

# **Money Market Funds Reforms in the US and the EU: the Quest for Financial Stability**

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## **ABSTRACT**

This article considers the impact of money market funds (MMFs) reforms in the US and the EU on the money market fund industry and global financial stability. The 2008 financial crisis proved that MMFs are a source of considerable instability to the global financial system, and highlighted their susceptibility to runs. The shareholders' incentive to redeem their shares before others do when there is a perception that the MMFs might suffer a loss makes MMFs vulnerable to runs. Given this reality, the article argues that the emphasis of the financial regulators on achieving the stability of the entire financial system after the 2008 financial crisis necessitates the strictness of the new reforms.

Divided into six parts, the article outlines the attributes and classification of MMFs, the definition of financial stability, and the run and systemic risk posed by MMFs during the financial crisis, before assessing the MMFs' reforms in the US and the EU and the impacts of these reforms on the MMFs industry and global financial stability system. The major component of the US reform is the introduction of the floating net asset value (FNAV), where an MMF's share price will fluctuate to reflect the daily market value of the fund assets. In the EU the new regulation provides investors with a high degree of optionality for investing by introducing Low Volatility Net Asset Value (LVNAV) MMFs. The article concludes that despite that, the reforms are likely to jeopardize the viability of some categories of MMFs, they enhance global financial stability, and the complexity of the reforms has made MMFs more appropriate products to financial institutions' investors than retail investors.

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## 1. Introduction

It has been a decade since the beginnings of the 2008 global financial crisis. This global crisis hit the US and EU financial markets and economy heavily and revealed many fragilities in the pre-crisis financial regulations. Money market funds (MMFs) were at the heart of the 2008 financial crisis. MMFs are mutual funds whose main objectives are to maintain the principal value of the funds and offer a return in accordance with money market rates. They are an important source of short-term funding for corporations, governments, and financial institutions. The 2008 financial crisis highlighted the serious systemic risk and susceptibility of MMFs to runs. A run occurs when the value of an MMF's shares falls below their standard \$1.00 or €1.00 value, so the shareholders "run" to the fund to redeem their shares and get the full value of their shares.<sup>1</sup> Indeed, MMFs proved to be a significant source of instability to the global financial system. As explained below, in September 2008, the Reserve Primary Fund "broke the buck", where the value of its shares fell below its standard \$1, leading to heavy investor redemptions. This spread to other MMFs, resulting in a run on the MMF industry. Because of the run on the MMF industry, the impact MMFs have on the stability of the global financial system has received attention from financial regulators in the US and the EU. To preserve the stability of the financial system, it was essential to address the susceptibility of MMF to runs. Since the 2008 global financial crisis, MMFs have been the subject of ongoing and intensive regulatory debate. Determining the appropriate and final form of the reforms has been problematic because of the potential impact that the reforms might have on the commercial viability of these instruments.

In the US, on July 23, 2014, the Securities and Exchange Commission (SEC) adopted a substantial reform to the regulatory framework governing MMFs. This reform is considered the most significant structural changes to MMFs in the US history. The reform came into force on October 2016. As discussed below, the main components of the reform are the introduction of the floating net assets value (FNAV), and the liquidity fees and redemption gates.

In the EU, the new European MMFs regulation was published in the EU Official Journal on 30 June 2017 and came into force on 21 July 2017. Existing MMFs will have to comply with

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<sup>1</sup> Mark Perlow, *Money Market Funds - Preserving Systemic Benefits, Minimizing Systemic Risks* 8 Berkeley Bus. L.J 80 (2011).

the new regulation by 21 January 2019. The EU reform follows the US reform in adoption of liquidity fees and redemption gate; however, the distinctive attribute of this reform is the introduction of Low Volatility NAV (LVNAV) MMFs.

In the EU, the new reform has not been addressed yet, so this article takes the initiative in documenting and analysing the changes to the MMFs legal framework. In the US, the academic literature has largely focused on criticising the 2014 reform, arguing that the move from stable NAV to floating NAV and granting MMFs the authority to apply the liquidity fees and redemption gates threaten to destroy the value of this industry. For instance, Brown (2013) argued that the rules that were implemented by the SEC in 2010 had adequately strengthened the perceived weaknesses of the MMF industry, so the new rules proposed by the SEC were unnecessary.<sup>2</sup> She found that extensive changes are likely to result in investor flight from the fund industry to other unregulated industries, thereby increasing systemic risks. In 2014, Peirce and Greene found that the proposed changes are not sufficient to address the vulnerabilities of MMFs to runs, so they discussed an alternative method that relies on the MMFs boards to freeze redemptions whenever and for as long they determine is in the best interests of the fund.<sup>3</sup> Similarly, in 2015, Fisch criticised the 2014 reform and argued that mandatory sponsor support offers a novel and simple regulatory solution to MMF fragility.<sup>4</sup> Price, in 2015, examined the impact that the 2014 reform will have on the financial products industry, and specifically, on banks that offer money market deposit accounts. He concluded that the reform presents opportunities for banks to become an alternative investment vehicle to MMFs, and banks might serve as an alternative source of funding for entities which have typically relied on MMFs.<sup>5</sup>

Reviewing the relevant academic literature shows that scholars have focused in their analysis of the new reform on the potential impact of the reform on the MMF industry without considering its core role in enhancing the stability of the financial system. In other words, scholars did not link the reform to any comprehensive reforms of the main components of the

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<sup>2</sup> Latoya Brown, *The Regulation of U.S. Money Market Funds: Lessons from Europe* 9 Int'l L. & Mgmt Rev 203 (2013).

<sup>3</sup> See, Hester Peirce and Robert Greene, *Opening the Gate to Money Market Fund Reform* 34 Pace L. Rev. 1093-1168 (2014).

<sup>4</sup> Jill Fisch, *The Broken Buck Stops Here: Embracing Sponsor Support in Money Market Fund Reform* 93 N.C. L. Rev. 979(2015).

<sup>5</sup> See, Carlton Price, *What Money Market Mutual Fund Reform Means for Banks and Money Market Deposit Accounts* 19 N.C. Banking Inst 257(2015).

financial system after the disastrous consequences of the 2008 financial crisis on the financial markets and the economy.

In analysing and evaluating the US and EU reforms and their implications, this article makes a novel contribution by adopting a completely different approach that links MMFs' reforms to any broader plans to reform the financial system. This approach is essentially based on two main elements. The first element is the substantial change in financial regulations objectives after the global financial crisis 2008, where the goal of financial stability has become the dominate idea of national and international financial reforms. The second element is the shift from micro-prudential regulation policy to macro-prudential policy<sup>6</sup>, which fundamentally focuses on the resilience and robustness of the financial system as a whole rather than relying on individual institutions to secure the stability of the global financial system. The susceptibility of MMFs to runs proved to have such destabilizing implications for the whole financial system that reforming the financial system cannot be complete and efficient without addressing the risks posed by the structural vulnerabilities of MMFs, and this justifies the strictness of the new laws. It is worth mentioning that after the enforcement of the new reform in the US in 2016, no literature has been written about MMFs, so this article will benefit from the statistics published by the SEC and other relevant institutions after the enforcement to show the real impact of the new reform on the MMF industry.

The remainder of the article is divided into five parts. First, because scholars do not make a clear differentiation between the different types of MMFs, this article attempts to clearly classify all types of MMFs in the US and the EU. To accomplish this Part 2 explains the nature, attributes and classifications of MMFs. Part 3 examines the concept of financial stability, and other relevant concepts such as systemic risk and the core components of the financial system, such as the financial institutions, markets and infrastructure that are necessarily a part of any stable system of finance. It also discusses the failure of Reserve Primary Fund and the phenomenon of runs in the MMF industry, highlighting how runs on MMFs differ from runs on banks and mutual funds. Part 4 evaluates the 2014 US reform, categorizing the changes into 4 main groups. It also scrutinizes the EU reform, comparing the EU regulators' approach to address MMFs' vulnerability to runs with the US approach. Part 5

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<sup>6</sup> The shift from micro-prudential regulation policy to macro-prudential policy will be discussed later (5. Analysing MMF's Reforms from financial stability perspective).

analyses MMF's reforms and their implications from financial stability perspective. Part 6 concludes with practical recommendations to address certain gaps in the reforms.

## **2. Background**

In order to understand MMFs' reforms in the US and the EU and their impact on MMF industry, it is necessary to define MMFs and understand their structure, financial and economic attributes, and classification.

### **2.1 Definition, Characteristics and Structure**

MMFs are a type of mutual fund that invest in short-term debt instruments.<sup>7</sup> They are collective investment vehicles where money is raised by issuing shares or units to the public.<sup>8</sup> MMFs are open-ended funds where the funds undertake to buy back their shares or units on any regular business day.<sup>9</sup> Thus, MMFs provide financing for financial institutions, corporations and governments. Further, MMFs typically invest in certificate of deposits (CD), commercial paper (CP), asset-backed commercial papers (ABCP), short-term bonds issued by private issuers, repurchase agreements, shares of (other) money market funds and government securities.<sup>10</sup> MMFs diversify their investment portfolio to mitigate investment risks, so the impact of a decline in the value of one of the fund holdings is offset by the other holdings. The term "*diversification*" indicates the process of spreading risk over a number of different investments, and probably across different markets (reflecting the maxim that you should not put all your eggs in one basket).<sup>11</sup> Moreover, MMFs are managed by competent managers (figure 1). Professional management means that the assets of an MMF are invested and managed by professional fund managers with the experience, resources and expertise to manage the fund effectively.<sup>12</sup>

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<sup>7</sup> Jonathan Lim, *Untangling the Money Market Fund Problem: A Public-Private Liquidity Fund Proposal* 19 Stan. J.L. Bus. & Fin 71 (2013).

<sup>8</sup> Nicholas Broke, *Money Market Funds and Systemic Risk: A Critique of the SEC's 2014 Reforms* 14 Geo. J.L. & Pub 290 (2016).

<sup>9</sup> See, Frank Fabozzi, *Capital Markets: Institutions, Instruments, and Risk Management* 648 (5<sup>th</sup> edn MIT Press, Cambridge 2015).

<sup>10</sup> See, Jeff Madura, *Financial Markets and Institutions* 627 (11<sup>th</sup> edn Cengage Learning, Stamford 2014).

<sup>11</sup> Charles Jones, *Mutual Funds: Your Money, Your Choice: Take Control Now and Build Wealth Wisely* 47 (FT Press, New Jersey 2003).

<sup>12</sup> John Haslem, *Mutual Funds: Portfolio Structures, Analysis, Management, and Stewardship* 43 (John Wiley & Sons, New Jersey 2009).

