Abundant Liquidity and Bank Lending Activity: an Assessment of the Risks

Monetary Dialogue September 2018
Abstract

This paper assesses the risks facing the euro area banking system, as it returns to normal financial conditions without ECB support. In the first part we argue that risks to bank lending mainly stem from the transmission of external monetary policy effects that may not be aligned with ECB policies. The second part of the paper therefore offers some ideas on the need to moderate spillover effects from outside monetary policies or events. We also review how far new prudential policies, regulatory measures and/or policies can be used to mitigate those unfavourable risks.

This document was provided by Policy Department A at the request of the Economic and Monetary Affairs
This document was requested by the European Parliament’s Committee on Economic and Monetary Affairs.

AUTHORS
Andrew HUGHES HALLETT, Department of Economics, Copenhagen Business School, Frederiksberg, Denmark
Addilyn CHAMS-EDDINE, School of Public Policy, George Mason University, USA

ADMINISTRATOR RESPONSIBLE
Dario PATERNOSTER

EDITORIAL ASSISTANT
Janetta CUJKOVA

LINGUISTIC VERSIONS
Original: EN

ABOUT THE EDITOR
Policy departments provide in-house and external expertise to support EP committees and other parliamentary bodies in shaping legislation and exercising democratic scrutiny over EU internal policies.

To contact the Policy Department or to subscribe for updates, please write to:
Policy Department for Economic, Scientific and Quality of Life Policies
European Parliament
B-1047 Brussels
Email: Poldep-Economy-Science@ep.europa.eu

Manuscript completed in September 2018
© European Union, 2018

This document is available on the internet at:

DISCLAIMER AND COPYRIGHT
The opinions expressed in this document are the sole responsibility of the authors and do not necessarily represent the official position of the European Parliament.
Reproduction and translation for non-commercial purposes are authorised, provided the source is acknowledged and the European Parliament is given prior notice and sent a copy.
Abundant Liquidity and Bank Lending Activity: an assessment of the risks

CONTENTS

LIST OF TABLES 4

EXECUTIVE SUMMARY 5

1. INTRODUCTION 6

2. LIQUIDITY AND LENDING ACTIVITY IN EURO AREA BANKS 7
   2.1. Recent Developments in the Cost of Borrowing in the Euro area 7
   2.2. The Volume of Lending and Expansion of Credit in the Euroarea 8
   2.3. Sustainability: New Inflows and Past Debt Affecting Bank Lending Activity 10

3. LIQUIDITY COVER AND STABLE FUNDING RATIOS 11
   3.1. Calculating the Required Liquidity and Stable Funding Ratios 11
   3.2. Do the Euro-area Banks Satisfy the Necessary Liquidity and Funding Ratios? 12

4. EXTERNAL RISKS TO BANK LENDING AND LIQUIDITY 14
   4.1. Global Financial Cycles and Macro-Prudential Policies 14
   4.2. The Transmission of Large Economy Monetary Policies to Smaller Economies 14
   4.3. International Transmission of Monetary Policy by the U.S. 16
   4.4. Monetary Policy Spillovers to Small Open Economies 17

5. MODERATING THE EFFECTS OF EXTERNAL MONETARY POLICIES 18

6. PRUDENTIAL RATIOS AS POLICY INSTRUMENTS 21

7. CONCLUSIONS 23

REFERENCES 24
LIST OF TABLES

Table 1: The cost of borrowing (nominal interest rates, % p.a.) – June 2017 to June 2018 8
Table 2: Bank Lending in the euro area; volumes of credit extended by the formal banking sector (€bn, new business only) by loan and borrower type, June 2017 to June 2018 9
Table 3: Liquidity Coverage Ratios in the Euro Area Banking System (%), Minimum requirement is 100% coverage one year earlier 12
Table 4: A sample of NSFR figures (%), minimum requirement is 100% coverage; also Shortfalls in Euro Area 13
EXECUTIVE SUMMARY

Much work has been done since the Great Financial Crisis (GFC) in 2008-12 to create new prudential and surveillance techniques to protect financial markets, financial institutions and the euro-area banking system from the consequences of excessive risk taking, financial in-stability and destabilising behaviour.

The new prudential system includes a variety of different prudential or regulatory metrics which the ECB or other policymakers can use to ensure sufficient liquidity cover their lending and to underpin the stability and safety of the banks; to influence the growth of credit (up or down); to promote recovery without excessive lending; to steer interest rates and the cost of credit; to stabilise financial markets (including insurance, pensions); and to rule out asset price bubbles.

