upcoming edition of the *Journal for Financial Stability* – where many of the papers from today’s conference will be published. Their work in organizing spectacular content with this group of international scholars is noteworthy. Thank you, Jane.

Also, thanks to Bank of England for supporting a conference in honor of Professor William A. Barnett on financial services indices, liquidity, and economic activity. The Bank of England is the perfect institution to host such a discussion. Bank of England is a leader on the topic of financial stability, pioneering one of the World’s first publicly available financial stability (FSR) reports in 1996. Similarly, the Bank is one of the more innovative central banks offering Divisia monetary data.

Yet, it is a special privilege to participate in this conference honoring Bill Barnett. Bill has added a great deal to our understanding of money, finance, and the economy.² Most importantly, Bill has provided us with knowledge and tools to better understand the evolution of the financial system, liquidity, and economic activity. Along with working as colleagues at the Center for Financial Stability (CFS), Bill has become a good friend and trusted counselor.

Today, my remarks today will focus on:

- What I will call the “**great macroprudential puzzle**,”
- Lessons learned from **Bill’s CFS Divisia monetary and financial data**, and
- The need to pursue “**preventative macroprudential policy**” – offering thoughts on U.S. Treasury liability management with analysis back to 1946.

The Great Macroprudential Puzzle

Since the crisis, the financial system is stronger and safer – due in large part to measures undertaken by many. Thankfully, a more intense focus on finance now resides at the heart of policy analysis.

¹ May 23-24, 2017

² Apostolos Serletis, “An Interview with William A. Barnett,” Center for Financial Stability, February 2017.

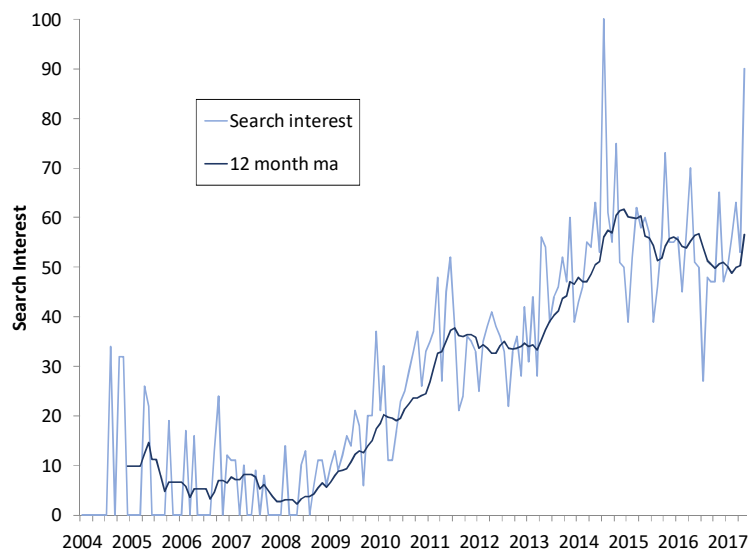


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However, I am fearful that the results from macroprudential measures may fall short of promises. Promises to titrate and fine tune lure many into believing that regulatory measures can seamlessly safeguard the financial system. The reality is that macroprudential policy is a relatively new and untested discipline. For example, interest in macroprudential policy increased over six-fold from negligible levels since the crisis – as measured by Google Analytics (see Figure 1). Similarly, **macroprudential policy focuses largely on risk – at the expense of neglecting the impact on growth.**

Figure 1. A New, Untested, and Growing Field: Macroprudential Google Searches



Source: Google Analytics and Center for Financial Stability.

Search interest is defined as interest relative to the highest point on the chart for the given region and time. A value of 100 is the peak popularity for the term; 0 means the term was less than 1% as popular as the peak.

The key is to select and test policies carefully. Lars Svensson suggests that **“economic policies should only have goals that they can achieve.”**³ So, for success, **macroprudential goals must address the following questions:**

- Even if the perfect macroprudential instruments exist to delicately deflate asset bubbles, should we have confidence in effective execution by public officials?
- Even if some clearly spot an impending crisis, will officials dismiss concerns and refrain from action?⁴
- Even if public officials spot a crisis and act, what are the **costs** associated with achieving the policy goal?