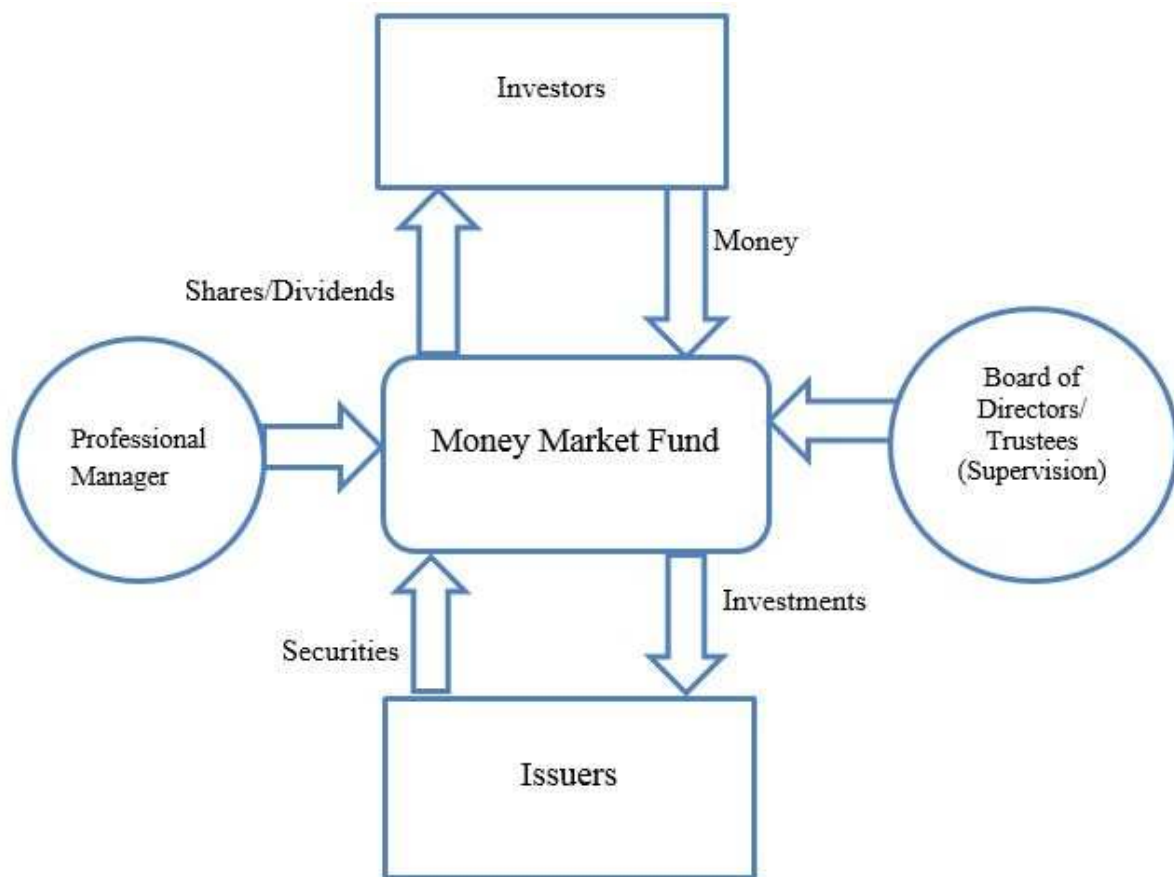
The nature and purpose of MMFs distinguish them from other financial services or market actors, including mutual funds and banks. Unlike mutual funds, whose NAV can fluctuate daily, MMFs seek to maintain a stable NAV, typically \$1.00 per share in the US and €1 in the EU. This means mutual funds' NAV fluctuates with the value of the assets in the fund's portfolio. The per share NAV of a mutual fund is the aggregate value of the fund assets minus the aggregate liabilities of the fund divided by the number of units outstanding.<sup>13</sup> For instance:

The aggregate value of the assets	£3,000,000
The aggregate liabilities	£400,000
The aggregate NAV	£2,600,000
Number of share outstanding	£1,000,000
Net asset value per share	£ 2.6

Figure (1): MMF structure.

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<sup>13</sup> Herbert Mayo, *Financial Institutions Investments and Management* ) 337 (8<sup>th</sup>edn Thomson South- Western USA 2004.



In fact, MMFs’ ability to maintain a stable share price is considered the key reason for their popularity.<sup>14</sup> Investors have often viewed MMFs as bank equivalents and invest their money in MMFs because MMFs offer features analogous to bank deposits: stability of value of the principal invested and instantaneous access to liquidity.<sup>15</sup> Although banks and MMFs are similar in some respects they differ in others, especially in terms of their legal structure and economic function. MMFs do not create liquidity for their investors, rather they manage liquidity by investing in short-term debt instruments.<sup>16</sup> Banks are deemed highly leveraged institutions and use borrowed funds to provide credit to individuals and businesses needing access to credit<sup>17</sup> and use borrowed funds to provide credit to individuals and businesses needing access to credit.<sup>18</sup> Further, MMFs regulations clearly specify the types and proportions of the assets that MMFs can invest in, and the investors have the right to know the funds’ holdings through the compulsory disclosure which is not the case for the bank

<sup>14</sup> See, Fabozzi, (n 9) 648.

<sup>15</sup> See, Qingmin Yan and Jianhua, *Regulating China's shadow banks 2* (Routledge, New York 2015).

<sup>16</sup> Fernando J. Cardim de Carvalho, *Liquidity Preference and Monetary Economies* 89 (Routledge, New York 2015).

<sup>17</sup> See, Investment Company Institute, *Money Market Funds in 2012: Money Market Funds Are Not Banks* (2012) available at [https://www.ici.org/pdf/12\\_mmf\\_mmfs\\_are\\_not\\_banks.pdf](https://www.ici.org/pdf/12_mmf_mmfs_are_not_banks.pdf) accessed 5 August 2017.

<sup>18</sup> See, Ross Cranston, *Principles of Banking Law* 5 (3<sup>rd</sup> edn, Oxford University Press, Oxford 2018).

depositors.<sup>19</sup> Banks typically hold short-term and long-term securities which are illiquid. Holding illiquid long-term and non-diversified portfolios has demonstrably failed to provide stability for the banking industry.<sup>20</sup> On the contrary, MMFs hold short-term highly liquid, safe and transparent securities. Another significant difference is that the notion of MMFs is based on the idea of pooling money from investors by offering their shares to the public. This means that unlike bank depositors, MMFs' investors buy shares from the funds and do not deposit their money. Therefore, investors acquire ownership interests in the fund's assets and shares in the fund's profits and losses.

It is significant to mention that due to their popularity in the financial markets, MMFs assets have grown dramatically over time. One of the main reasons of this growth is that MMFs offer higher yield relative to banks' savings accounts.<sup>21</sup> The global MMF industry (measured by assets under management) is dominated by the U.S. In Europe, more than 95% of the MMFs industry is concentrated in Luxembourg, Ireland and France.<sup>22</sup> In its first quarter 2017 report, the Investment Company Institute reported that assets in MMFs had reached nearly \$5,157 billion during the first quarter of 2017 compared to \$42.77 trillion of the mutual funds worldwide assets at the end of the first quarter of 2017.<sup>23</sup> This means that MMFs accounted for an estimated 12% of all mutual funds globally. In the US, according to the American Investment Company Institute Fact Book 2017, MMFs net assets exceeded \$2.7 trillion at the end of 2016.<sup>24</sup>

## **2.2 A Classification of Money Market Funds**

Different types of MMFS around the world exists to cater to the investors' needs such as risk tolerance and returns expectations. This flexibility makes MMFs a preferred option to a wide range of investors in the financial market. Since this paper addresses MMFs in the US and the EU, the focus will be on the classification of MMFs in these jurisdictions. As mentioned

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<sup>19</sup> See, Jones, (n 11) 47.

<sup>20</sup> See, Investment Company Institute (n 17).

<sup>21</sup> See, International Monetary Fund, *Global Financial Stability Report, March 2002: Market Developments and Issues* 46 (2002).

<sup>22</sup> See, IOSCO, *Peer Review of Regulation of Money Market Funds: Final Report* (2015) available at <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD502.pdf> accessed 6 August 2017.

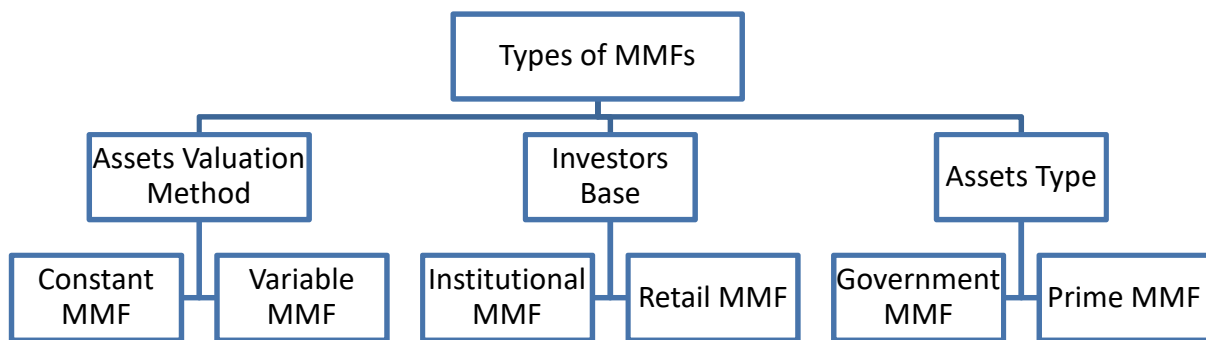
<sup>23</sup> See, Investment Company Institute, *Worldwide Assets and Flows for Regulated Open-End Funds First Quarter 2017* available at [https://www.ici.org/research/stats/worldwide/ww\\_q1\\_17](https://www.ici.org/research/stats/worldwide/ww_q1_17) accessed 6 August 2017.

<sup>24</sup> See, American Investment Company Institute, *2017 Investment Company Fact Book* (57th Edition, 2017). The American Investment Company Institute (ICI) publishes every year a Fact Book which updates the statistics of the mutual funds industry in the USA and around the world.



above, there is no clear classification of MMFs, so this article strives to distinctly classify them. Based on assets valuation methodology, MMFs can be classified into constant (or stable) NAV MMFs and variable NAV MMFs. They can also be classified by the investor type into two types: institutional and retail MMFs. According to their portfolio investments, MMFs can be classified into government and prime MMFs. This section investigates these types and their fundamental features (figure 2).

Figure (2): types of MMFs



### A- Constant Versus Variable MMFs

Depending on the assets valuation methodology applied, MMFs either offer their shares at a constant net asset value (CNAV) or a variable or floating net asset value (VNAV).<sup>25</sup> CNAV MMFs use amortized cost accounting method to value their assets.<sup>26</sup> Amortized cost method is an accounting valuation method where securities are valued at acquisition cost, as adjusted for amortization of premium or accretion of discount.<sup>27</sup> This means that the valuation is not based on current market factors. Using this method enables MMFs to maintain a constant share price of \$1, €1 or £1. By using the amortized cost method, the MMF makes incremental adjustments to the amortized cost of a security each business day, so the amortized cost of that security equals its face value when the security matures. For example, MMFs invest in short-term securities such as commercial paper and repurchase agreements. Most of these

<sup>25</sup> CNAV is also called Stable NAV (SNAV) and VNAV is also called Floating NAV (FNAV).

<sup>26</sup> Daniel Levin, *Breaking the Buck: The End for Money Market Mutual Funds as We Know Them* 28 Rev. Banking & Fin. L 751 (2009).

<sup>27</sup> Lim, (n 7).

securities are discount securities where they are typically sold for less than face value (the discount). Discount securities do not pay explicit interest, rather the interest is implicit.<sup>28</sup> When the securities mature, the investor receives the face value. The difference between what the investor paid and the amount received at maturity is the implicit interest. For instance, an MMF may pay € 99.50 for a security that will return €100 in 50 days. The face value of the security is €100 and the purchase price of the security is € 99.50. The discount is € 0.50. The MMF records the security in its portfolio at an initial amortized cost of € 99.50. By applying the amortized cost method, the MMF can increase the amortized cost value of the security each business day by the amount of the daily interest accrual. This is generally calculated as the difference between the security face value and the purchase price divided by the remaining maturity of the security. In our example, the daily accrued interest would be one cent ( $(€100 - €99.50)/50$ ). The amortized cost method allows MMFs to increase the amortized cost of securities—the purchase price plus accrued interest— at a predictable rate each business day.<sup>29</sup> Consequently, a money market fund can maintain a stable €1.00/\$ 1.00 NAV. The accrued interest, in our example the daily one cent increment, is the daily dividend declared to the MMF shareholders. When the accrued interest is offset by the dividend paid to the shareholders, the MMF manages, from day to day, to maintain a stable NAV.