Now, as we emerge from the GFC and a long period of excess debt (public and private), it is important to check on how well bank lending in the euro area is shaping up to these prudential safety measures. There is no doubt that liquidity in the financial system has increased a great deal. Has it increased enough? Almost certainly yes: as measured by the required liquidity cover ratio using the most recent data.

But has it increased by too much? Apparently not: bank lending has either not materially increased, or has increased no faster than income growth. Yet deposits flow in at a sufficient rate and private indebtedness is falling rather than rising. This suggests that the euro-area banks are in sound enough shape as monetary policies gradually become less accommodating.

But that analysis concerns only internal stability and internal risks in euro-area banking activity. The real risks may be external to the euro area, for example the impact of outside monetary policies or a global financial cycle that is not synchronised with that in the EU.

This paper therefore offers an analysis of the need to moderate spillover effects from outside monetary policies/events (as opposed to internal risks). We focus on new prudential policies or regulatory ratios. We review how far the new regulatory ratios and/or policies can be used to mitigate those risks and how they might best be implemented.

These new metrics provide the ECB and other policymakers with a series of non-standard financial measures to be used for regulatory purposes and to moderate unfavourable shocks. Some of these measures had been present before the GFC. But they were seldom used or used systematically. Moreover they were poorly understood, which is what happens when prudential regulation is kept as a low priority.

Overall conclusions: prudential regulation supplies a number of nonstandard monetary measures that might be used as pro-active policy instruments. But they depend on a stable or well regulated banking system and the availability of high quality collateral.
1. INTRODUCTION

To ask if the euro-area banking system is in a sound and robust state as we return to more normal financial conditions after the fragility, insecurity and bail outs of the Great Financial and Debt Crisis of 2008-14, is a natural question. We need to be sure that the banks are secure, operate along prudential lines, and maintain enough liquidity but do not over-lend, so that they do not fall victim to the same kind of financial risks and instability as we move forward.

In the interval since the crisis, a great deal of work has been done on prudential regulation and supervision. This paper therefore reviews the current state of liquidity and pressures on bank lending in the euro area (section 2), and whether liquidity is adequate or excessive – both of which might constitute a risk in their different ways (section 3). The conclusion is that there are no obvious internal risks to the banking system at this point, but there may well be external risks (section 4). Sections 5 and 6 offer some ideas on moderating the spillover effects from outside monetary policies/events, and to what extent new prudential policies or ratios can do the job for us. Section 7 then concludes.
2. LIQUIDITY AND LENDING ACTIVITY IN EURO AREA BANKS

In order to assess the potential risks posed by the abundant liquidity and increased lending activity in the euro-area financial system, it is necessary to evaluate the extent of that liquidity, whether it is increasing unreasonably, and whether it is facilitating excess lending in the sense that there is insufficient liquidity in the banks or near-banks to cover (support or maintain) the financial system in the face of plausible negative shocks to bank lending.

Ultimately these questions come down to the conduct of monetary policy and prudential regulation. The chief responsibility of a central bank is to maintain the value or purchasing power of a nation’s currency. It does so by setting interest rates (those operated as policy instruments) or the money supply. It can also try to control the supply of credit; and then, to monitor or regulate the banking system to ensure financial stability, sufficient liquidity, and that an uninterrupted, undistorted flow of transactions is maintained in the financial markets.\(^1\)

2.1. Recent Developments in the Cost of Borrowing in the Euro area

Table 1 reports the nominal interest rates charged on loans made to non-financial corporations over the past year or more. They are separated by the type and size of loan, and by the length (maturity) of those loans. These figures represent the cost of borrowing, and hence the increasing incentive to borrow if those costs turn out to be falling. As such they are a material indicator of the likely direction of change in lending activity/credit expansion in the recent past.

As Table 1 makes clear, there has been some reduction (but fairly mild) in borrowing costs for revolving credit. But essentially no change in the cost of fixed term credit, whether for small, medium or large loans. There were small reductions in borrowing costs for larger loans towards the end of 2017, but those reductions were not large enough to make a material difference to overall bank lending. As a result, one would not expect much change or increase in lending from this source over the past 13 months or maybe longer. Similarly, the length of the loans seems to make little difference; longer loans are a bit more expensive as one might expect (a term premium), but the margins have not increased.