³ Lars E.O. Svensson, “Monetary Policy and Macroprudential Policy: Different and Separate,” Paper presented at the Federal Reserve Bank of Boston, October 2-3, 2015.

⁴ Lawrence Goodman, “Crisis Detection and Prevention: Implications for Investors and Officials,” Remarks at The Boston Economic Club, March 23, 2016.



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Let's assume that Fed Chairman Alan Greenspan acted on his intuition that "Irrational Exuberance" plagued the US equity market on December 5, 1996.⁵

At upcoming Federal Open Market Committee (FOMC) meetings, the Federal Reserve Board (FRB) would have tightened monetary policy with the explicit goal of reducing froth in the stock market. With a downdraft in equities complete, the concomitant cost would have been a shriveling in the Initial Public Offering (IPO) market. Here, **many new companies or existing organizations seeking to expand may have been inadvertently left out in the cold.**

Three **stars from the IPO class of 1997** illustrate this dilemma. They include:

- The Children's Place (PLCE) – an affordably priced clothing store for children's basics,
- Mettler-Toledo (MTD) – a manufacturer of scales and analytic instruments for labs and corporations,
- Amazon (AMZN) – a company that needs no explanation.

At the time, Amazon was barely known. Its IPO size was substantially smaller than many other better know companies in the IPO class of 1997, such as AMF bowling products, Ralph Lauren, and Metro Goldwyn Mayer.

Could you imagine a world today without Amazon? Or a world without the new organizations and activities spawned by Amazon?

Now, macroprudential concerns are seemingly migrating from banks to asset managers.^{6,7}

This makes sense. With a shifting financial landscape, investment management plays a greater role in the intermediation of funds than ever before. Activities are growing and complex. Strategies are shifting from active to passive – with commensurate growth in Exchange Traded Funds (ETFs), algorithmic trading, and other product innovations. So, attention directed to the industry is meaningful.

Yet, nuances within the asset management industry and its relationships with clients differ dramatically from banks and institutions funding by wholesale finance. Services are not government guaranteed. Nor do investment managers own the assets managed.⁸

So, much analysis by officials, academics, and practitioners with comprehensive data is a must before regulatory action.

⁵ Alan Greenspan, "The Challenge of Central Banking in a Democratic Society," Remarks at the American Enterprise Institute, December 5, 1996.

⁶ "Macroprudential policy beyond banking," European Systemic Risk Board (ESRB), July 2016.

⁷ Alex Brazier, "How to: MACROPRU. 5 principles for macroprudential policy," London School of Economics, Financial Regulatory Seminar," February 13, 2017.

⁸ Barbara Novick, Joanna Cound, Alexis Rosenblum, and Rachel Barry, "Macroprudential Policies and Asset Management," BlackRock Viewpoint, February 2017.



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Going forward, measures of financial liabilities or money are vital to better monitor the impact of financial policy on the economy. Data geared toward better understanding the financial system – such as Divisia aggregates and components or data generated by institutions such as the Office of Financial Research at the U.S. Treasury - will be helpful in coming years to study the competing and complementary goals of growth and stability alike.

Lessons Learned from CFS Divisia Monetary Measures

Monetary and financial measurement is in our DNA – at the Center for Financial Stability. We offer the broadest and most comprehensive measures of US monetary and financial liabilities on a monthly basis freely to the public. The data – developed under Bill Barnett’s leadership⁹ – are the cornerstone of our Advances in Monetary and Financial Measurement (AMFM) division.¹⁰ AMFM is a project with an exciting future.

The reality is that discussion of money supply and especially monetary targets can quickly become a contentious topic among economists. Personally, I am sympathetic with Goodhart’s Law that “any observed statistical regularity will tend to collapse once pressure is placed upon it for control purposes”¹¹ or when a measure becomes a target, it ceases to be a good measure.