Obviously, the rationale of permitting MMFs to use the amortized cost method lies in the nature of the securities that MMFs are required to hold. As mentioned above, MMFs hold short-term and highly liquid debt securities. The amortized cost method usually provides a good approximation to the real market value of MMF portfolio assets. That could only be true if financial market conditions remain exactly as they were when the MMF purchased the security because both the security's amortized cost and its market value increase every business day by the amount of interest accrued. Nonetheless, it is rare that financial market conditions remain the same. For instance, interest rates change from day to day and that might affect the market values of the securities that an MMF holds. Therefore, MMFs value

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<sup>28</sup> For further information about discount securities see, Julian Walmsley, *The Foreign Exchange and Money Markets Guide* 147 (2<sup>nd</sup> edn John Wiley & Sons, New Jersey 2000).

<sup>29</sup> See, Institutional Money Market Funds Association, *The use of amortised cost accounting by money market funds* (2013) available at <https://www.immfa.org/assets/files/IMMFA%20The%20use%20of%20amortised%20cost%20accounting%20by%20MMF.pdf> accessed 17 August 2017.

their securities at amortized cost to avoid fluctuations in the market value in the interim and maintain a stable NAV.<sup>30</sup>

VNAV MMFs, on the other hand, use the mark-to-market accounting method to value their portfolio. The mark-to-market method is a valuation method where securities are valued at their current market value in order to reflect the regular fluctuations in the value of the MMF's portfolio assets.<sup>31</sup> Therefore, the MMF's NAV might float from day to day. For instance, if an MMF invests its entire portfolio assets in A's company shares, at the close of each business day the MMF manager computes the fund's NAV by multiplying the closing value of the A share price by the number of the MMF's A shares. When there is no readily available market quotation for entire or some of the MMF's securities the MMF manager uses the fair valuation method to value those securities.<sup>32</sup> The fair value is the price that the MMF may reasonably expect to receive upon a current sale. The main objective of the mark-to-market method is to compute a timely and accurate value of the MMF's assets.

It is important to know that prior to the 2014 reform, CNAV MMF was the only type of MMFs in the US.<sup>33</sup> In Europe, MMFs could feature either CNAV or VNAV; however, the new MMF reforms, as will be discussed later, have produced a new type of MMF: the low volatility MMF (LVNAV).

## **B- Institutional Versus Retail MMFs**

MMFs can be classified by the targeted investor group into retail and institutional. A retail MMF usually designs its policies and procedures to limit the ownership to natural persons. An institutional MMF is a fund that targets institutional and sophisticated investors.<sup>34</sup> Institutional investors use money market funds to manage liquidity and these act as important alternatives to cash accounts. On aggregate, institutional investors account for around 65 per cent of the total assets under management in the US MMF industry.<sup>35</sup> In Europe, MMFs are widely used by institutional investors at approximately 75 per cent of the total asset under

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<sup>30</sup> Brown, (n 2).

<sup>31</sup> William Birdthistle, *Breaking Bucks in Money Market Funds* 2010 Wis. L. Rev 1165 (2010).

<sup>32</sup> Levin, (n 26).

<sup>33</sup> Brown, (n 2).

<sup>34</sup> Robert Pozen and Theresa Hamacher, *The Fund Industry: How Your Money is Managed* 203 (2<sup>nd</sup> edn John Wiley & Sons, New Jersey 2015).

<sup>35</sup> See, American Investment Company Institute, (n 24).

management.<sup>36</sup> The significance of classifying MMFs into institutional and retail derives from the differences in shareholder behaviour, especially in difficult situations in the financial market. Retail investors are presumed to be passive investors which means that in the case of any potential change in the risk characteristics of the MMF retail investors react slowly to that risk.<sup>37</sup> Institutional investors, on the other hand, are sophisticated investors, and because they have their own experienced research team, they react quickly to any potential risk.<sup>38</sup> This exposes MMFs to different degrees of liquidity risk. The degree of the risk might be greater when the MMFs assets are owned by fewer large sophisticated investors. Therefore, institutional investor-oriented MMFs preserve a high level of available liquidity to avoid the risk of investor run, which in turn might affect the stability of the financial market generally and the MMFs particularly.

### **C- Government Versus Prime MMFs**

A prime MMF is a fund that invests in securities issued by corporate entities. Prime MMFs typically invest in short-term corporate notes, repurchase agreement, banks' certificates of deposits and commercial paper.<sup>39</sup> MMFs that invest in securities issued or guaranteed by state governments are known as government MMFs.<sup>40</sup> Government and prime MMFs can be found in both the US and Europe. Because government MMFs principally invest in government securities, they are not exposed to credit risk. Therefore, unlike prime MMF, they are considered safe investments. It is significant to know that in the US the MMF industry has produced another type of MMF: a tax-exempt MMF. This fund invests exclusively in securities issued by the US local governments and tax-exempt municipal securities.<sup>41</sup> A tax-exempt MMF is a good option for retail investors who are seeking a tax-exempt investment to their income; however, a tax-exempt MMF is the smallest MMF category regarding the size of the assets under management.

### **3. MMFs and Financial Stability**

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<sup>36</sup> See, Institutional Money Market Funds Association *IMMFA Assets Under Management* (2017) available at <https://www.immfa.org/market-statistics/immfa-aum.html> accessed 17 August 2017.

<sup>37</sup> Jorge A Chan-Lau and Li L Ong, *U.S. Mutual Fund Retail Investors in International Equity Markets: Is the Tail Wagging the Dog?* (2005) International Monetary Fund Working Paper 05/162, 3 <http://www.imf.org/en/Publications/WP/Issues/2016/12/31/U-S-18227> accessed 22 March 2018.

<sup>38</sup> Jason Kravitt, *Securitization of Financial Assets* 17-112 (Aspen Publishers Online, 2012).

<sup>39</sup> Birdthistle, (n 31).

<sup>40</sup> Pozen and Hamacher, (n 34) 203.

<sup>41</sup> Lim, (n 7).

This section is divided into two parts. While the first part defines financial stability, the second part discusses financial instability caused by MMFs runs during the 2008 financial crisis.

### **3. 1 Defining Financial Stability**

Since this article analyses MMFs' reforms from a financial stability perspective, it is essential to examine the concept of financial stability and define its core elements. However, before examining financial stability, it is useful to appropriately define the relevant concepts such as the financial system, and systemic risk.

#### **What is a financial system?**

Generally, a financial system comprises of three main components: financial institutions, financial markets, and financial infrastructure.<sup>42</sup> Financial institutions, such as pension funds and mutual funds, also provide a wide range of services, including investment and market brokering. A financial market is a platform that matches savers and investors under some established rules of conduct.<sup>43</sup> Financial infrastructure consists of set of institutions that enable efficient operation of financial intermediaries such as payment systems and credit information offices.<sup>44</sup>

#### **What is systemic risk?**

Despite the fact the term “*Systemic risk*” is widely used, it is difficult to define and quantify.<sup>45</sup> In its Report on financial consolidation and risk, the Group of Ten (G-10) proposed the following definition:

*“Systemic financial risk is the risk that an event will trigger a loss of economic value or confidence in, and attendant increases in uncertainty about, a substantial portion of the financial system that is serious enough to quite probably have significant adverse effects on the real economy.”*<sup>46</sup>

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<sup>42</sup> International Monetary Fund, *Compilation Guide on Financial Soundness Indicators* (2004) available at <https://www.imf.org/external/np/sta/fsi/eng/2004/guide/index.htm> accessed 20 June 2018.

<sup>43</sup> See, Madura, (n 10) 3.

<sup>44</sup> Garry Schinasi, *Safeguarding Financial Stability: Theory and Practice* 107 (International Monetary Fund, Washington 2006).

<sup>45</sup> International Monetary Fund, *Responding to the Financial Crisis and Measuring Systemic Risks* (2009) available at <http://www.imf.org/external/pubs/ft/gfsr/2009/01/> accessed 20 June 2018.

<sup>46</sup> Group of Ten, *Report on Consolidation in the Financial Sector* (2001) available at <https://www.bis.org/publ/gten05.pdf> accessed 20 June 2018.

The definition shows the key characteristics of systemic risk. Systemic risk must affect a “substantial portion” of the financial system, so it is a risk to the financial system as a whole.

### **What is financial stability?**

Despite the increased focus on the significance of financial stability issues, there is, as yet, no widely accepted agreement on what financial stability precisely means. In the financial stability literature, two schools of thought are distinctly discernible. While the first school prefers to define financial instability, the representatives of the second school attempt to define financial stability.

In the first school of thought, Mishkin, for example, stated that “*financial instability occurs when shocks to the financial system interfere with information flow so that the financial system can no longer do its job of channeling funds to those with productive investment opportunities*”.<sup>47</sup> The definition emphasizes the essential role of information failures in causing financial instability. Further, Chant described financial instability as “...*conditions in financial markets that harm or threaten to harm an economy’s performance through their impact on the working of the financial system*” The definition suggests that financial instability should be examined with regard to the potential impact of changes in financial conditions on the real economy.<sup>48</sup>

In the second school of thought, Crockett pointed out that financial stability requires “*that the key institutions in the financial system are stable, in that there is a high degree of confidence that they continue to meet their contractual obligations without interruption or outside assistance; and that the key markets are stable...*”.<sup>49</sup> The definition considers only two components of the financial system: financial institutions and markets. Nonetheless, it does not include the third main element of the financial system which is financial infrastructure.

In his paper "Defining Financial Stability", Schinasi defined financial stability as “*A financial system is in a range of stability whenever it is capable of facilitating (rather than impeding) the performance of an economy and of dissipating financial imbalances that arise*

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<sup>47</sup> Frederic Mishkin, *Global Financial Instability: Framework, Events, Issues* 13 *Journal of Economic Perspectives* 7 (1999).

<sup>48</sup> John Chant, *Financial Stability as a Policy Goal* 3 (2003) in *Essays on Financial Stability*, Technical Report No. 95, Bank of Canada, available at <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.172.8150&rep=rep1&type=pdf> accessed 19 June 2018.

<sup>49</sup> Andrew Crockett, *Why is Financial Stability a Goal of Public Policy?* 82 *Economic Review* 6 (1997).

*endogenously or as a result of significant adverse and unanticipated events*".<sup>50</sup> Interestingly, the definition does not view financial stability as a single or static condition but instead it emphasizes that financial stability is a continuum.

In 2012, the European Central Bank (ECB) defined financial stability as:

*"a condition in which the financial system—comprising of financial intermediaries, markets and market infrastructures—is capable of withstanding shocks and the unraveling of financial imbalances, thereby mitigating the likelihood of disruptions in the financial intermediation process which are severe enough to significantly impair the allocation of savings to profitable investment opportunities".*<sup>51</sup>

The ECB definition is significant because it emphasizes that financial stability is a broad concept, encompassing the three core components of the financial system: financial institutions, markets and infrastructure. Considering the close interlinkages between all of these components, expectations of disturbances in any of the individual elements can impact the overall stability. To illustrate, disturbances may initially arise and develop in a single institution and subsequently spread to other elements of the financial system. Therefore, the regulatory intervention to achieve financial stability should be comprehensive, addressing the three key components. Leaving any gap in these elements will result in the instability of the financial system. This approach is called the macro-prudential approach. In the aftermath of the 2008 financial crisis, there seems to be a consensus among regulators and academics that financial regulation needs to follow the macro-prudential approach. In analysing MMFs' reforms in the EU and the US, this article will apply this holistic approach. The events during the 2008 financial crisis demonstrated that the vulnerability of MMFs to runs is a source of instability of the whole financial system, so any attempt to stabilize the financial system will most likely be incomplete without addressing this susceptibility.