\(^1\) In the euro area, this is a responsibility of the ECB, not the national central banks.
### Table 1: The cost of borrowing (nominal interest rates, % p.a.) – June 2017 to June 2018

**By Non-Financial Corporations (average loan lengths of 5 to 10 years; revolving loans undefined)**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>revolving</td>
<td>2.37</td>
<td>2.31</td>
<td>2.29</td>
<td>2.30</td>
<td>2.26</td>
<td>2.23</td>
<td>2.23</td>
<td>2.23</td>
<td>2.25</td>
<td>2.21</td>
<td>2.21</td>
<td>2.17</td>
<td>2.19</td>
</tr>
<tr>
<td>small</td>
<td>2.03</td>
<td>2.07</td>
<td>2.07</td>
<td>2.06</td>
<td>2.08</td>
<td>2.01</td>
<td>1.97</td>
<td>1.97</td>
<td>2.01</td>
<td>2.00</td>
<td>2.02</td>
<td>2.07</td>
<td>2.00</td>
</tr>
<tr>
<td>medium</td>
<td>1.62</td>
<td>1.66</td>
<td>1.71</td>
<td>1.72</td>
<td>1.65</td>
<td>1.64</td>
<td>1.62</td>
<td>1.64</td>
<td>1.64</td>
<td>1.62</td>
<td>1.67</td>
<td>1.69</td>
<td>1.65</td>
</tr>
<tr>
<td>large</td>
<td>1.47</td>
<td>1.71</td>
<td>1.55</td>
<td>1.56</td>
<td>1.63</td>
<td>1.53</td>
<td>1.55</td>
<td>1.55</td>
<td>1.59</td>
<td>1.67</td>
<td>1.66</td>
<td>1.56</td>
<td>1.70</td>
</tr>
</tbody>
</table>

**NB:** Small loans ≤ €0.25m; medium loans €0.25m to €1m; large loans > €1m.

**Source:** European Banking Authority (www.eba.europa.eu).

**b) cost of borrowing, non-financial corporations at shorter maturities (loans of 3 to 5 years)**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>small</td>
<td>2.63</td>
<td>2.63</td>
<td>2.70</td>
<td>2.69</td>
<td>2.61</td>
<td>2.64</td>
<td>2.60</td>
<td>2.56</td>
<td>2.59</td>
<td>2.60</td>
<td>2.56</td>
<td>2.69</td>
<td>2.62</td>
</tr>
<tr>
<td>medium</td>
<td>1.68</td>
<td>1.70</td>
<td>1.78</td>
<td>1.73</td>
<td>1.66</td>
<td>1.69</td>
<td>1.74</td>
<td>1.72</td>
<td>1.76</td>
<td>1.68</td>
<td>1.77</td>
<td>1.74</td>
<td>1.69</td>
</tr>
<tr>
<td>large</td>
<td>1.37</td>
<td>1.36</td>
<td>1.34</td>
<td>1.33</td>
<td>1.43</td>
<td>1.37</td>
<td>1.32</td>
<td>1.45</td>
<td>1.52</td>
<td>1.48</td>
<td>1.41</td>
<td>1.59</td>
<td>1.49</td>
</tr>
</tbody>
</table>

**Small loans ≤ €0.25m; medium loans €0.25m to €1m; large loans > €1m.**

**Source:** European Banking Authority.

**c) cost of borrowing, non-financial corporations at longer maturities (loans of ≥ 10 years)**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>small</td>
<td>1.88</td>
<td>1.88</td>
<td>1.90</td>
<td>1.90</td>
<td>1.87</td>
<td>1.91</td>
<td>1.84</td>
<td>1.88</td>
<td>1.90</td>
<td>1.87</td>
<td>1.87</td>
<td>1.87</td>
<td>1.83</td>
</tr>
<tr>
<td>medium</td>
<td>1.82</td>
<td>1.86</td>
<td>1.91</td>
<td>1.85</td>
<td>1.89</td>
<td>1.86</td>
<td>1.81</td>
<td>1.85</td>
<td>1.86</td>
<td>1.82</td>
<td>1.82</td>
<td>1.84</td>
<td>1.82</td>
</tr>
<tr>
<td>large</td>
<td>1.93</td>
<td>1.89</td>
<td>1.82</td>
<td>1.82</td>
<td>1.85</td>
<td>1.82</td>
<td>1.75</td>
<td>1.79</td>
<td>1.84</td>
<td>1.91</td>
<td>1.82</td>
<td>1.92</td>
<td>1.91</td>
</tr>
</tbody>
</table>

**Small loans ≤ €0.25m; medium loans €0.25m to €1m; large loans > €1m.**

**Source:** European Banking Authority.

### 2.2. The Volume of Lending and Expansion of Credit in the Euroarea

Table 2 now reports on the volume of bank activity (new bank lending only) directly over the past 13 months, separated by borrower type, loan size, length of loan, purpose of loan etc. It also shows the evolution of deposits (by depositor) and the net debt position by loan and borrower type to give a sense of whether this new lending has come unsupported by sufficient new revenue inflows, or liquidity cover, should there be unfavourable shocks.

