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To: File

From: The Division of Economic and Risk Analysis<sup>1</sup>

Date: March 17, 2014

Re: Demand and Supply of Safe Assets in the Economy

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The Division of Economic and Risk Analysis (“DERA”) has reviewed recent evidence on the availability of domestic government securities and global “safe assets.” The memorandum is intended to assist the Commission in the development of final rules regarding Money Market Fund (MMF) Reform that could possibly increase the demand for these assets.

We focus not only on the availability of domestic government securities, but also global safe assets. The fungibility and hence substitutability of global safe assets in other contexts (but not for money market funds) would likely free up supplies of domestic government securities elsewhere. DERA staff (“staff”) note a marked increase in the global demand for domestic government securities and global safe assets but do not anticipate that, if such changes were adopted, the impact would be large relative to the domestic and global markets for safe assets.

## **Safe Assets**

### *Definition*

A safe asset is defined as any debt asset that promises a fixed amount of money in the future with virtually no default risk. Safe assets are generally considered to be information insensitive: Investors’ concerns about asymmetric information or adverse selection are ameliorated when trading because the asset’s creditworthiness is known with near certainty, reducing the need for investors to collect information. The safety of a given asset does not depend on the creditworthiness of the issuer alone but also is determined by the liquidity of the market in which the asset trades and by guarantees.<sup>2</sup> Any asset can be rendered safe by an implicit or explicit promise from a central bank or credit-worthy institution to buy it if its price falls below a certain level.

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<sup>1</sup> This is a memo by the Staff of the Division of Economic and Risk Analysis of the U.S. Securities and Exchange Commission. The Commission has expressed no view regarding the analysis, findings or conclusions contained herein.

<sup>2</sup> See Pierre-Olivier Gourinchas and Olivier Jeanne, 2012, “Global Safe Assets,” BIS Working Paper No 399, pp. 5-6.

### *Demand for Safe Assets*

Investors rely on safe assets to provide a reliable store of value, collateral in repurchase and derivatives markets, instruments to fulfill prudential requirements, and pricing benchmarks.<sup>3</sup> Empirical evidence using the Federal Reserve's Flow of Funds data indicates the annual percentage of safe assets relative to all assets has remained relatively constant around 33 percent over the last 30 years.<sup>4</sup> That said, overall assets in the United States have risen from about four times GDP in 1952 to ten times GDP in 2010, which means the dollar demand for safe assets has increased. In addition, there has been an increase in global demand for safe assets. Rapid economic growth of emerging economies, coupled with a lack of saving vehicles in those countries, has triggered demand for safe assets, including those 'produced' in the United States.<sup>5</sup> In addition, governments around the world have instituted monetary policies and regulatory reforms in the wake of the 2008 Financial Crisis that have increased the demand for safe assets. New prudential requirements, increased collateral needs for over-the-counter derivatives transactions or their transfer to centralized counterparties, and the increasing use of such assets in central bank operations have heightened demand.<sup>6</sup>

### *Supply of Safe Assets*

Historically, bank deposits and Treasuries constitute the vast majority of domestic safe assets. Over time, however, the percentage of safe assets supplied by commercial banks has fallen, causing the primary supplier of safe assets to shift from commercial banks to other participants in the financial sector, including those that issued highly rated 'private-label' debt manufactured through the securitization of risky assets. "...[B]ank deposits were nearly 80 percent of the total through the 1950s and 1960s, and remained as high as 70 percent as late as 1978. This percentage then began a steep 30-year decline, with the rise of money market mutual funds, broker-deal commercial paper, securitized debt from GSEs, and other asset-backed securities. On the eve of the financial crisis, the share of bank deposits had fallen to 27 percent."<sup>7</sup>

During the 2008 Financial Crisis, some purportedly safe private-label assets lost their information insensitive status when valuations fell and ratings were downgraded. The supply of "private sector securitization issuance declined from more than \$3 trillion in the

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<sup>3</sup> See International Monetary Fund, April 2012, *Global Financial Stability Report: The Quest for Lasting Stability*, Washington D.C., p. 88-116.