### **3.2 The 2008 Financial Crisis: Breaking the Buck and the Phenomenon of Runs**

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<sup>50</sup> Garry Schinasi, *Defining Financial Stability* (2004) IMF Working Paper No. WP/04/187, available at <https://www.imf.org/external/pubs/ft/wp/2004/wp04187.pdf> accessed 20 June 2018.

<sup>51</sup> European Central Bank, *Financial Stability Review* (2012) available at <https://www.ecb.europa.eu/pub/pdf/other/financialstabilityreview201212en.pdf?f73875a2aa7884337314f4f1c4db5a7d> accessed 20 June 2018.

The financial crisis of 2008, often referred to as the Great Recession, affected every single aspect of the economy. The September 2008 run on some MMFs alerted financial regulators to the systemic relevance of MMFs. Even though MMFs did not cause the financial crisis, their performance during the crisis demonstrated their potential to spread or even expand a crisis.<sup>52</sup> An MMF "breaks the buck" when the value of its shares falls below their standard \$1.00 or €1.00 value. This could occur when the number of shares redeemed in a short period of time is huge, so the liquidity of the fund cannot support the \$1.00 valuation.<sup>53</sup> In this case, MMF's shareholders are not able to redeem their shares for the \$1.00 that they primarily invested, so they "run" to the MMF to redeem their shares. A run on an MMF could cause contagion in the MMF industry where a wave of redemptions spread from one MMF to another.<sup>54</sup> In US history, only two MMFs have broken the buck where their NAV fell below \$1.00.<sup>55</sup> The most recent example was in 2008 when the Reserve Primary Fund reduced the NAV of its shares to \$0.97.<sup>56</sup> The Reserve Primary Fund was one of the largest MMF in the US and had a good reputation among the investors because it generated above average returns. Interestingly, the Reserve Primary Fund increased its commercial paper holdings by 59% within one year. Reserve Primary Fund assets under management were \$62 billion, of which it had invested around 1.2%, \$785 million, in commercial paper issued by Lehman Brothers.<sup>57</sup> On September 16, 2008, Lehman Brothers Holdings Inc declared bankruptcy. Consequently, the Reserve Primary Fund lost \$785 million in value, and that caused a decrease in its NAV per share from \$1.00 to \$0.97. One day later, Reserve Primary Fund broke the buck leading to a run by its shareholders. The shareholders requested redemptions of approximately \$40 billion in just two days.<sup>58</sup> The run contagion quickly spread to other prime MMFs and within one-week investors withdrew approximately \$310 billion from prime MMFs.<sup>59</sup> In order to meet investors' redemption requests, MMFs were forced to sell their portfolio securities, which in turn lead to declines in the prices of short-term instruments. However, only the Reserve Primary Fund broke the buck because many MMF

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<sup>52</sup> See, Viral V. Acharya, Thomas F. Cooley, Matthew P. Richardson and Ingo Walter, *Regulating Wall Street: The Dodd-Frank Act and the New Architecture of Global Finance* 308 (John Wiley & Sons, New Jersey 2010).

<sup>53</sup> See, Gary Gorton, *Misunderstanding Financial Crises: Why We Don't See Them Coming* 49 (OUP USA, New York 2012).

<sup>54</sup> Perlow, (n 1).

<sup>55</sup> Price, (n 5).

<sup>56</sup> Ibid.

<sup>57</sup> Lim, (n 7).

<sup>58</sup> Ibid.

<sup>59</sup> Evanoff Douglas and Moeller William, *Dodd-Frank Wall Street Reform and Consumer Protection Act: Purpose, Critique, Implementation Status and Policy Issues* 128 (World Scientific, Singapore 2014).



sponsors provided fundamental financial support to avoid breaking the buck (sponsor support will be discussed in detail later).<sup>60</sup>

Further, in order to understand MMFs runs it is necessary to compare MMFs with banks and mutual funds. The phenomenon of runs is commonly associated with the banking industry.<sup>61</sup> The main source of funds for banks is deposits; money that depositors deposit to the bank for safekeeping and use in their transactions. The depositors reserve the right to withdraw the full amount of their deposits upon demand. Banks use deposits to lend borrowers. Banks usually have liquidity to meet normal withdrawal demands. Nonetheless, if a large quantity of depositors withdraw their money at the same time, the bank will not be able to honour its obligation and meet those demands.<sup>62</sup> And as a result, the bank will experience a run. The depositors who withdraw their money first are able to receive their deposit in full, while those who run slowly to the bank will most likely not receive their full deposits. This is known as the first-mover advantage.<sup>63</sup> In contrast, a “first-mover advantage” in MMFs enables those investors who redeem their shares first to do so at the standard NAV share price of \$1.00, even if the fund’s assets are worth less. The redemption at \$1.00 will decrease the MMF’s assets because those investors receive more than their actual entitlement. Consequently, the subsequent investors will receive less than the first movers. Here, it is important to emphasise the fact that in normal market conditions small variations between the standard \$1.00 and the MMF’s actual NAV do not result in decreasing the MMF’s assets because these variations are offset by the purchases that also take place at \$1.00 per share at the same time.

In a mutual fund, the first-mover advantage is not possible because the mutual fund does not undertake to pay out anything more than each share's NAV which represents the aggregate value of the fund assets minus the aggregate liabilities of the fund divided by the number of shares outstanding.<sup>64</sup> To illustrate, if a mutual fund's NAV dropped by 20 per cent the shareholders who run first to the fund will receive the same as those who ask for redemption later. In other words, each shareholder in the mutual fund would receive only 80 percent of the original invested value. Thus, the phenomenon of run in mutual funds is not possible.

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<sup>60</sup> See, Hal Scott, *Connectedness and Contagion: Protecting the Financial System from Panics* 72 (MIT Press, Cambridge 2016).

<sup>61</sup> For further information about bank’s run see, Gurbachan Singh, *Banking Crises, Liquidity, and Credit Lines: A Macroeconomic Perspective* 24 (Routledge, New York 2012).

<sup>62</sup> *Ibid*, 24.

<sup>63</sup> Fisch, (n 4).

<sup>64</sup> Mayo, (n 13) 337.

In addition, breaking the buck might have serious and harmful impacts not only on the investors, but also on the MMF industry and the financial market. To explain the threat, when an MMF breaks the buck some investors might lose part or all of their share value. The impact would be bigger on institutional investors because they usually hold large quantities of shares and some MMFs shares might be held by few institutional investors. Further, breaking the buck could also have a serious impact on the MMF industry. An MMF promise to redeem its shares at stable \$1.00 NAV per share is a main attribute that encourages investors to invest in the fund. Failure of an MMF to honour its promise could result in losing the confidence of not only the investors of the fund that broke the buck but also other MMFs investors, so they either withdraw their money or stop investing in MMFs in the future. This impact was clearly demonstrated by the huge number of redemptions that took place when the Reserve Primary Fund broke the buck in both the US and European financial markets. According to the Institutional Money Market Funds Association (IMMFA) the huge number of redemptions in the US MMFs market affected the European CNAV MMFs to such an extent that around 25 per cent of their total assets were redeemed in a very short time period.<sup>65</sup>

Moreover, the adverse impact of breaking the buck could extend to the financial market and economy. As explained above, when an MMF breaks the buck its investors will quickly run to the fund to redeem their shares. A run on an MMF could lead to runs on other MMFs and the huge number of redemptions will cause liquidity problems to MMFs. To overcome these problems, MMFs will attempt to sell their portfolio assets to get cash. A forced sale of the MMFs assets that occurs simultaneously might lead to price declines in the market or in a specific sector. This most likely will affect all other institutions that hold these assets and ultimately the stability of the financial market. The interventions of the US government to stabilise the financial market after the Reserve Primary Fund broke the buck is clear proof of this potential impact. To illustrate, on September 19, 2008, the Board of Governors of the Federal Reserve System and the Treasury launched two unprecedented market interventions to provide additional liquidity to MMFs and stabilize the financial markets.<sup>66</sup> These programs successfully slowed the run on prime MMFs. Although the government interventions were

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<sup>65</sup> See, European Commission, *Proposal for a Regulation of the European Parliament and of the Council on Money Market Funds* available at <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52013SC0315&from=da> accessed 21 August 2017.

<sup>66</sup> See, Michael Brandl, *Money, Banking, Financial Markets and Institutions* 196 (Cengage Learning, Boston 2016).

vital at that stage, the financial crisis alerted the financial regulators to the necessity of reforming the MMFs' regulations as a prerequisite to stabilising the financial market.

#### 4. Regulatory reform of MMFs

After the global financial crisis, there was a consensus that the financial market's instability was global, and international cooperation to enhance the financial legal framework needed to be strengthened. Under the guidance of the Financial Stability Board (FSB), some initiatives to improve financial stability were made, including recommendations to promote oversight of shadow banking activities, the Basel III Accords and certain provisions for the “globally systemic important banks”.<sup>67</sup> Along with securitization and repurchase agreement, improving MMFs' regulatory framework is considered an essential part of enhancing the shadow banking system. The FSB, in 2011, defined shadow banking as “*credit intermediation involving entities and activities (fully or partially) outside the regular banking system.*”<sup>68</sup> The FSB tasked the International Organization of Securities Commissions (IOSCO) to develop guidelines for MMFs and on October 9, 2012, the IOSCO issued their Policy Recommendations (Final Report) for reforming MMFs.<sup>69</sup> The IOSCO Report outlined 15 recommendations to be the basis for common standards for MMFs regulations across jurisdictions. The recommendations, generally, are articulated around key principles for disclosure to investors, liquidity management, maturity, credit, valuation, use of ratings and repurchase agreements. The IOSCO recommended that: MMFs should be explicitly defined in collective investment scheme regulations; specific limitations on the types of assets in which MMFs could invest and the risks they may take should be applied; regulators should closely monitor other collective investment schemes and securities similar to MMFs to avoid confusion among investors and to limit the risk of regulatory arbitrage; they should comply with fair valuation methods when valuing the securities; the appropriateness of the MMF valuation practices should be reviewed by a third party; MMFs should know their investors and their sophistication as part of risk management; they should hold a minimum amount of liquid assets to strengthen themselves against huge redemptions and prevent forced sales;

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<sup>67</sup> For further information about Systemically important financial institutions (SIFIs) see: FSB, *Addressing SIFIs* available at <http://www.fsb.org/what-we-do/policy-development/systematically-important-financial-institutions-sifis/> accessed 26 August 2017.

<sup>68</sup> See, FSB, *Shadow Banking: Strengthening Oversight and Regulation* (2011) available at [http://www.fsb.org/wp-content/uploads/r\\_111027a.pdf](http://www.fsb.org/wp-content/uploads/r_111027a.pdf) accessed 6 June 2018.

<sup>69</sup> The IOSCO, *Policy Recommendations for Money Market Funds Final Report* (2012) available at [http://www.csfc.gov.cn/pub/csfc\\_en/affairs/AffairsIOSCO/201210/P020121010500138903810.pdf](http://www.csfc.gov.cn/pub/csfc_en/affairs/AffairsIOSCO/201210/P020121010500138903810.pdf) accessed 26 August 2017.

they should periodically conduct appropriate stress testing; they should have appropriate tools to deal with exceptional market conditions and substantial redemption pressures; stable/constant NAV MMFs should be converted to floating/variable NAV or, alternatively stable NAV MMFs should be reinforced for resilience; MMFs should have in place effective internal credit risk assessment procedures to avoid any mechanistic reliance on external ratings agencies; the credit rating agencies' current rating methodologies should be more explicit for MMFs; MMFs' investors should be informed the possibility of principal loss and that MMFs do not guarantee capital; MMFs should disclose the funds' practices in relation to valuation and the applicable procedures in times of stress; and regulators should develop guidelines on the framework applicable to the use of repos by MMFs.<sup>70</sup> The FSB endorsed IOSCO's recommendations, and published its final report, *Strengthening Oversight and Regulation of Shadow Banking*.<sup>71</sup> The IOSCO's recommendations, obviously, demonstrate the role of improving MMFs legal framework in achieving the stability of the international financial system because they aim to reinforce the safety of MMFs and reduce their potential to create or amplify systemic risks. The importance of these recommendations comes from the fact that they recognize that MMFs operate differently from country to country under different market regulations, so regulators can determine the appropriate policy responses to address the financial stability issues potentially raised by these financial institutions.