As table 1 suggests, there has not been much increase in lending activity over the past year (and likely longer). To financial corporations, the bulk of the lending has been in revolving credit which has fluctuated monthly by ±2% but otherwise shows no obvious changes in trend. On the other hand, most of the lending appears to be revolving credit with a few large fixed term loans, which means that any credit controls would have a fairly rapid impact were they to be imposed.

Household loans (panel b) are a bit different. Revolving credit dominates as in panel a), but not to the same extent. There is also a slight (and perhaps temporary) decline in revolving credit and housing loans of 4%-5%. Given the difference in loan lengths, these changes represent a shortening of maturities in these loan portfolios. Finally, instabilities in the home and consumption loans might give
the impression of expanding credit from time to time. But there is no evidence of a trend increase in credit/lending in these figures. Rather the opposite; new lending has, if anything, declined slightly over the past year and a bit.

Table 2: Bank Lending in the euro area; volumes of credit extended by the formal banking sector (€bn, new business only) by loan and borrower type, June 2017 to June 2018

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>revolving</td>
<td>546.4</td>
<td>553.5</td>
<td>541.6</td>
<td>538.7</td>
<td>548.2</td>
<td>549.1</td>
<td>532.9</td>
<td>554.0</td>
<td>550.9</td>
<td>549.9</td>
<td>554.2</td>
<td>551.7</td>
<td>543.1</td>
</tr>
<tr>
<td>small</td>
<td>2.2</td>
<td>2.3</td>
<td>1.6</td>
<td>1.8</td>
<td>1.9</td>
<td>2.0</td>
<td>2.1</td>
<td>2.0</td>
<td>1.9</td>
<td>2.2</td>
<td>2.1</td>
<td>2.0</td>
<td>2.2</td>
</tr>
<tr>
<td>medium</td>
<td>2.6</td>
<td>2.7</td>
<td>1.9</td>
<td>2.1</td>
<td>2.3</td>
<td>2.2</td>
<td>2.7</td>
<td>2.3</td>
<td>2.5</td>
<td>2.4</td>
<td>2.2</td>
<td>2.6</td>
<td></td>
</tr>
<tr>
<td>large</td>
<td>9.9</td>
<td>10.9</td>
<td>7.9</td>
<td>8.8</td>
<td>10.3</td>
<td>8.4</td>
<td>11.4</td>
<td>7.9</td>
<td>5.9</td>
<td>8.3</td>
<td>7.7</td>
<td>7.4</td>
<td>11.0</td>
</tr>
</tbody>
</table>

Small loans ≤ €0.25m; medium loans €0.25m to €1m; large loans > €1m.

Source: European Banking Authority.

b) to Euro Area Households

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>revolving</td>
<td>202.4</td>
<td>200.8</td>
<td>199.0</td>
<td>198.8</td>
<td>199.1</td>
<td>200.3</td>
<td>200.4</td>
<td>199.2</td>
<td>196.2</td>
<td>194.7</td>
<td>196.2</td>
<td>197.0</td>
<td>196.5</td>
</tr>
<tr>
<td>consumption</td>
<td>10.5</td>
<td>10.4</td>
<td>9.2</td>
<td>9.6</td>
<td>10.1</td>
<td>9.6</td>
<td>7.5</td>
<td>10.3</td>
<td>10.2</td>
<td>11.4</td>
<td>11.3</td>
<td>11.7</td>
<td>11.7</td>
</tr>
<tr>
<td>home loans</td>
<td>42.2</td>
<td>40.2</td>
<td>30.9</td>
<td>29.7</td>
<td>29.9</td>
<td>31.7</td>
<td>34.6</td>
<td>32.4</td>
<td>29.9</td>
<td>34.7</td>
<td>33.6</td>
<td>34.0</td>
<td>38.4</td>
</tr>
<tr>
<td>other</td>
<td>1.9</td>
<td>2.0</td>
<td>1.6</td>
<td>1.7</td>
<td>1.9</td>
<td>2.1</td>
<td>2.0</td>
<td>2.0</td>
<td>1.8</td>
<td>2.2</td>
<td>2.2</td>
<td>1.9</td>
<td>2.2</td>
</tr>
<tr>
<td>Self employ</td>
<td>4.4</td>
<td>4.1</td>
<td>3.1</td>
<td>3.3</td>
<td>3.8</td>
<td>3.8</td>
<td>4.1</td>
<td>4.1</td>
<td>4.0</td>
<td>4.2</td>
<td>3.7</td>
<td>4.2</td>
<td></td>
</tr>
</tbody>
</table>

Consumption loans up to 5 years; housing loans to 10 years or more; other loans over 5 years; self-employed/partnerships up to 1 year.