However, **regardless of views on targeting, monetary measures should play a meaningful role on any central bank’s dashboard.** Hence, a vital aim of CFS Divisia is to better measure and model the contribution of the financial sector to the economy. It is no secret to this audience that the performance of dynamic stochastic general equilibrium (DSGE) models was poor prior to and after the crisis.¹² CFS Divisia can help.

Since the first release of CFS Divisia monetary aggregates in May 2012, our data have facilitated many highly relevant insights about markets, the economy, and policy.¹³ Today, I will highlight only two regarding 1) economic growth and 2) financial liquidity.

Economic Growth– Thirty-four quarters have now elapsed since the onset of the Great Recession. **When compared with the average recession since 1967, the great recession was unique. It was deep and long lasting.** It occurred over four quarters rather than the usual two quarter period and, similarly, the drop was substantially deeper than usual (see Figure 2).

⁹ William A. Barnett, “Getting It Wrong: How Faulty Monetary Statistics Undermine the Fed, the Financial System, and the Economy,” MIT Press, 2012.

¹⁰ See <http://www.centerforfinancialstability.org/amfm.php>.

¹¹ Charles Goodhart, “Goodhart’s Law,” *Le Libellio*, Vol. 9, number 4 – Winter 2013.

¹² “Economics after the crisis: New model army,” *The Economist*, January 10, 2013.

¹³ Lawrence Goodman, “Why Divisia Money Matters, Now!” Remarks at The Society for Economic Measurement Conference, Thessaloniki, Greece, July 8, 2016.

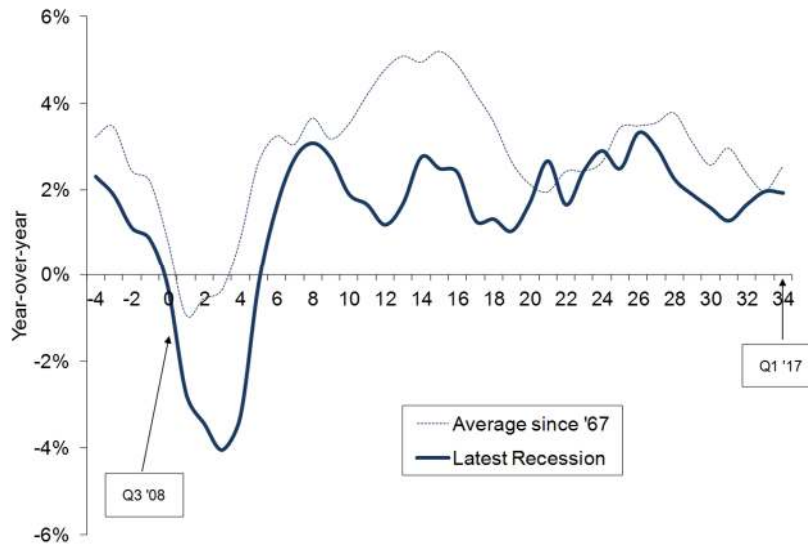


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Oddly, the recovery was also unusual. Often the deeper the economy slides, the more forceful the recovery. Not in this case. Why?

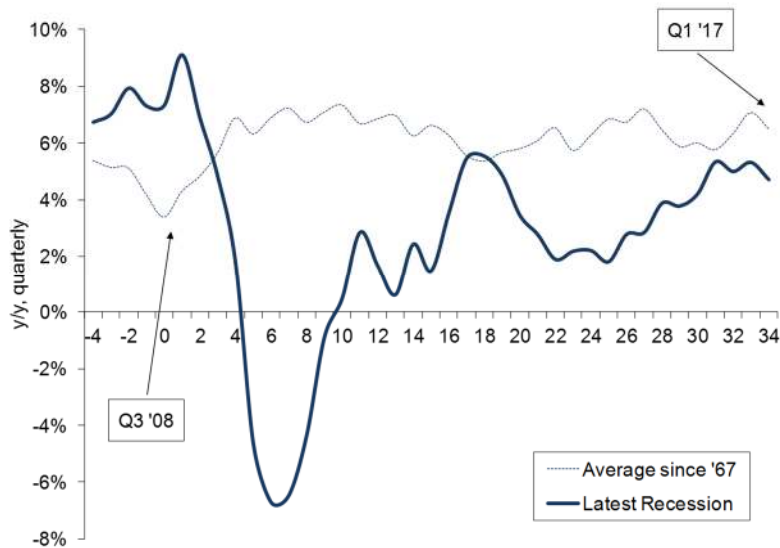
Figure 2. Unusual Recession and Recovery – GDP Growth