<sup>4</sup> See Gary Gorton, Stefan Lewellen, and Andrew Metrick, May 2012, "The Safe Asset Share," *American Economic Review: Papers and Proceedings*, 102 (3), pp. 101-106.

<sup>5</sup> See International Monetary Fund, April 2012, *Global Financial Stability Report: The Quest for Lasting Stability*, Washington D.C., p. 112.

<sup>6</sup> See International Monetary Fund, April 2012, *Global Financial Stability Report: The Quest for Lasting Stability*, Washington D.C., pp. 88-116.

<sup>7</sup> See Gary Gorton, Stefan Lewellen, and Andrew Metrick, May 2012, "The Safe Asset Share," *American Economic Review: Papers and Proceedings*, 102 (3), pp. 104-105.

United States and Europe in 2007 to less than \$750 billion in 2010.”<sup>8</sup> In addition, the number of sovereigns whose debt is considered to be safe decreased as central banks committed resources to stimulate economic growth and shore up their countries’ financial markets.<sup>9</sup> Whereas “68 percent of advanced economies carried a AAA-rating at end 2007, the proportion dropped to 52 percent by end-January 2012. This amounts to approximately \$15 trillion of sovereign debt globally by end-June 2011.”<sup>10</sup> The fall in the number of sovereigns whose debt is considered to be safe “is projected to remove some \$9 trillion from the supply of safe assets by 2016, or roughly 16 percent of the projected total.”<sup>11</sup> Not everyone agrees, however, that safe sovereign debt has in fact declined. The OECD, using a more expansive definition of safety, argues safe sovereign assets have actually increased since 2007.<sup>12</sup> Similarly, Goldman Sachs documents the supply of safe sovereign securities has increased in the U.S. and G10 countries overall, but has fallen in Europe.<sup>13</sup> Goldman Sachs documents the supply of private and public safe assets to be stable, although the composition has shifted from private to public securities.

The IMF in April 2012 estimated there are \$74 trillion in safe assets globally.<sup>14</sup> “As of end-2011, AAA-rated and AA-rated OECD government securities accounted for \$33 trillion or 45 percent of the total supply of potentially safe assets. Although asset safety should not be viewed as being directly linked to credit ratings, they are used here as a rough indication of market perception. Securitized instruments—including mortgage-backed and other asset-backed securities and covered bonds—still play an important role as potentially safe assets, accounting for 17 percent of the global aggregate, followed by corporate debt (11 percent), and gold (11 percent). The markets for supranational debt and covered bonds are limited, collectively accounting for roughly six percent.”<sup>15</sup>

The quantity of safe assets for use specifically as collateral depends not only on the volume of safe assets but also their availability for re-use in the financial markets. Many of the safe assets described above are held by buy and hold investors and are not

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<sup>8</sup> See International Monetary Fund, April 2012, *Global Financial Stability Report: The Quest for Lasting Stability*, Washington D.C., pp. 108-109.

<sup>9</sup> See International Monetary Fund, April 2012, *Global Financial Stability Report: The Quest for Lasting Stability*, Washington D.C., pp. 105-108. See also Pierre-Olivier Gourinchas and Olivier Jeanne, 2012, “Global Safe Assets,” BIS Working Paper No 399, pp. 7-13 and 47-51.

<sup>10</sup> See International Monetary Fund, April 2012, *Global Financial Stability Report: The Quest for Lasting Stability*, Washington D.C., pp. 105-106.

<sup>11</sup> See International Monetary Fund, April 2012, *Global Financial Stability Report: The Quest for Lasting Stability*, Washington D.C., p. 108. See also Pierre-Olivier Gourinchas and Olivier Jeanne, 2012, “Global Safe Assets,” BIS Working Paper No 399, pp. 7-13 and 47-51.