#### **4.1 Reforms in the U.S. Regulatory Regime**

In the US, MMFs are a type of mutual fund registered under the Investment Company Act (ICA) of 1940. What makes MMFs unique relative to other mutual funds is that MMFs must comply with the Securities and Exchange Commission (SEC) Rule 2a-7.<sup>72</sup> In 1983, the SEC issued Rule 2a-7 that sets out portfolio requirements regarding liquidity, maturity, credit quality and diversification which were intended to help MMFs to maintain a stable NAV. In response to the 2008 financial crisis and breaking of the buck by the Reserve Primary Fund, the SEC adopted reforms and amendments to Rule 2a-7 in 2010.<sup>73</sup> These reforms were designed to fortify the MMFs industry and protect investors by reducing the interest rate, liquidity and credit risks of MMF's portfolios. To illustrate, the reforms required MMFs to

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<sup>70</sup> Ibid.

<sup>71</sup> See, FSB, (n 68).

<sup>72</sup> See, Matthew P Fink, *The Rise of Mutual Funds: An Insider's View* 178 (2<sup>nd</sup> edn Oxford University Press, New York 2011).

<sup>73</sup> See, SEC, *SEC Approves Money Market Fund Reforms to Better Protect Investors* (2010) available at <https://www.sec.gov/news/press/2010/2010-14.htm> accessed 29 August 2017.

maintain daily at least 10 percent of an MMF's assets, and weekly, at least 30 percent of each MMF's assets, liquidity.<sup>74</sup> MMFs became also under an obligation to reduce the maximum allowable weighted average maturity (WAM) of MMF portfolios from 90 days to 60 days in order to diminish MMFs' exposure to interest rate risk.<sup>75</sup> Another important change was that MMFs' advisers were required to periodically stress test their funds' ability to maintain a stable NAV per share based on certain hypothetical events such as a change in short-term interest rates. Although the 2010 MMF reforms were an effective improvement to the MMF industry, several significant market events after the 2010 reforms, however, raised a fundamental question about the demand for further reforms to boost the financial stability and reduce MMFs systemic risks. Particularly, in 2011, the Eurozone sovereign debt crisis and the US. government's debt ceiling crisis occurred, and in 2013 another US. government debt ceiling unfolded.

In fact, after the 2010 reforms there have been no failures in the MMF industry despite the significant turmoil in the financial markets. In 2011, during the Eurozone crisis and the United States debt ceiling MMFs were able to meet investors' heavy redemption requests.<sup>76</sup> This can be attributed to the high level of liquidity that MMFs were required to hold under the 2010 rules and the MMFs managers' anticipation to investors' response to the crisis, so they responded quickly to the market conditions by increasing the fund's liquidity. However, the investors' confidence in the MMFs industry was once again faltering and consequently a debate for further MMF reforms emerged. Importantly, when the SEC adopted the 2010 amendments, it stated that MMFs' experience during the 2008 financial crisis raised questions of whether more substantial changes to MMFs regulations might be warranted.<sup>77</sup> Further, data and analysis from the SEC's Division of Economic and Risk Analysis (DERA) showed that additional reforms would assist in addressing potential future failures in the MMF industry.<sup>78</sup>

It is significant to know that in 2010, under the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank Act) the Financial Stability Oversight

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<sup>74</sup> Ibid.

<sup>75</sup> Ibid.

<sup>76</sup> See, the Investment Company Institute, *ICI Analysis of SEC's 2010 Money Market Fund Reforms: Tested, Working, and Have Enhanced Financial Stability* (2013) available at [https://www.ici.org/mmfs/sec\\_reforms/news/13\\_2010\\_mmf\\_reforms\\_study](https://www.ici.org/mmfs/sec_reforms/news/13_2010_mmf_reforms_study) accessed 29 August 2017.

<sup>77</sup> See, SEC, *SEC Adopts Money Market Fund Reform Rules* (2014) available at <https://www.sec.gov/news/press-release/2014-143> accessed 9 June 2018.

<sup>78</sup> Ibid.

Council (FSOC) was created.<sup>79</sup> The creation of FSOC was to identify risks to US financial stability, respond to potential threats to the stability of the US financial system and promote market discipline. Under Section 120 of the Dodd-Frank Act the FSOC has the authority to issue "recommendations" to a primary financial regulator to apply new or strengthen existing standards and safeguards.<sup>80</sup> In 2012, the FSOC used this authority and initiated a proceeding pressing the SEC to adopt new MMF rules.<sup>81</sup> Even though the FSOC has the authority to make recommendations, the SEC, a primary regulator, may reject the FSOC's recommendation and explain its reasons. The FSOC could not force the SEC to start the reform process; however, the SEC was under a pressure to show that it can act on its own to address all concerns on MMFs caused by the market crisis.<sup>82</sup> On June 5, 2013, by a unanimous vote, the SEC proposed amendments to the MMFs regulation. The proposed amendments designed to address MMFs' vulnerability to heavy redemptions and mitigate potential contagion from such redemptions. On July 23, 2014, the SEC voted 3–2 to substantially amend the regulatory framework of MMFs. The 2014 reform is one of the biggest structural changes to MMFs in the US history, changing Rule 2a-7 radically. The new rules came into force on October 2016. The 2014 reform rules can be grouped into four categories: (A) rules regarding trading certain MMFs at floating NAV (FNAV); (B) a requirement to impose liquidity fees and redemption gates; (C) rules regarding disclosure and reporting obligations; and (D) stress testing. The following analysis will investigate the rationale behind the new rules and their impacts on the MMFs industry and the stability of the financial market.

## **A- Floating NAV**

The major component of 2014 MMF reform is the FNAV. The 2014 reform requires institutional prime and institutional municipal MMFs to value their portfolio securities using market-based factors.<sup>83</sup> This means that these MMFs are no longer permitted to use the amortized cost method to compute their NAV. Government and retail MMFs are allowed to continue using the amortized cost method to value their securities in order to maintain a

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<sup>79</sup> Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 s. 111.

<sup>80</sup> *Ibid*, s. 120.

<sup>81</sup> See, *Financial Stability Oversight Council, Proposed Recommendations Regarding Money Market Mutual Fund Reform* (2012) available at <https://www.treasury.gov/press-center/press-releases/Pages/tg1764.aspx> accessed 29 August 2017.

<sup>82</sup> For further information, see, Martha Cochran, David Freeman, and Helen Clark, *Money Market Fund Reform: Sec Rulemaking in the FSOC Era* 2015 Colum. Bus. L. Rev 862 (2015).

<sup>83</sup> See, SEC, *Money Market Fund Reform; Amendments to Form PF* 135 (2014).

stable NAV. A government MMF is defined as a fund that invests 99.5% or more of their total assets in cash, government securities, and/or repurchase agreements that are collateralized fully (collateralized by cash or government securities).<sup>84</sup> A retail MMF is defined as an MMF with policies and procedures reasonably designed to limit all beneficial owners of the fund to natural persons.<sup>85</sup> The floating NAV eliminates the most unique attribute of an MMF, the stable NAV, which makes MMFs attractive vehicles to different types of investors. This raises a significant question: why might the SEC risk destroying an essential part of an industry, which has performed very well in the financial markets and served different types of investors? In order to understand the rationale behind the SEC's decision to shift from stable NAV (SNAV) to FNAV it is essential to link the MMF 2014 reform with the central objective of the financial regulation -financial stability- after the 2008 financial crisis. Since the 2008 financial crisis the stability of the financial system has become the priority of the financial regulators. Because of the social and economic costs of financial instability, the reforms that have addressed the main financial industries such as the banking industry (Basel III) demonstrate the emphasis on the importance of financial stability. As discussed earlier, MMF industry is a significant industry and achieving the financial stability objective cannot be accomplished without removing the instability elements in this industry because any failure in the MMF sector will likely have wider impact on other sectors. To illustrate, during the 2008 financial crisis and the subsequent events in 2011, institutional prime MMFs received huge redemption requests and were more susceptible to runs than any other types due to the sophistication of their investors.<sup>86</sup> Therefore, the SEC looks at institutional prime MMFs as a main source of vulnerability, but can FNAVs address the susceptibility of institutional prime MMFs to run?

An FNAV is essentially the SEC's attempt to reduce the first mover advantage associated with the structure of a SNAV because an MMF will redeem its shares at the fund's true NAV. This means that institutional prime MMFs will operate like all other types of mutual funds that use the mark-to-market method to price their shares. In transacting with an FNAV, institutional prime MMFs' investors should be aware when making the investment decision that institutional prime MMFs are not anymore risk-free investments and their shares' prices might be affected by the market's conditions. Although the SEC's approach to addressing institutional prime MMFs runs might mitigate the first mover advantage associated with the

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<sup>84</sup> Ibid, at 202.

<sup>85</sup> Ibid, at 223.

<sup>86</sup> See, Fabozzi, (n 9) 653.

motivation to run, it is unlikely to be sufficient to prevent a run during a severe liquidity crisis because FNAVs would not prevent MMF investors from acting rationally to protect their investments in any crisis. This can be demonstrated by the performance of FNAV MMFs in Europe during the 2008 financial crisis where both FNAV and CNAV MMFs were equally likely to run.<sup>87</sup> However, it is significant to emphasise that FNAV reform works in line with other 2014 amendments, redemption gate and liquidity fee, which aim to address MMFs vulnerability to run.

Importantly, the major change in the institutional prime MMF structure has adverse consequences on this important MMF's segment. Institutional Prime MMFs' transition from stable to floating NAV might cause large shifts in assets to other investments such as unregulated or less regulated funds, offshore MMFs or banks. Corporate cash managers, for example, might shift their assets to other risk-free investments because their investment policies and guidelines prevent them from investing in FNAV MMFs. According to Goldman Sachs Asset Management, from 2014 to 2016, institutional prime MMFs' assets under management dropped from \$1 trillion to \$125 billion.<sup>88</sup> This huge shift in institutional prime MMFs assets means that the 2014 reforms have significantly affected these MMFs, so they have become less attractive. Nonetheless, stabilizing the financial system, from the financial regulator's perspective, far outweighs this shift in the institutional prime MMFs' assets.

## **B- Liquidity fees and redemption gates**

Another significant change to the MMFs regulation is the introduction of liquidity fees and redemption gates. A redemption gate is a temporary measure that may be implemented by an MMF's board of directors that restricts redemptions in an MMF for up to 10 business days in a 90-day period, if the fund's weekly liquid assets fall below 30% of its total assets.<sup>89</sup> The board of directors can also impose liquidity fees up to 2%, if the fund's weekly liquid assets fall below 30% of its total assets and the board determines that this measure is in the investors' best interest.<sup>90</sup> Nonetheless, an MMF is required to impose a liquidity fee of 1% on all redemptions if its weekly liquid assets fall below 10% of its total assets, unless the board

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<sup>87</sup> See, Committee on Capital Markets Regulation, *Comment letter to SEC* (2013) available at <https://www.sec.gov/comments/s7-03-13/s70313-210.pdf> accessed 5 September 2017.

<sup>88</sup> See, Goldman Sachs Asset Management, *US Money Market Reform by the Numbers* (January 2017) available at <https://www.gsam.com/content/gsam/us/en/advisors/market-insights/gsam-insights/2017/us-money-market-reform-by-the-numbers.html> accessed 4 September 2017.