Source: European Banking Authority.

c) New Deposits from Euro Area Residents (maturities up to 2 years; €bn)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>households</td>
<td>350</td>
<td>351</td>
<td>352</td>
<td>3548</td>
<td>356</td>
<td>358</td>
<td>365</td>
<td>363</td>
<td>366</td>
<td>370</td>
<td>376</td>
<td>383</td>
<td>380</td>
</tr>
<tr>
<td>corporation</td>
<td>160</td>
<td>160</td>
<td>162</td>
<td>1657</td>
<td>166</td>
<td>168</td>
<td>172</td>
<td>169</td>
<td>166</td>
<td>170</td>
<td>174</td>
<td>175</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: European Banking Authority.

d) Net Debt Outstanding by Euro Area Residents (maturities over 2 years, €bn)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>households</td>
<td>733</td>
<td>730</td>
<td>728</td>
<td>727</td>
<td>726</td>
<td>724</td>
<td>730</td>
<td>729</td>
<td>727</td>
<td>725</td>
<td>724</td>
<td>723</td>
<td></td>
</tr>
<tr>
<td>corporation</td>
<td>249</td>
<td>245</td>
<td>246</td>
<td>245</td>
<td>239</td>
<td>243</td>
<td>247</td>
<td>247</td>
<td>244</td>
<td>234</td>
<td>229</td>
<td>223</td>
<td>222</td>
</tr>
</tbody>
</table>
2.3. **Sustainability: New Inflows and Past Debt Affecting Bank Lending Activity**

Table 2, panels c) and d), review the deposits entering euro area banks, and the net debt already contracted by euro area residents, as a kind of long run sustainability check on the state of bank lending in the euro area – given that the levels of bank lending seem unlikely to change (up or down) in the near future.

On current economic performance and bank lending levels, there appears to be no real risk that the euro-area financial sector will run short of funds or liquidity to support current levels of bank lending – given that the latter is also showing no signs of increasing. In fact, the flow of deposits into the banking system has been growing at 8%-9% over the past year or more, while the volume of loans made has remained more or less constant (apart from a little redistribution between maturities and loan types). So, if anything, liquidity cover relative to lending is likely to increase – which would serve to reduce lending risks at current levels of performance, or allow additional lending without additional risk. However this says nothing of the quality of the assets, or their immediate liquidity, that might have to be called in to support the banks if the current levels of liquidity cover were to be breached or come under serious pressure. We deal with some of those questions in the next section.

Nor does the net debt position pose an immediate threat to current bank lending. In fact, net debt seems to be declining slightly except in the larger categories of consumer credit and home loans. That might pose a problem in that it is more difficult politically to cut back on those kinds of credit if the need arises. There is a (perhaps remote) risk here.
3. LIQUIDITY COVER AND STABLE FUNDING RATIOS

Since the GFC, the international Basel III regime for prudential supervision has agreed much tougher liquidity requirements for banks than previously. The **Liquidity Coverage Ratio** (LCR) is almost entirely in place, while the **Net Stable Funding Ratio** (NSFR) is still in transition to completion (internationally). Broadly speaking, the LCR specifies a minimum level of assets that must be held in the form of High Quality Liquid Assets (HQLA), officially defined, in order to meet potential outflows, defaults or missed interest payments. The NSFR, by contrast, looks at illiquid assets and stipulates that they must be backed by an appropriate proportion and maturity of stable long term funding. Assets are then weighted by duration and liquidity properties for the stable funding requirement to be calculated.

In both cases, these ratios are calculated to have a threshold of 100%. Above that threshold, bank lending is deemed safe in that it is covered by sufficient liquidity or easily realisable assets. That means, any liquidity above the specified threshold could be used to expand lending without attracting additional risk. By contrast, liquidity below that threshold shows the loans are not backed by sufficient liquid funds/assets and a credit contraction is necessary to avoid excessive risk.