<sup>12</sup> Hans Blommestein, March 1, 2013, “Redefining Safe Sovereign Assets in OECD Area May Give Less Gloomy Outlook,” *Bloomberg Brief*, <http://www.suerf.org/download/vienna13/papers/1blommestein.pdf>.

<sup>13</sup> Goldman Sachs, June 27, 2012, “Are There Fewer ‘Safe’ Assets Than Before?” *Global Economics Weekly*, pp. 4-6.

<sup>14</sup> See International Monetary Fund, April 2012, *Global Financial Stability Report: The Quest for Lasting Stability*, Washington D.C., p. 89.

<sup>15</sup> See International Monetary Fund, April 2012, *Global Financial Stability Report: The Quest for Lasting Stability*, Washington D.C., p. 88.

available for re-use. Holding or ‘silo-ing’ safe assets as well as regulatory policies that decrease the re-use or ‘velocity’ of collateral reduce the amount of safe assets available for collateral. Such assets have declined as the result of “(i) some aspects of unconventional monetary policies pursued by advanced economy central banks that remove good collateral from markets to their balance sheet where it is silo-ed; [and] (ii) regulatory demands stemming from Basel III, Dodd Frank, EMIR etc. that entail building collateral buffers at banks, CCPs etc.”<sup>16</sup> Although these changes were designed to enhance financial stability, they contemporaneously have increased the demand for and reduced the effective supply of collateral. The pledged collateral market shrank from \$10 trillion at the end of 2007 to about \$6 trillion at the end of 2012, while the velocity or re-use of collateral fell as well.<sup>17</sup>

Questions are now being raised as to whether the global economy has and will have an adequate supply of safe assets. Analysts from the International Monetary Fund and Credit Suisse, for example, predict a shortfall.<sup>18</sup> Arguments supporting the idea of a shortfall, however, ignore the ability of market participants to adjust to a changing landscape. For example, sustained excess demand for safe assets should increase the price of safe assets and lower rates. These higher prices should attract new private-label safe assets to the market. At the same time, market participants have incentives to identify new sources of safe assets and ways to transform asset risk. As prices rise, the supply of safe assets, where supply is defined by the price of safe assets times the quantity of securities, should increase. The lowering of rates and corresponding increases in prices should bolster the solvency of governments and other issuers, thereby lowering the risk of securities issued and allowing them to perhaps increase the supply of safe assets.<sup>19</sup> Other adjustments might transpire as well: Regulators, for example, may choose to alter regulatory requirements that affect the demand and supply of safe assets and collateral over time. In addition, central banks may provide guarantees or ‘monetary backstops’ for private-label securities, thereby transforming them into safe assets.<sup>20</sup> Alternatively, they may transform or “rent” good collateral to strong counterparties. At the same time,

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<sup>16</sup> See Manmohan Singh, January 2013, “The Changing Collateral Space,” International Monetary Fund Working Paper WP/13/25, p. 5.

<sup>17</sup> See Manmohan Singh, August 2013, “Collateral and Monetary Policy,” International Monetary Fund Working Paper WP/13/186, p. 9.

<sup>18</sup> See International Monetary Fund, April 2012, *Global Financial Stability Report: The Quest for Lasting Stability*, Washington D.C., pp. 88-116 and Credit Suisse, December 2011, *2012 Global Outlook: Piecing Together or Falling to Pieces*, pp. 143-144.

<sup>19</sup> See Pierre-Olivier Gourinchas and Olivier Jeanne, 2012, “Global Safe Assets,” BIS Working Paper No 399, pp. 7-13 and 47-51. The authors recognize stimulating borrowing with low rates may fragilize an economy. Further, they argue private-label debt can be inherently risky and may be unable to serve as a safe asset without government guarantees.