<sup>89</sup> See, SEC, 'Money Market Fund Reform; Amendments to Form PF' (2014) at 39.

<sup>90</sup> *Ibid*, at 40.



of directors of the fund determines that imposing such a fee would not be in the best interests of the fund.<sup>91</sup> Rule 2a-7 already provided boards with the ability to suspend redemptions, after SEC approval, provided an MMF would need to be liquidated.

The SEC rationale for imposing liquidity fees is to mitigate the first mover advantage through increasing the cost of shares' redemptions.<sup>92</sup> Unlike liquidity fees, redemption gates are designed to directly stop a run in times of heavy redemptions. In other words, redemption gates restriction aims at providing the MMF's board of directors with an immediate tool to stop heavy redemptions in times of stress.

The shareholders' right to redeem their shares at any time is a key feature that attracts investors to invest in MMFs. By imposing liquidity fees and redemption gates, shareholders will be prevented from accessing their funds, so these restrictions would influence the investors' investment decision to invest in MMFs. Liquidity fees and redemption gates are discretionary tools; thus the board of directors might decide not to use them even though the fund's assets fall below 30%. This raises an important question: why might the board of director hesitate to impose these restrictions? Imposing a gate or fee would damage the MMF's reputation and shareholders who have been subjected to a gate or fee are likely to leave the fund. Prospective investors will also be careful of investing in an MMF that has previously imposed these restrictions. Therefore, the MMFs' ability to attract investors will be limited due to the market competition conditions. These considerations would be likely to impact the board of directors' decision and determine that protecting the interest of the investors requires them not to impose any restrictions. Even in cases of when the fund assets fall below 10% the board still has the same power under the concept of the investors' best interest. By emphasizing on the concept of "best interests", the SEC has placed a large responsibility on the board of directors. However, the SEC did not provide meaningful guidance on the concept "best interests" and how funds' boards should exercise this discretion to protect investors, and that might minimize the effectiveness of these tools. The SEC, for example, indicated a number of factors a board might consider in determining the fund's best interests. These may include, but are not limited to: the relevant indicators of

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<sup>91</sup> Ibid, at 40.

<sup>92</sup> Ibid, at 47.

liquidity stress in the markets, the liquidity profile of the fund and expectations as to how the profile might change in the immediate future, and the fund's experience.<sup>93</sup>

In addition, the question that can be raised here is: can fees and gates restrictions diminish MMFs investors' incentive to runs? When investors are aware that they should pay the cost of their redemption requests, this could encourage them to remain invested in the funds to avoid the exit cost. This, however, could be counterproductive. Since MMFs' investors know that MMF can impose fees and gates, any deterioration or slight stress in the financial market might incentivise them to redeem their shares before the fund applies these tools. Further, when other MMFs' shareholders know that an MMF has imposed fees or gate they might run to redeem their shares on concerns that their MMFs could take the same measures. In other words, rather than diminishing MMFs' incentive to run, fees and gates might increase vulnerability of MMFs to run. As a result, the law should be clear in this regard and remove any ambiguity that might undermine the effectiveness of these tools.

### **C- Disclosure and reporting**

With an extensive list of additional required disclosures, the 2014 reform requires MMFs to reflect in their disclosure the structural changes in the MMFs industry. The new disclosure rules are designed to make MMFs' levels of liquidity, redemption requests, potential imposition of liquidity fees or redemption gates, and NAV more transparent in order to enable investors to play an effective role in supervising and monitoring the fund activities. In particular, MMFs are required to disclose a market-based NAV each business day.<sup>94</sup> As for FNAV MMFs, the market-based NAV is the issue and redemption price; whereas in SNAV MMFs, it is a shadow NAV.<sup>95</sup>

Further, in order to make FNAV MMFs investors aware of the consequences of the new changes, MMFs must disclose that investors could lose money by investing in the fund due to the market fluctuation and an MMF may impose redemption fees and/or temporary suspend redemption.<sup>96</sup>

Under the 2010 amendments, the SEC imposed an obligation on MMFs to have websites. The 2014 amendments adopted further website disclosure requirements for MMFs. In order to

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<sup>93</sup> Ibid, at 90.

<sup>94</sup> Ibid, at 168.

<sup>95</sup> Ibid, at 157 and 168.

<sup>96</sup> Ibid, at 291.

promote transparency and boost market discipline in the management of MMFs, funds are required to show key information on their websites on each business day. MMFs, for example, should show: (1) the MMF's current NAV; (2) the percentage of total assets invested in daily and weekly liquid assets; and (3) daily net inflows or outflows.<sup>97</sup>

Another significant change to the disclosure requirements is the introduction of form N-CR. MMFs must file a report with the SEC upon the occurrence of certain significant events. The report must be sent to the SEC within one business day of the event's occurrence, and a follow-up filing must be sent within four business days, including a clear description of the event.<sup>98</sup> The SEC will make the information contained in Form N-CR publicly available upon filing.

These disclosure amendments may provide valuable transparency to investors because they will permit current and prospective shareholders to make informed decisions to purchase shares of, or remain invested in, the fund. Nonetheless, extensive disclosure may overwhelm investors by limiting their ability to determine useful information related to their investments. Extensive disclosure may be useful for institutional investors that have competent staff who are able to analyse the information and make informed decisions based on the disclosed information. Nevertheless, information overload might be problematic to retail investors because these investors do not usually have the ability to understand technical and sophisticated information. Therefore, too much information might be confusing rather than useful to these investors. Here, it is significant to emphasise that, as will be discussed later, the SEC knows that the fundamental changes in the MMFs industry will make these vehicles more attractive to institutional and sophisticated investors than retail investors.

#### **D- Stress testing**

One of the significant reforms addressed in the 2014 is the enhanced stress testing requirement. In 2010, the SEC imposed an obligation on MMFs to periodically test their ability to maintain a SNAV based on certain hypothetical events.<sup>99</sup> Nonetheless, the disparities in the effectiveness and quality of stress testing practices among MMFs demonstrated the need to enhance the 2010 rules. The 2014 reform requires MMF to apply prescriptive stress testing system. Particularly, MMFs must test their ability to maintain

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<sup>97</sup> Ibid, at 335.

<sup>98</sup> Ibid, at 374.

<sup>99</sup> See, SEC, *SEC Approves Money Market Fund Reforms to Better Protect Investors* (2010) available at <https://www.sec.gov/news/press/2010/2010-14.htm> accessed 29 March 2018.

weekly liquid assets of at least 10% of total assets in response to several scenarios.<sup>100</sup> The hypothetical stress events include: (1) increases in the level of short term interest rates; (2) a downgrade or default of particular portfolio security positions; and (3) a widening of spreads compared to the indexes to which portfolio securities are tied.<sup>101</sup> An MMF's adviser must report the results of the stress testing to the board to evaluate the results of the stress testing. Considering stress testing as a significant tool to achieve stability of the MMFs, the new rules aim to minimize the possibility of a failure by requiring MMFs to test their liquidity position in case of adverse economic developments or heavy redemption requests. It is significant to mention that stress testing is a critical element of risk management for banks and a fundamental tool for banking supervisors and macro-prudential authorities. Stress-testing may be the most effective method to ensure the resilience of the financial system. Pillar 1, minimum capital requirements, of the Basel II framework requires banks to have in place a rigorous programme of stress testing because stress testing alerts bank management to a variety of risks.<sup>102</sup> Therefore, the emphasis on this tool in the MMFs' reforms can be attributed to its effectiveness in the banking industry, and this is a clear proof of the influence of the banking regulators on the MMFs' reforms.

## 4.2 Reforms in the EU Regulatory Regime

The adverse impacts of the 2008 financial crisis on the European MMF industry underlined the need to reform the MMF legal framework. Prior to the new reform, around 80% of MMF assets were covered by the rules of Directive 2009/65/EC on Undertakings for Collective Investment in Transferable Securities (UCITS).<sup>103</sup> The remaining MMFs operated under the rules of Directive 2011/61/EU, covering 'Alternative Investment Fund Managers' (AIFM). The UCITS Directive regulates marketing collective investment schemes throughout Europe.<sup>104</sup> This means that UCITS Directive does not target MMFS specifically. In 2010, the Committee of European Securities Regulators (CESR), European Securities and Markets

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<sup>100</sup> See, SEC, 'Money Market Fund Reform; Amendments to Form PF' (2014) at 556.

<sup>101</sup> Ibid, at 568.

<sup>102</sup> The Basel Committee on Banking Supervision, *Principles for sound stress testing practices and supervision* (2009) available at <https://www.bis.org/publ/bcbs155.pdf> accessed 10 Jun 18.

<sup>103</sup> M Szczepański, *Money Market Funds: Measures to improve stability and liquidity* (2017) European Parliamentary Research Service, available at [http://www.europarl.europa.eu/RegData/etudes/BRIE/2017/608649/EPRS\\_BRI\(2017\)608649\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/BRIE/2017/608649/EPRS_BRI(2017)608649_EN.pdf) accessed 3 January 2018.

<sup>104</sup> For further information about UCITS Directive see, Mohammed Khair Alshaleel, *Undertakings for the Collective Investment in Transferable Securities Directive V: Increased Protection for Investors* 13 ECL 14–22 (2016).

Authority's predecessor, published guidelines on the common definition of European MMFs.<sup>105</sup> The Guidelines codified particular management and operational rules deemed suitable for European MMFs.

For the purpose of preserving the integrity and stability of the European financial markets, a proposal for a regulation on MMFs was published by the European Commission in September 2013.<sup>106</sup> After much delay and long debate and consultations, the new European MMFs regulation was published in the EU Official Journal on 30 June 2017. The Regulation came into force on 21 July 2017. Existing MMFs will have to comply with the new regulation by 21 January 2019.

The length of time it took to reach the final agreement, around four years, suggests that the new MMFs' regulation is one of the most contentious and complex pieces of legislation that the EU regulators have dealt with. The apparent consequences of the 2014 reform in the US on the MMF industry, especially the shift in MMFs assets, might be a major reason for this delay. To illustrate, the EU regulators aimed at achieving a balanced agreement between addressing the vulnerabilities of money market funds and their potential systemic risk, and maintaining the intrinsic value of these short-term financial instruments to businesses in the European financial markets.

Generally, the new EU reform appears to follow the US reform in terms of the mechanisms adopted to address MMFs' vulnerability to run, namely liquidity fees and redemption gates, transparency and stress testing. Nonetheless, the major difference between the two reforms is the EU reform provides investors with a high degree of optionality for investing their short-term cash. To maintain MMFs as a viable product, the new regulation offers two types of MMF and three structural options. According to the new regulation, MMFs must be classified as either a short-term MMF or a standard MMF.<sup>107</sup> On the one hand, short-term MMFs aim to offer money market rate returns with a maximum weighted average maturity (WAM) of 60 days and maximum weighted average life (WAL) of 120 days. With short WAM and WAL,

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<sup>105</sup> Available at: [https://www.esma.europa.eu/sites/default/files/library/2015/11/10-049\\_cesr\\_guidelines\\_mmfs\\_with\\_disclaimer.pdf](https://www.esma.europa.eu/sites/default/files/library/2015/11/10-049_cesr_guidelines_mmfs_with_disclaimer.pdf) accessed 30 March 2018.

<sup>106</sup> The European Commission's proposal available at: [http://ec.europa.eu/internal\\_market/investment/docs/money-market-funds/130904\\_mmfs-regulation\\_en.pdf](http://ec.europa.eu/internal_market/investment/docs/money-market-funds/130904_mmfs-regulation_en.pdf) accessed 3 January 2018.