3.1. Calculating the Required Liquidity and Stable Funding Ratios

Formally speaking, the NSFR ratio relates the bank's available stable funding to its required stable funding summarised as follows:

\[
\frac{\text{Total Available Stable Funding (ASF)}}{\text{Total Required Stable Funding (RSF)}} \geq 100\%
\]

We define the ASF as the portion of a bank's capital and liabilities that will remain within the institution for more than one year. An ASF factor is then assigned to the value of each element of funding. ASF factors range from 100% - meaning that the funding is expected to be still fully available in more than a year - to 0%, implying that funding from this source is unreliable. The three other ASF factors are 95%, which applies, for instance, to well defined retail deposits, and 90% and 50%. The total amount of ASF is the sum of the ASF amounts for each category of liability.

A bank's RSF meanwhile is the amount of stable funding that it would need to hold to keep its funding sources stable, given the liquidity characteristics and maturities of its assets and the contingent liquidity risk arising from its off-balance sheet exposures. For each item, an RSF factor is assigned to the value of the bank's exposure. These range from 100% to 0%. An RSF factor of 100% means that the asset or exposure needs to be entirely financed by stable funding because it is illiquid. This is, for instance, the case for all loans by financial institutions with a residual maturity of 12 months or more. An RSF factor of 0% applies to fully liquid and unencumbered assets. The other RSF factors are 85%, 65%, 50%, 15%, 10% and 5%. The total RSF amount is the sum of the RSF for each category.

The **liquidity cover ratio**, by contrast, is designed to ensure that banks hold sufficient reserves of high-quality liquid assets (HQLA) to allow them to survive a period of significant liquidity stress lasting 30 calendar days. The supervisory scenario capturing the period of stress combines elements of bank-specific liquidity and market-wide stress and includes many of the shocks experienced between 2007 and 2012. The 30-day stress period is the minimum period deemed necessary for corrective action to be taken by the bank's management or by its supervisors. Hence the LCR requires internationally active

---

2 Liquidity requirements in other markets have also been tightened: Solvency II for European insurance companies.
banks to hold a stock of HQLA at least as large as maximum expected total net cash outflows over the stress period, as summarised in the following formula:

\[
\frac{\text{Total net cash outflows over the next 30 calendar days}}{\text{Stock of HQLA}} \geq 100\%
\]

3.2. Do the Euro-area Banks Satisfy the Necessary Liquidity and Funding Ratios?

How well do euro-area banks satisfy the required liquidity cover ratio and stable funding ratio? Tables 3 and 4 report the available calculations for both ratios, in so far as we have data on either of them.

Evidently, from the gaps in these tables, one of the problems here is the absence of reliable data on either ratio. Both are recent innovations, but the NSFR ratio is still in development and therefore particularly affected by incomplete and patchy reporting. However, figures for liquidity cover now appear reasonably frequently, if a little slowly, and may be regarded as more reliable as a consensus view of liquidity risk or its absence.

That said, liquidity cover for bank lending in the euro area has evidently been adequate since late 2013\(^3\); and has remained good since the end of 2015. Interestingly, this matches well with such evidence as we have stable funding/realisable assets backing bank lending in the euro area. In fact the NSFR ratio shows that sufficient stable funding (in a stress test sense) has been in place since late 2013, and has (probably) been strong since 2015, alongside a similar pattern in liquidity cover.

It is reassuring that both indicators show the same thing; an absence of undue risk, and possibly a diminishing risk, to bank lending in the euro area. But the figures in Table 4 offer a more nuanced view (subject to reliability qualifications). The rows marked “shortfall” and “compliance” show the amount of lending in individual banks which do not have full stable funding cover (it is possible that not all banks have sufficient stable funding cover, even if the banking system as a whole does), and the proportion of banks in the system that lack sufficient cover individually. Those banks could still pose a default risk to the system unless an adequate bail out mechanism is agreed as part of the new banking union arrangements.

Table 3: Liquidity Coverage Ratios in the Euro Area Banking System (%), Minimum requirement is 100% coverage one year earlier

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LCR</td>
<td>65</td>
<td>70</td>
<td>83</td>
<td>110</td>
<td>106</td>
<td>116</td>
<td>122</td>
<td>128</td>
<td>130</td>
<td>134</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>date</th>
<th>2016Q2</th>
<th>2016Q4</th>
<th>2017Q1</th>
<th>2017Q2</th>
<th>2017Q3</th>
<th>2017Q4</th>
<th>2018Q1</th>
<th>2018Q2</th>
<th>2018Q3</th>
<th>2018Q4</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCR</td>
<td>134.5</td>
<td>139.5</td>
<td>141.7</td>
<td>142.8</td>
<td>140.4</td>
<td>143.6</td>
<td>142.5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: European Banking Authority; bankingsupervision.europa.eu.*