<sup>20</sup> See Pierre-Olivier Gourinchas and Olivier Jeanne, 2012, “Global Safe Assets,” BIS Working Paper No 399, pp. 7-13 and 47-51. The authors argue public and private liquidity are close substitutes in tranquil times, but diverge in times of market stress. In these instances, only public liquidity is completely safe. They argue the world economy needs sufficient public safe assets.

governments can issue additional safe-asset debt.<sup>21</sup> Market participants will also have incentives to improve their management of collateral.

### **Shift in Investment from Prime Money Market Funds to Government Funds**

In the 2013 Proposing Release, the Commission proposed to exempt government MMFs from a floating NAV requirement and fees and gates. If adopted, some investors that today invest in prime MMFs may shift their investments to government MMFs, thereby raising the demand for domestic government securities and safe assets in the economy.

In November 2013, prime funds held approximately \$1,783 billion in assets, whereas government and treasury funds held \$952 billion in assets, or around 32 percent of all money market fund assets. It is difficult to estimate the amount of money that might shift from prime MMFs into government funds if the Commission adopts the floating NAV exemption, but if even 20 percent of prime fund investments shifted into government funds, approximately \$357 billion dollars would need to be invested in government securities. Given the global market for safe assets is estimated to be \$74 trillion,<sup>22</sup> it is difficult to envision such flows would create a problem. Moreover, evidence from the 2008 Financial Crisis indicates government funds are able to absorb large inflows, especially if they occur over a period of time.<sup>23</sup> As shown in Figure 1, government money market fund assets increased by \$409 billion (44 percent) during the Crisis Month (9/2/2008 to 10/7/2008), whereas prime fund assets fell by \$498 billion (24 percent).<sup>24</sup>

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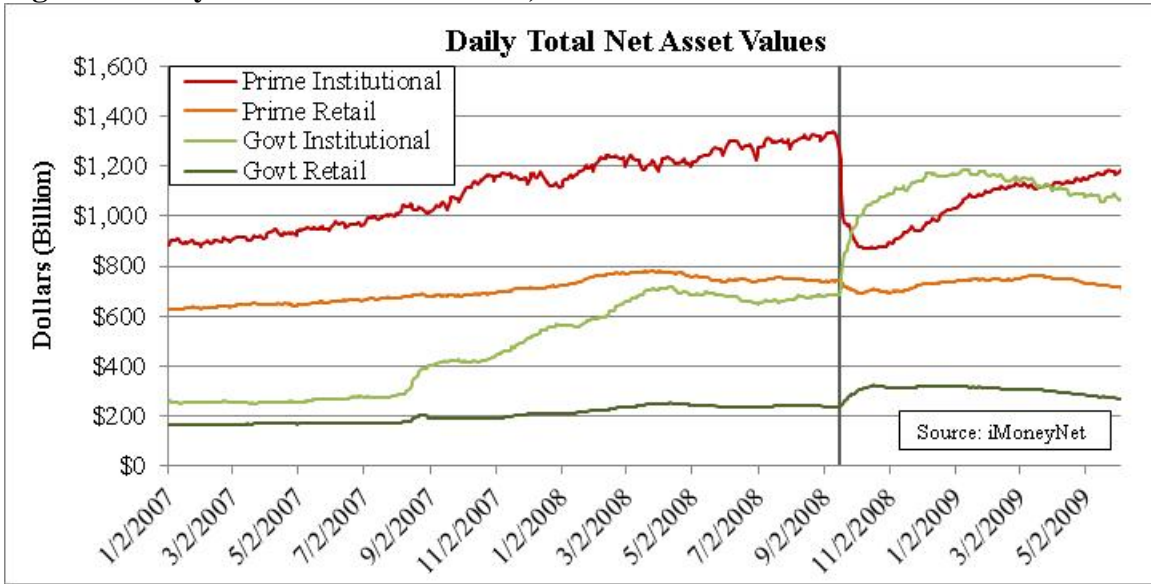
<sup>21</sup> Ultimately, however, governments cannot issue too much debt without such debt becoming information-sensitive and no longer safe. For example, credit rating agencies downgraded the sovereign debt of a number of countries over the past two years, in part because of rising deficits. See, for example, David Gauthier-Villars and Charles Forelle, "Europe Hit by Downgrades. S&P's Ratings on France, 8 Others Are Lowered, Sparking Fresh Worries." *WallStreet Journal*, January 14, 2012, <http://online.wsj.com/news/articles/SB10001424052970204542404577158561838264378>.