<sup>107</sup> Regulation (EU) 2017/1131 of the European Parliament and of the Council of 14 June 2017 on money market funds [2017] OJ L 169/8, Article 24.

short-term MMFs seek to provide investors with the highest possible level of safety.<sup>108</sup> On the other hand, standard MMFs are created with the objective of offering returns slightly higher than short-term money market returns.<sup>109</sup> Therefore, standard MMFs are required to have a maximum WAM of six months and maximum WAL of one year.

MMFs, under the new reform, may be structured as Public Debt CNAV MMFs, Low Volatility NAV (LVNAV) MMFs or VNAV MMFs.<sup>110</sup> The reform has introduced LVNAV MMF as an innovative product to attract more investors and avoid shifting MMFs assets. The LVNAV MMF will effectively operate as a CNAV fund by applying amortized costs to money market instruments with a remaining maturity below 75 days, as long as the difference between such amortized cost and the market price of the instrument remain below 10 points and as long as the market NAV of the fund does not deviate from the dealing NAV by more than 20 basis points.<sup>111</sup> This means that money market instruments with a remaining maturity of more than 75 days must be valued using mark-to-market (or mark-to-model) valuations. To fulfil potential redemption requests, LVNAV MMFs must comply with strict daily and weekly liquidity requirements. They must hold at least 10% in daily liquid assets and at least 30% in weekly liquid assets.<sup>112</sup> In contrast to LVNAV MMF, VNAV MMFs are required to hold at least 7.5% of their assets in daily liquid assets and to hold at least 15% of their assets in weekly liquid assets.

In addition, similar to the 2014 reform in the US, the EU reform has introduced a stringent regime of fees and gates in the case of shortfalls in the MMF liquidity in order to diminish MMFs investors' incentive to runs. Nevertheless, the liquidity fee and redemption gate structure under the EU regulation will not be the same as for the US reform. To illustrate, under the EU regulation, liquidity gates and redemption fees apply to public debt CNAVs MMFs and LVNAV MMFs only; they do not apply to VNAVs MMFs.<sup>113</sup> In contrast, in the US, the redemption fees and liquidity gates apply only to institutional prime VNAV MMFs and retail MMFs. The restrictions do not apply to government CNAV MMFs, but they may opt into them if properly disclosed.

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<sup>108</sup> While WAM is used to measure the sensitivity of an MMF to changing money market interest rates, WAL is used to measure the credit risk of an MMF's portfolio.

<sup>109</sup> Regulation (EU) 2017/1131 of the European Parliament and of the Council of 14 June 2017 on money market funds [2017] OJ L 169/8, Article 25.

<sup>110</sup> *Ibid*, Article 3.

<sup>111</sup> *Ibid*, Article 29.

<sup>112</sup> *Ibid*, Article 24.

<sup>113</sup> *Ibid*, Article 34.

The EU regulation distinguishes between mandatory and discretionary application of liquidity fees and redemption gates. The discretionary application occurs when the level of weekly liquid assets falls below 30% and net redemptions from the MMF exceed 10% in one day. In this case, an MMF may apply a liquidity fee to redeeming investors, equal to the cost of liquidity or impose redemptions gate up to 10% per day for up to 15 days. The MMF may also suspend shares redemptions for up to 15 days. If the level of weekly liquid assets falls below 10%, an MMF has two options: either apply a liquidity fee to redeeming investors, equal to the cost of liquidity, or suspend redemptions for up to 15 days.

As explained above, in the US, the board of directors could avoid applying the mandatory liquidity fee (1%) in case of determining that imposing such a fee will not be in the best interests of the fund. Unlike the US, the EU regulation does not grant MMFs this power. The strictness of the EU regime clearly appears in the consequences of applying the suspension of redemption tool. When the total duration of the suspensions exceeds 15 days within a period of 90 days, public debt CNAV MMF or a LVNAV MMF shall automatically cease to be a public debt CNAV MMF or a LVNAV MMF. This implies that MMFs may prefer to apply the liquidity fee to avoid the rigid consequences of the suspension of redemption. By imposing strict rules, the EU regulators attempted to avoid the criticisms of the US reform regarding the discretionary power of the board of directors to impose liquidity fees and redemption gates. However, the mandatory application of the fees and gate could affect the attractiveness of MMFs as bank equivalents, where shareholders can access their funds anytime.

Similar to the US 2014 reform, the EU regulation requires MMFs to have in place sound stress testing processes based on hypothetical scenarios. Under the new rules, stress tests should be conducted regularly, at least bi-annually, and include factors such as credit risk, movements in the interest rate, hypothetical redemption requests and changes in liquidity.<sup>114</sup> The purpose of the stress test is to detect any potential vulnerability. In case any vulnerability is revealed, the manager of an MMF should submit an extensive report with the results of the stress testing and a proposed action plan to the board of directors.<sup>115</sup> The board of directors has the authority to amend the proposed plan. The board of directors shall send the extensive

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<sup>114</sup> Ibid, Article 28.

<sup>115</sup> Ibid, Article 28 (4).

report to the national competent authority which in turn shall send it to the European Securities and Markets Authority (ESMA).<sup>116</sup>

### **Prohibition of External support**

A significant component that distinguishes the EU reform from the US 2014 reform is the prohibition of the external (sponsor) support. Article 35 of the MMF regulation prohibits all forms of external support to MMFs.<sup>117</sup> The debate over the external support has been pivotal in the MMF industry whether in the EU or the US.<sup>118</sup> Sponsor support refers to the financial support provided by an affiliated or parent company of the MMF's manager. The debate is based on the significant role played by sponsors for MMFs that faced substantial redemptions requests, especially during the financial crisis. According to Moody's, at least 146 MMFs received sponsor support prior to 2007.<sup>119</sup> Further, between 2007 and 2009, 62 MMFs, including at least 36 funds in the US and an estimated 26 funds in Europe, received financial from their sponsors.<sup>120</sup> These figures demonstrate the vital role historically played by MMFs' sponsors.

The figures raise an important question about the motivations of the MMFs' sponsors to provide financial support to MMFs. It is significant to know that sponsor support is completely discretionary. To illustrate, a sponsor is not legally or contractually under an obligation to support its MMF in times of financial stress. As noted above, a sponsor is usually an affiliated or parent company of the MMF's manager. This implies that sponsors have an interest in providing support to MMFs such as an economic interest in the MMF's management company. Sponsors could also provide support to MMFs to avoid any reputational damage to the management company that could be caused by the failure of an MMF. The support provided to MMFs could take various forms such as cash injections, fee waivers, purchase of MMF's assets at an inflated price, purchase of MMF's shares to provide

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<sup>116</sup> Ibid, Article 28 (6).

<sup>117</sup> Ibid, Article 35.

<sup>118</sup> See, for example, Investment Company Institute, *Is SEC Data Misleading the Public on Sponsor Support of Money Market Funds?* (2012) available at [https://www.ici.org/viewpoints/view\\_12\\_mmfs\\_fund\\_support](https://www.ici.org/viewpoints/view_12_mmfs_fund_support) accessed 10 Jun 18, and Moody's, *Sponsor Support Key to Money Market Funds* (August 2009) [https://files.alston.com/files/docs/Moody's\\_Report.pdf](https://files.alston.com/files/docs/Moody's_Report.pdf), accessed 10 June 2018, and Parlatore, (n 122).

<sup>119</sup> Moody's, *Sponsor Support Key to Money Market Funds* (August 2009)

[https://files.alston.com/files/docs/Moody's\\_Report.pdf](https://files.alston.com/files/docs/Moody's_Report.pdf), accessed 30 March 2018.

<sup>120</sup> Ibid.



liquidity and the issuance of any kind of explicit or implicit guarantee for the benefit of the MMF.<sup>121</sup>

Despite the importance of the sponsor support, the EU financial regulators have decided to prohibit it completely. This prohibition could mainly be attributed to the discretionary nature of sponsor support. Discretionary sponsor support is often described as a weakness of MMFs because the failure of the sponsor to provide support in time of crisis to its MMF would result in the failure of the fund itself.<sup>122</sup> That uncertainty associated with sponsor support is likely to make MMFs more vulnerable to runs during periods of financial instability.

In the US, the 2014 reform has not modified the ability of an MMF sponsor to support the MMF's operations. Nonetheless, it requires additional disclosure with respect to such support. An MMF must provide disclosure in its statement of additional information (SAI) regarding any occasion during the last 10 years on which the MMF received financial support from a sponsor.<sup>123</sup> Further, an MMF must report instances of financial support by sponsors on Part C of Form N-CR, including amount, nature, terms of the support, and the relationship between the person providing the support and the MMF.<sup>124</sup> The SEC also requires an MMF to disclose on its website any support received by its sponsor. Clearly, the US financial regulators took a different approach from the EU regulators. Considering the significant role of sponsor support in the history of MMF industry especially during the financial crisis, the SEC preserved the sponsor support as a potential instrument that MMFs might use, but with extensive disclosure requirements to ensure transparency to shareholders. By imposing these disclosure requirements, the SEC attempts to achieve two objectives; (1) to make investors aware that sponsor support is entirely discretionary; and (2) to keep the SEC informed of all instances of sponsor support, and that will help the SEC to analyse the economic effects of such sponsor financial support.

The disparity in the EU and the US approaches to sponsor support accentuates the necessity of harmonization of the international legal framework of the MMF industry because this disparity carries a threat to the stability of the global financial system, and the 2008 financial

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<sup>121</sup> See, Federal Reserve Bank of Dallas, *Understanding the Risks Inherent in Shadow Banking: A Primer and Practical Lessons Learned* (November 2012)

<https://www.dallasfed.org/~media/documents/research/staff/staff1203.pdf> accessed 30 March 2018.

<sup>122</sup> See, Cecilia Parlato, *Fragility in Money Market Funds: Sponsor Support and Regulation* 121 JEF 596 (2016).

<sup>123</sup> See, SEC, 'Money Market Fund Reform; Amendments to Form PF' (2014) at 317.

<sup>124</sup> *Ibid*, at 358.

crisis is a clear proof of the impact of instability of a financial market on other financial markets.

## **5. Analysing MMF's Reforms from financial stability perspective**

In order to understand the rationale for the major changes to MMF regulations in the EU and the US and their implications, it is necessary to understand the changes to the financial regulations objectives and structure post the 2008 financial crisis. The main failures in the financial regulation and supervision were intrinsic causes of the crisis.<sup>125</sup> In particular, the financial crisis of 2008 showed many deficiencies in the pre-crisis approach to financial stability regulation. The social and economic costs of the crisis demonstrated that the theory of the self-correcting nature of the capital markets is not anymore adequate.<sup>126</sup> To illustrate, in the self-correction process, the market price either increases or decreases in response to a deficiency or an excess to restore the balance between quantity demanded and quantity supplied.<sup>127</sup> This process works automatically to adjust from disequilibrium to equilibrium without the need for government intervention to regulate the market. However, the collapse of the financial system in 2008 proved that this assumption is false. As a result, the enhancement of financial regulation was placed as a core position to strengthen financial markets and regulatory regimes and to avoid future crises. Considerably, since the financial crisis, the goal of financial stability has become the dominant idea of any financial reform nationally or internationally. In the US, as discussed above, the Dodd-Frank Wall Street Reform and Consumer Protection Act ("Dodd-Frank") was passed in 2010 as a response to the 2008 financial crisis. The preamble to Dodd-Frank defines it as an Act designed "to promote the financial stability of the United States".<sup>128</sup>

Prior to the 2008 financial crisis, the assumption that the resilience of individual financial institutions is both an essential and sufficient condition to secure the resilience of the whole financial system was erroneous because events during the crisis have demonstrated that the resilience of individual institutions is an inadequate way of avoiding instability in the

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<sup>125</sup> Mohamed Ariff, John Farrar and Ahmed Khalid, *Regulatory Failure and the Global Financial Crisis: An Australian Perspective* 127 (Edward Elgar Publishing, Cheltenham 2012).