Source: Bureau of Economic Analysis and Center for Financial Stability.

One needs to look no further than CFS Divisia monetary aggregates to realize the financial system was clogged and virtually unresponsive for most of the period since the crisis (see Figure 3).

Figure 3. Hampered Financial Sector – as evidenced by post-recession DM4 growth



Source: Federal Reserve and Center for Financial Stability.

Interestingly, analysis of CFS DM4 monetary growth since 1967 highlights an even more unusual pattern (see Figure 3). After the Great Recession, CFS DM4 plunged deeply into negative



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territory. For the overwhelming majority of the economic recovery period, CFS DM4 still failed to ever regain growth even remotely close with the resumption of monetary liabilities in a more normal recovery. For instance, CFS DM4 growth averaged 3.2% during the recent recovery period relative to over 6% on average after all recessions since 1967. Even worse, DM4 growth demonstrated substantially more variability in the recent recovery period relative to historical experiences.

Why? **CFS Divisia aggregates and components were helpful in revealing how the financial system was clogged due to policy uncertainty¹⁴ and an unending stream of regulation.**

CFS Advisory Board member and inventor of financial futures and carbon trading, **Richard Sandor notes that “at over 2,300 pages Dodd-Frank is longer than the Old Testament, New Testament, and the Koran combined.”¹⁵** So, yes, there has been a meaningful cost associated with a massive structural shift in the regulatory apparatus.

Although clearly self-serving, **JP Morgan’s CEO Jamie Dimon allocates a full 15 pages in his most recent letter to shareholders regarding financial regulatory constraints and their impact on the economy.** The main themes are that many regulations are unnecessarily “complex, costly, and sometimes confusing.” Similarly many of the regulations are “poorly conceived and uncoordinated.” He goes further and notes that they have “damaged our economy, inhibiting growth and jobs and this has hurt the average American.”

CFS Divisia data fully support this perspective!

Financial Liquidity – Despite the extraordinary infusion of central bank liquidity, financial market liquidity has been limited. In fact, the central bank liquidity has likely damaged financial market liquidity. For investors, the swell in the monetary base has led to a succession of crowded trades and outsized gyrations in market positioning.

In this environment, investors chase yields creating lopsided positions. While, excessive regulatory standards dramatically whittle the ability and willingness of market makers to hold inventory, offer liquidity, and help manage market fluctuations. Hence, news or policy reversals lead to sharp prices swings.

CFS data readily illustrate these recent institutional limits. For example, the availability of market finance is more than 30% below a reasonable level to support liquid markets. Despite often being dubbed part of “shadow banking,” market finance provides the fuel for

¹⁴ Scott R. Baker, Nicholas Bloom, and Steven J. Davis, “Measuring Economic Policy Uncertainty,” National Bureau of Economic Research, October 2015.

¹⁵ Richard Sandor, “A New Bretton Woods must look to the East!,” Bretton Woods 2014: Center for Financial Stability, September 3, 2014.



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corporations in the form of commercial paper and liquidity for financial markets via money market funds and repurchase agreements.¹⁶

Of course, market finance grew too large in advance of the recent financial crisis. It reached historic highs and facilitated many well documented excesses. Yet, since 2011, the needed correction in reducing the role of market finance in the economy has occurred. Now, it has fallen too far. For example, our measure of market finance typically contracts coincident with recessions, but by an average of only 10%. Similarly, the average peak-to-trough associated with recessions is usually a scant 13 months (see Figure 4).