<sup>22</sup> See International Monetary Fund, April 2012, *Global Financial Stability Report: The Quest for Lasting Stability*, Washington D.C., p. 89.

<sup>23</sup> See Response to Questions Posed by Commissioners Aguilar, Paredes, and Gallagher, a report by staff of the Division of Risk, Strategy, and Financial Innovation (Nov. 30, 2012), available at <http://www.sec.gov/news/studies/2012/moneymarket-funds-memo-2012.pdf>.

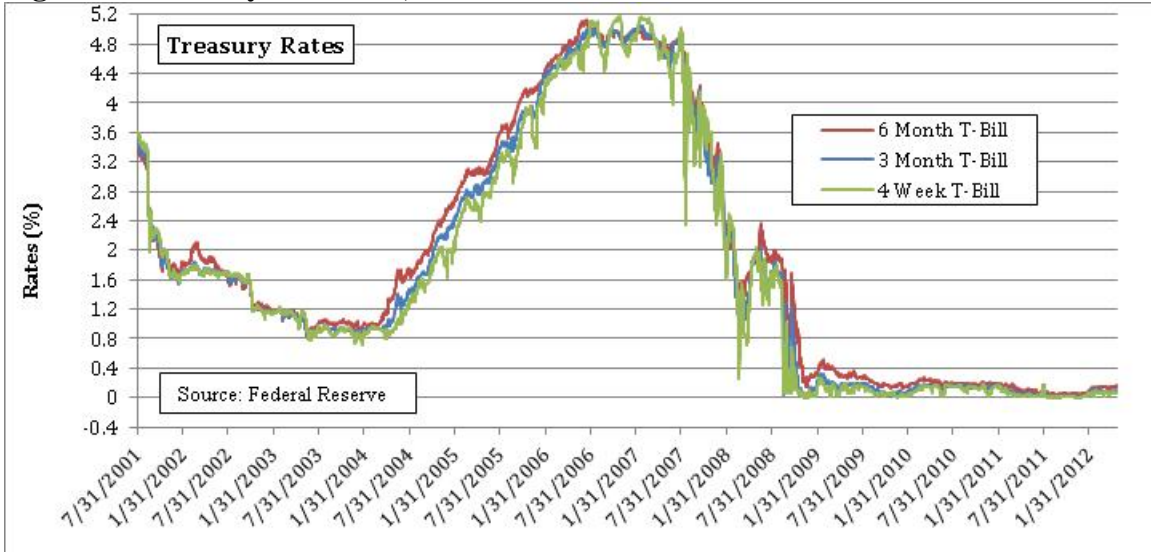
<sup>24</sup> iMoneyNet includes Treasury and government funds in a category called "Government."