---

\(^3\) An entire year of data with the LCR above 100% is needed before the LCR minimum requirement can be said to be satisfied.
Table 4: A sample of NSFR figures (%), minimum requirement is 100% coverage; also Shortfalls in Euro Area

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>NSFR (%)</td>
<td>97</td>
<td>103</td>
<td>104</td>
<td>103</td>
<td>115*</td>
<td>114*</td>
<td>113*</td>
<td>122</td>
<td>110*</td>
<td>108*</td>
<td>112</td>
</tr>
<tr>
<td>Shortfall €bn</td>
<td>14</td>
<td>11.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>115</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compliance (%)</td>
<td>55</td>
<td></td>
<td>70</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: "***" denotes projections made by theclearinghouse.org; "compliance" is the proportion of euro area banks satisfying the NSFR requirement.

Source: European Banking Authority; theclearinghouse.org; IMF reports

Nevertheless, the good news is that uncovered shortfall in individual banks appears to have halved in the past two years, and now stands at less than 1% of total loans outstanding in 2018. So this risk remains pretty small, even outside a banking union agreement, and well within the capacity of the European Stability Mechanism to deal with.

A related ratio for measuring bank safety is the leverage ratio. This is a constraint which limits the ratio of a bank’s assets, unweighted, to its capital. In general it will discourage low-risk, high volume transactions such as repo and other short-term expansions of a bank’s balance sheet, including those used for market making.
4. EXTERNAL RISKS TO BANK LENDING AND LIQUIDITY

In sum, at this point there is no real evidence or reason to suppose that the euro-area banking system is at risk of instability or under pressure from potential collapse because of abundant liquidity or expanding credit activity. It is true that an increase in the deposit rate (from -0.4% currently) would, if anything, increase liquidity ratios and thereby increase lending. But the Euro system already has, and has for sometime had, excess liquidity cover and stable funding ratios for the credit already extended. Moreover, liquidity cover and stable funding in the euro area do not appear to have reacted much to the changes in interest (policy) rates that have already taken place. Nor has lending activity; except for small expansions in consumer credit or housing loans that would slow down with higher interest rates and more conventional monetary policies. As it is, deposits continue to flow while net debt remains contained.

However, our analysis has so far been confined to internal stability and risks in the euro-area banking system as a closed system. But do the same results hold when the activities of the euro-area banks are exposed to shocks and changes in financial conditions in the outside world? Or when there are changes in performance in the domestic economy (output growth and prices) beyond the banking system?

4.1. Global Financial Cycles and Macro-Prudential Policies

Can the implementation of macro-prudential policies and/or non-monetary tools such as capital controls and reserve requirements enable EM policymakers to mitigate shocks in the form of sudden stops or reversals of financial flows? Can the exchange rate regime (fixed, floating or hybrid) mitigate or insulate an economy from the monetary policy transmissions from the advanced economies and reduce the volatility associated with global capital flows?

Exploring this issue is important for policy because the accommodative monetary policies in the leading advanced economies are being tapered at a time of increased global financial flows. As a result, interest rates and asset prices in recent years have become increasingly correlated globally. Consequently short-term and long-term interest rates are increasingly influenced by the rates in advanced nations, predominantly rates in the United States. The resulting co-movements are likely to affect exchange rates, policy rates, long-term interest rates, international bank lending and portfolio flows. Do we have policy measures to deal with such effects?

By way of example, as IMF Managing Director Lagarde (2017) has noted, capital flows to emerging markets and developing economies rose to $660 billion between 2000-2007. But in the financial crisis in 2008-9, these flows fell dramatically to $115 billion, but rebounded to $700 billion in 2010. Obviously such volatility creates instability, uncertainty, and is of interest to policymakers. The Institute of International Finance predicts that emerging markets will draw $1.1 trillion of capital flows from non-resident investors this year.⁴

4.2. The Transmission of Large Economy Monetary Policies to Smaller Economies

First we look at specific problems associated with the transmission of advanced economy (AE) monetary policy to smaller economies. Current research in the literature argues that the AE monetary transmission effect is associated with a global financial cycle (GFCy). If so, can the type of exchange rate regime used in the affected economy cushion or remove that transmission effect of AE policies? Specifically, how might policymakers moderate the appreciation of the domestic currency that is

⁴ See Rabouin (2017).
associated with capital inflows when interest rates in the AE economies decrease? Moreover, given the current battles in the literature concerning flexible versus fixed exchange rates, this line of thought should also consider whether managed floats, where permitted, is a realistic policy option for policymakers.