The CFS measure of market finance was down a stunning 48% in real terms since its peak in March 2008! Similarly, the contraction occurred over a period of 86 months. This phenomenon starves financial markets from needed liquidity and is detrimental to future growth. Like it or not, wholesale funding – such as repurchase agreements, commercial paper, and money market funds – is an integral part of the financial system and economic growth.¹⁷

Figure 4. CFS Measure of Market Finance (Shadow Banking), Real March 2017, USD millions

<u>Peak</u>	<u>Fall</u>	<u>Decline /1</u>
1970	-25%	16
1974	-17%	16
1979	-13%	7
1982	-5%	3
1989	-16%	29
2001	-5%	11
2008	-48%	86
Avg ex '08	-10%	13

1/ Cyclical peak-to-trough in months.

Source: Center for Financial Stability.

The shortage of financial market liquidity exposes markets and the economy to potentially unnecessary shocks.¹⁸

It is no wonder that in this environment that we have already experienced:

- A Treasury flash crash,
- Complaints of vanishing prices in G-10 FX, and
- Ongoing fears in corporate bond markets.

¹⁶ The CFS definition of market finance includes repurchase agreements, commercial paper, and institutional money market funds.

¹⁷ Randal K. Quarles and Lawrence Goodman, "Focusing on Bank Size, Missing the Real Problem," *The Wall Street Journal*, March 31, 2016.

¹⁸ Michael J. Casey, "Shadow-Credit Rise is Good Sign," *The Wall Street Journal*, March 28, 2015, p. C3.



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But why should we care if a few speculators lose from market volatility? Well, first, a dearth of liquidity can evolve into a solvency crisis. Secondly, the global financial crisis vividly illustrates how financial markets in freefall can take the real economy along for a dangerous ride.

Our data have broad and important implications for crisis detection and prevention – in addition to measuring growth and inflation prospects.

So, do we scrap financial regulations? Absolutely, not. But, we need to be more thoughtful about potential costs from these measures in addition to envisioned benefits.

A Preventative Macroprudential Recommendation: Treasury Debt Management

Today, policy should be more squarely focused on measures that can prevent crises with limited to no adverse unintended consequences or “preventative macroprudential policies.” I am highly sympathetic with recent remarks by Bank of England’s External MPC member, Jan Vlieghe.¹⁹ **He argues for the need to direct heightened attention toward good policy versus accurate forecasts.** While I do believe that we can immeasurably improve our ability to predict crises, read Bob Aliber’s work,²⁰ more energy needs to be devoted to setting policy with fewer costs in addition to benefits.

Sovereign debt is the perfect example. Unaddressed, the recent surge in sovereign debt presents an accident waiting to happen. Fortunately, a few liability management policy tweaks can yield great benefit with limited costs.

For the most part, I will discuss the case of the United States but lessons are relevant elsewhere.

U.S. debt is an enormous problem. When I think about the severity of our debt, I am reminded of a quote from Treasury Secretary John Connally. In 1971, when the Bretton Woods exchange rate system and U.S. dollar were under severe strain, Connally remarked in Rome at a G-10 meeting that **“The dollar is our currency, but it’s your problem.”**

Today, it’s our debt and it’s our problem.

The statistics are well known. Public debt is now 107% of GDP up from a mere 64% 10 years ago. But, **the stock of debt is a mere fraction of the problem.** More pressing challenges include:

¹⁹ Gertjan Vlieghe, “Good policy vs accurate forecasts,” Bloomberg Headquarters, London, April 5, 2017.

²⁰ Robert Z. Aliber and Charles P. Kindleberger, “Manias, Panics, and Crashes: A History of Financial Crises,” Palgrave Macmillan, 2015.