<sup>126</sup> Jeffrey Friedman and Wladimir Kraus, *Engineering the Financial Crisis: Systemic Risk and the Failure of Regulation* 119 (University of Pennsylvania Press, Pennsylvania 2011).

<sup>127</sup> Ismael zadeh, *Beyond Mainstream Explanations of the Financial Crisis: Parasitic Finance Capital* 12 (Routledge, New York 2014).

<sup>128</sup> Dodd-Frank Wall Street Reform and Consumer Protection Act 2010.

financial system.<sup>129</sup> Micro-prudential rules failed to consider the impacts of individual financial institutions' risk-taking on the broader financial system and economy,<sup>130</sup> and how the interconnectedness of financial institutions could increase systemic risks across the financial system.<sup>131</sup> Therefore, to achieve the financial stability objective, it was necessary to focus on the resilience and robustness of the financial system as a whole. To illustrate, due to complexity of the financial system, actions that might be suitable for individual financial institutions can cause destabilization to the financial system as a whole. Consequently, any reform to individual institutions needs to be complemented by a system-wide perspective. This holistic approach adopted by many financial regulators is called macro-prudential policy. While the most important objective of macro-prudential and micro-prudential is to mitigate risk, macro-prudential policies aim at identifying and mitigating potential risks to systemic stability.<sup>132</sup> Early and efficient diagnosis of wide systemic risks is vital for macro-prudential policymaking because early identification of potential risks could help rapid use of policy tools to address these risks.<sup>133</sup>

In addition, macro-prudential policy uses a range of tools to achieve its objectives because applying a single tool is unlikely to be sufficient to address the various sources of systemic risk. This can include mandatory capital buffers, stress tests, liquidity fees and suspension of redemption. Stress tests play a significant role in assessing the vulnerability of the financial system to adverse shocks.<sup>134</sup> Mandatory capital buffers are another important tool that macro-prudential authorities can use to address specific vulnerabilities.<sup>135</sup> These require financial institutions, in addition to minimum capital requirements, to maintain higher capital to asset ratios to ensure that they continue to operate in the event of adverse shocks in the financial markets without the need to shrink assets.<sup>136</sup>

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<sup>129</sup> R Buckley, E Avgouleas and D Arner, *The Financial Stability Board and the Future of International Financial Regulation*, in *Reconceptualising Global Finance and its Regulation* 53 (Cambridge University Press, New York 2016).

<sup>130</sup> See, Rainer Masera, *CRR/CRD IV: The Trees and the Forest* 67 PSL Quarterly Review 387 (2014).

<sup>131</sup> See, Andreas Krause, *Systemic Risk*, in *Investment Risk Management* 189 (Oxford University Press, New York 2015).

<sup>132</sup> See, Xavier Freixas, Luc Laeven and José Peydró, *Systemic Risk, Crises, and Macroprudential Regulation* 251 (MIT Press, Massachusetts 2015).

<sup>133</sup> Damodaran Krishnamurti and Yejin Lee, *Macroprudential Policy Framework: A Practice Guide* 28 (World Bank Publications, Washington 2014).

<sup>134</sup> *Ibid*, 50.

<sup>135</sup> See, Matthias Haentjens and Pierre Gioia-Carabellese, *European Banking and Financial Law* 102 (Routledge, New York 2015).

<sup>136</sup> In Europe, the European Systemic Risk Board (ESRB) was established in 2010 as a response to the global financial crisis. The ESRB is principally responsible for the macro-prudential oversight of the EU financial

The process of rebuilding stability of the financial system, therefore, should be comprehensive and attempt to improve the resilience of each individual institution to adverse shocks. Since the risks to financial stability can originate in the banking sector and in other parts of the financial system, the international regulatory reform agenda has focused on making banks safer by boosting their capital and introducing specific regulatory liquidity ratios. The regulatory reform has also concentrated on some non-bank institutions and shadow banking activities. In the banking sector, the Basel Committee issued in December 2010 the Basel III rules text, which provides the details of global regulatory standards on bank capital adequacy and liquidity. The new rules set out higher quality capital, the introduction of a leverage ratio as a backstop to the risk-based requirement better risk coverage, and measures to foster the build-up of capital that can be drawn down in times of stress.<sup>137</sup>

As discussed earlier, while MMFs did not cause the financial crisis, any shocks impacting the MMF industry can quickly have broader, systemic consequences due to their pivotal role in short-term funding markets and their interconnectedness with banks. Hence, imposing strict standards in terms of maturity of underlying securities and the credit quality, and higher disclosure requirements was inevitable to avoid leaving any gap in the financial stability policy. The major impediment that hampered the progress of MMF reforms, whether in the US or the EU, was the careful balance that needs to be struck between preserving the viability of MMF as a significant tool of finance in the financial market and addressing MMFs vulnerabilities to run, which could be a main source of instability of the financial system during the times of market stress. For this reason, the debate about the final form of the reform in the EU and the US was intense. Nonetheless, since the stability of the financial system is a pre-condition to any reform after the global financial crisis, the financial regulators have chosen to impose strict rules on MMF despite the fact that they are likely to jeopardize the viability of some types of MMFs in the long run. This raises a significant question about the impacts of the reforms on the MMF industry. In the US, statistics revealed by the Securities and Exchange Commission (SEC) show a noticeable decline in the number of MMFs from 2014 to 2017. In July 2014 the number of MMFs was 553 and this number

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system in order to prevent and mitigate systemic risks to financial stability in the EU. See, Miriam Goldby and Anat Keller, *The Commission's proposal for a new European Systemic Risk Board: an evaluation* 4 Law & Fin. Mkt. Rev 48 (2010).

<sup>137</sup> Basel III started in 2013 and with full implementation by 1 January 2019. See, Narissa Lyngen, *Basel III: Dynamics of State Implementation* 53 Harv. Int'l L.J. 527 (2012).

decreased to 382 in November 2017.<sup>138</sup> The statistics also show a massive shift in prime MMFs' assets. The assets under management in prime funds dropped sharply from \$1,710,127 million in July 2014 to \$679,795 million in November 2017.<sup>139</sup> These statistics demonstrate the decrease in the attractiveness of MMFs. Because the drop in the MMFs' assets is an inevitable consequence of the substantial changes to this industry, the SEC has not made any intervention to stop it.

In fact, one of the main reasons that attracts investors to invest in MMFs is the analogous features that make MMFs equivalents to bank deposits: instantaneous access to the liquidity and stability of the value of the capital invested. Even if the possibility of imposing redemption gate or liquidity fees appears unlikely to occur in normal circumstances, it could influence the investors' decision to invest in MMFs or force the existing investors to exit from MMFs because some investors will not be willing to undertake this risk no matter how remote it may seem. These outflows could be disruptive to financial markets. It is important to emphasise that the investors' ability to access their funds on any regular business day without disruptions is fundamental to some investors in choosing the appropriate investment.

Another important point is that investors who invest in institutional prime MMF, which are required to float their NAV under the new reforms, may also need to re-consider their investment decisions because -in specific circumstances- MMFs might not be classified as cash equivalents. To illustrate, when there is a significant change in the fund NAV or the fund imposes a liquidity fee or a redemption gate, the investment in that fund may not be cash equivalents because the shares are not convertible to known amounts of cash. That will only be problematic in exceptional circumstances and in normal circumstances, MMFs are still classified as cash equivalent because the fluctuations in the NAV will be insignificant.

Further, the complexity of the new regulation, in the EU and the US, has made MMFs more appropriate investments for institutional investors than retail investors. Understanding the circumstances under which MMFs are able to impose liquidity fees or redemption gates might be difficult to retail investors because they do not have financial or legal knowledge that enables them to make informed decisions. Although the EU reform attempts to attract

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<sup>138</sup> See, U.S. Securities and Exchange Commission, *Money Market Fund Statistics* (July 2016) available at: <https://www.sec.gov/divisions/investment/mmf-statistics/mmf-statistics-2016-7.pdf> accessed 14 March 2018, and, U.S. Securities and Exchange Commission, *Money Market Fund Statistics* (November 2017) available at: <https://www.sec.gov/divisions/investment/mmf-statistics/mmf-statistics-2017-11.pdf> accessed 14 March 2018.

<sup>139</sup> *Ibid.*

more investors, retail and institutional, by introducing LVNAV MMF, the requirements under which they can operate as CNAV MMF are complicated for retail investors to understand and the possibility that LVNAV MMF could operate as FNAV MMF, in case of noncompliance with strict rules, might discourage them to invest in this new type. In fact, retail investors rely on their own analysis to make investment decisions and they usually fail to undertake proper research before making their investment decisions. In other words, in most of the situations their decisions are based on information received from others. On the other hand, institutional investors rely heavily on research backed data to make their investments.<sup>140</sup> They usually have investment research teams, who have extensive access to research data and they are able to predict potential changes in the market or the fund circumstances. As a result, institutional investors are sophisticated enough to understand the complexity of the new reforms and choose appropriate MMFs that conform with their investment policies. Their sophistication allows them to respond promptly to any changes in the fund circumstances, which could result in applying liquidity fee or redemption gate.

Based on the above analysis, it is clear that the US and EU MMF regulatory reforms are indispensable and fall within a wider financial regulatory plan that prioritise the stability of the financial system. Although financial regulators, in both jurisdictions, realize that the reforms would have some serious consequences on the MMFs industry, they are assured that the reforms will substantially strengthen financial stability.

## **6. Conclusion**

This article has examined the MMF reforms in the EU and the US and their implication on the MMF industry and investors from the perspective of financial stability. Addressing MMFs' systemic risk and vulnerability to run is a fundamental step in achieving financial stability, which is the dominant objective of all financial reforms after the 2008 financial crisis. Although the new strict rules represent a major change to the MMF industry in terms of their operation and structure, they diminish the systemic risks associated with runs on MMFs. Nonetheless, the article has clearly demonstrated that the new rules have drastic consequences for some types of MMFs, especially in terms of the huge shift of assets from some types to others or to other industries.

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<sup>140</sup> For further information about institutional investors see, K.A.D Camara, *Classifying Institutional Investors* 30 J. Corp. L 219 (2005).

In the US, the requirement for institutional prime and municipal money market funds to float their NAV, along with the introduction of fees and gates, aimed at alleviating the investors' incentive to redeem their shares ahead of others. However, the article has raised two issues regarding the US reform. The first issue is the concepts of "best interests" and "discretion" in decision-making given to the board of directors in determining of imposition of fees and gates. The 2014 reform or the SEC did not provide any guidance on the concept "best interests" and how MMFs' boards would exercise this discretion to protect investors. Therefore, to ensure the effectiveness of these tools and provide investors with high level of protection, the SEC should provide clear guidance on the concept of "best interests". The second issue is related to the sponsor support. The 2014 reform emphasised the importance of sponsor support by allowing third party sponsors to financially support MMFs. However, the discretionary nature of sponsor support represents a fragility in the new reform and makes MMFs vulnerable to runs during periods of financial instability. Thus, it is desirable to make the sponsor support explicit by making sponsors committed to maintain \$1 or to any form of financial support. It is also desirable to clearly specify support mechanisms, so investors can be aware of them.

In the EU, the new reform appears to follow the US reform in applying similar mechanisms to address MMFs vulnerabilities to run, but with variation in their application. The article emphasised that the introduction of LVNAV MMFs aims at avoiding the consequences of the US reforms, especially assets shifts. However, the optionality introduced by the reform has made MMF regulation so complex not only to the investors, but also to the funds' managers. Unlike the US reform, the EU new regulation prohibits all forms of sponsor support due to its uncertainty. This raises a significant issue about the importance of harmonization of MMFs regulations due to interconnection of the US and EU financial markets. In fact, any gap in the regulations will inevitably threaten the stability of the global financial system.

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