**Figure 1: Daily Total Net Asset Values, 1/2/2007-5/2/2009**

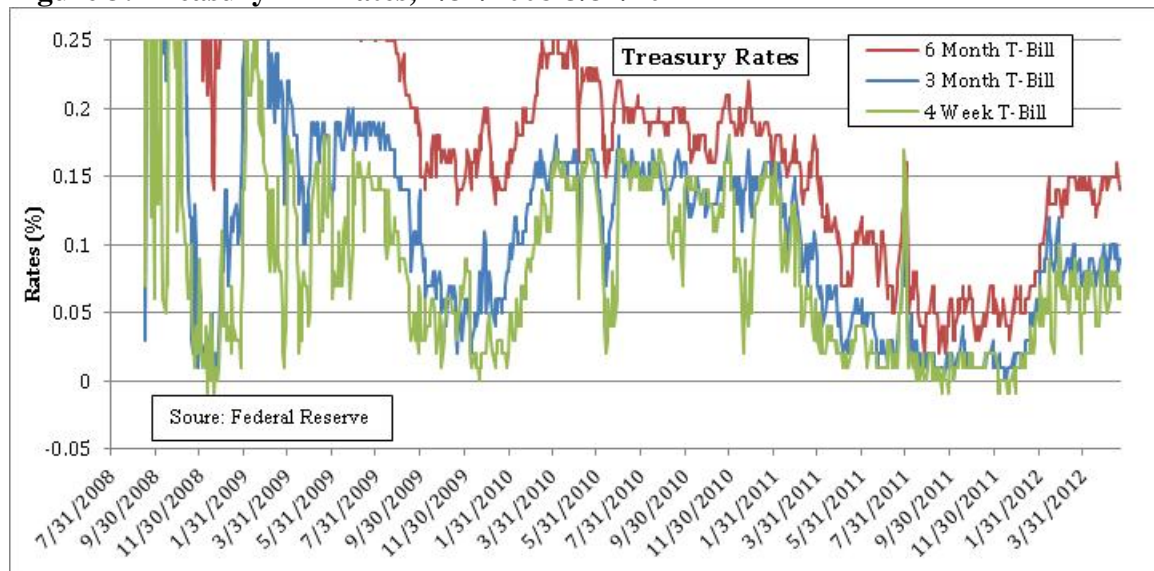


An increase in demand for safe assets without a concomitant increase in supply could increase safe-asset prices and lower returns. As shown in Figure 2, the rates on Treasury bills fell leading up to the 2008 Financial Crisis. Despite absorbing \$409 billion of assets, rates became negative in only a few instances, as indicated in Figure 3.

**Figure 2: Treasury Bill Rates, 7/31/2001-1/31/2012**



**Figure 3: Treasury Bill Rates, 7/31/2008-3/31/2012**



### **Increasing the Percentage of Safe Assets in Government Funds**

Currently, government MMFs may invest up to 20 percent of their portfolios in non-government securities.<sup>25</sup> A credit event in the 20 percent portion of a government fund's portfolio could trigger a drop in shadow price, thereby creating incentives for shareholders to redeem shares ahead of other investors. The Commission therefore asked questions in the 2013 Proposing Release as to whether there should be additional limits or requirements on the 20 percent threshold.

As Figure 4 shows, on average government MMFs invest less than five percent of their assets in non-government securities today, 85 percent invest less than eight percent, and 90 percent invest less than 15 percent. Government funds invested approximately \$2.8 billion in non-government assets as compared to \$503 billion in government assets in November 2013. Given the size of the global market for safe assets, the staff does not anticipate a problem if the Commission lowers the 20 percent threshold. Concomitantly, the staff does not anticipate that lowering the 20 percent threshold would impose heavy portfolio rebalancing costs on funds. Even if some funds must rebalance their portfolios towards more government securities, the market appears to be able to absorb some rebalancing, as evidenced during the 2008 Financial Crisis.

<sup>25</sup> Currently, government MMFs must invest at least 80 percent of their portfolio in cash, "government securities" as defined in section 2(a)(16) of the Act, and repurchase agreements collateralized with government securities. Allowable securities include securities issued by government-sponsored entities such as the Federal Home Loan Banks, government repurchase agreements, and those issued by other "instrumentalities" of the U.S. government. Excluded, however, are securities issued by state and municipal governments, which do not generally share the same credit and liquidity traits as U.S. government securities.

**Figure 4: Distribution of Government MMF Investments in Non-Government Securities in Between November 2010 and November 2013**