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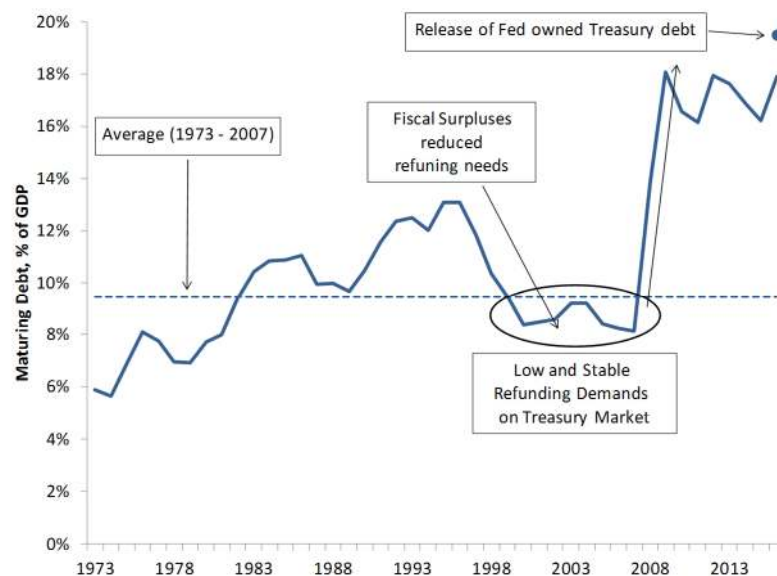
- First, **the Federal Reserve stands ready to reduce the size of its balance sheet of \$2.5 trillion in U.S. Treasury holdings.** The impact of this unwind is complex and multipronged. However, what we know for certain is that these gigantic purchases kept Treasury yields artificially low over the last eight years. Fed purchases of Treasury bonds subsidized funding the U.S. budget deficit.

So, as the portfolio is unwound, yields will face upward pressure. This becomes a fairly daunting challenge as budget deficits are also destined to widen.

- Second, **Treasury debt maturities are abnormally skewed to the short term.**²¹ This presents a dangerous problem especially as budget deficits expand. Many suggest that debt levels are not a burden as historically US debt was higher. Yet, this is naïve. Yes, debt reached a peak of 120% of GDP in the immediate aftermath of World War II.

But, more pressingly, large refinancing requirements represent an enormous jump in the U.S. Government's reliance on capital markets. Treasury will need to roll or refinance 18% of GDP to private investors alone in 2017 (see Figure 5). This represents a sharp jump from an average of 10% of GDP per year between 1973 and 2008. So, Treasury will now need to rely on domestic and international capital markets for 8% of GDP more than was normally the case. If the Fed allows its holdings of Treasury debt to mature over the next year, Treasury's **reliance on capital markets** will jump to nearly 20% of GDP.

Figure 5. Surge in U.S. Treasury Debt Rollovers



Source: Bureau of Economic Analysis and Center for Financial Stability.

²¹ Lawrence Goodman, "Treasury Maturities: The Other Fiscal Problem," Center for Financial Stability, March 10, 2011.

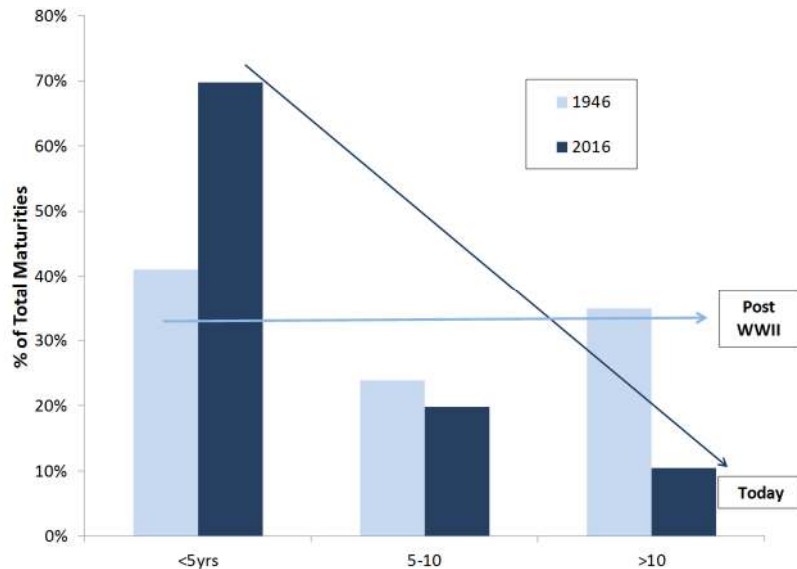


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In the old days, public officials paid much more careful attention to liability management. For instance, after World War II, Treasury issued more evenly across the yield curve (see Figure 6). **In 1946, only 41% of the total debt held by private investors fell due over the next five years. Today, a stunning 70% of Treasury debt held by private investors will need to be refunded in the next five years.**

Figure 6. Dangerous Debt Maturity Profile: Today versus 1946



Source: Bureau of Economic Analysis and Center for Financial Stability.

- Lastly, **liquidity in the U.S. Treasury market is already compromised.** The flash crash on October 15, 2014 represented statistically a once in over 500 million day occurrence. Similarly, the causes of the flash crash are still not well known and subject for debate.^{22,23}

So, why not target a smoother and safer principal repayment profile?

I am highly sympathetic with **Treasury Secretary Mnuchin's** approach to study new longer dated issuance of instruments with 50 and 100 year maturities. Mnuchin **is to be applauded for finally prioritizing, reviewing, and hopefully revising the maturity structure of US debt. However, the issuance of new long dated instruments such as a 50 and 100 year bond would be a mistake.**

²² "Joint Staff Report: The U.S. Treasury Market on October 15, 2014," U.S. Department of the Treasury, Board of Governors of the Federal Reserve System, Federal Reserve Bank of New York, U.S. Securities and Exchange Commission, and U.S. Commodities Futures Trading Commission, July 13, 2015.

²³ Niki Anderson, Lewis Webber, Joseph Noss, Daniel Beale and Liam Crowley-Reidy, "The resilience of financial market liquidity," Bank of England, Financial Stability Paper 34, October 30, 2015.



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- New long dated bonds would do little to smooth our principal repayment profile beyond more actively tapping preexisting maturities.
- Issuance would simply create new buckets of illiquid securities at a time when market liquidity remains questionable.
- Lastly, the inevitable normalization of monetary policy or higher Federal funds rates may strain Treasury debt markets. New longer dated instruments – such as 50 or 100 year bonds – would be especially vulnerable. Illiquidity would undoubtedly exacerbate price swings. Under these circumstances, the new bonds would quickly lose value and become a potential a public relations problem.

So in an environment of growing public deficits and unrelenting debt maturities, what should be done?

First, **the Office of Management and Budget (OMB) and Congressional Budget Office (CBO) must incorporate maturing obligations of debt into their analysis of the U.S. financial position and fiscal future.** It is imperative. In fact, the “**reliance on capital markets**” calculations should be fully incorporated into fiscal analysis in the U.S. and abroad. These calculations and data should be made publicly available.

Second, budget deficits should **remain below 3% to 4% of GDP per annum.**

Third, Treasury should **extend its debt into longer dated maturities.**

Why take any more chances? Let’s do the best that we can to get public debt management policy right with a relatively costless “preventative macroprudential policy.” **It’s our debt. It’s our problem. Let’s fix it.**

Concluding Thoughts

A macroprudential puzzle exists. Where, interest in these policies has increased sixfold in the last 10 years. But, **despite their lure, they are largely untested and unproven.** Hence, **officials should carefully question whether goals can be achieved prior to policy promulgation.**

CFS Divisia monetary data vividly reveal how and why growth massively under-performed over the last 10 years. Critically, our data help map the financial system - **setting the stage for a more thoughtful evaluation of potential costs in addition to benefits from envisioned regulatory policies.**

Treasury debt management provides the opportunity for preventative macroprudential policy. Based on analysis back to 1946, a few tweaks can yield great benefit with limited cost. Specifically, **OMB and CBO need to create and publicly distribute a new “Reliance on Capital Markets” measure.** Similarly, the U.S. Treasury must reshape its borrowing across the yield curve.



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