An alternative strategy is to accumulate (buy up) foreign exchange reserves to sterilize the incoming financial flows that drive up the price of domestic currency in order to moderate the degree of currency appreciation. In practice, many smaller economies have relied on foreign exchange intervention to deal with gross capital inflows. Hence an evaluation of the effectiveness of this strategy is an important part of the answer to the question posed in this paper. Blanchard et al., (2015) argue that larger interventions lead to less exchange rate appreciation in response to capital inflows. However, De Grauwe (2014) argues that in the traditional rational expectations model, market efficiency means sterilized interventions will have no impact on the exchange rates. On the other hand, using a behavioural model, De Grauwe finds that medium term sterilized interventions can and do affect exchange rates, mainly because they increase the proportion of fundamentalists, while decreasing the proportion of chartists in the market⁵, thereby exerting a stabilizing influence on exchange rates (De Grauwe 2014, p. 189).

**The Impact of Global Financial Cycles:** Before examining the scope for moderating the effect of advanced economies’ monetary policy on smaller economies, it is necessary to explore the concept of a global financial cycle (GFCy)⁶. Rey (2015) argues that since capital moves freely, the GFCy constrains national monetary policies regardless of the exchange rate regime. Thus, according to Rey, the macroeconomic or monetary “trilemma”, that contends that free capital mobility and independent monetary policies are attainable only if exchange rates are floating, is no longer feasible. Hence, the GFCy converts the monetary trilemma into a monetary dilemma because independent monetary policies are only permitted if the capital account is managed. However, this leads to obvious policy issues concerning whether we really want policy to restrict capital mobility? Various policy options to do that are: (i) targeted capital controls; (ii) acting on the source of the financial cycle, namely, the U.S. Federal Reserve or other key central banks; (iii) to use macro-prudential policies to act on the transmission channel cyclically by limiting credit growth and leverage and liquidity ratios during the upturn of the cycle; and (iv) act on the transmission channel structurally by imposing stricter limits on leverage ratios for all financial intermediaries.

**Evidence for Global Financial Cycles:** Rey establishes the concept of a global financial cycle by showing the co-movement of financial flows - comprised of capital flows, asset prices and credit growth - with the VIX⁷, a measure of uncertainty and risk aversion in the financial markets. Using IMF Financial Statistics, Rey’s finds that capital flows – both gross and net – show strong co-movement in gross financial flows and global factors as proxied by the VIX. Next she demonstrates the existence of an important common factor in asset prices, also closely related to the VIX. Combining these results demonstrates a powerful global financial cycle in gross capital flows, credit creation and asset prices

---

⁵ De Grauwe (2014) assumes two forecasting rules: (1) a fundamentalist rule, and (2) A technical trading or chartist rule. A fundamentalist forecasts that the market rate will return to the fundamental/equilibrium exchange rate in the future. That implies a negative feedback that creates mean reverting dynamics in the exchange rate – assuming the equilibrium exchange remains unchanged. In contrast, chartists follow a positive feedback rule to extrapolate past movements of rates into the future. Lastly, by comparing their relative risk adjusted profitability ex post, agents evaluate the fitness of the two forecasting rules and decide whether to keep their current rule or switch to the other. This switching mechanism determines the weight of chartist and fundamentalist.

⁶ The abbreviation GFCy is used to differentiate the global financial cycle from the Global Financial Crisis (GFC).

⁷ The VIX is the Chicago Options Exchange Market Volatility Index. The VIX is a measure of the implied volatility of S&P500 index options. The VSTOXX is the European equivalent, VFTSE the UK equivalent, and VNKY for Japan.
that is tightly connected with fluctuations in uncertainty and risk aversion. When the data is further disaggregated by asset type [FDI, portfolio equity, portfolio debt and credit], each measured as a proportion of world GDP in 1990Q1-2012Q4, flows tend to be highly correlated with each other, but negatively correlated with the VIX. Even at a regionally disaggregated level, Rey finds that capital inflows are negatively correlated with the VIX, with the exception of FDI inflows which are positively correlated with VIX in all geographical areas. She finds that credit flows into developed economies in Asia also correlate positively with the VIX.

However, and in contrast, Rey finds that in all areas of the world credit growth is negatively linked to the VIX and that correlation is strongest in North America and Western Europe. In all the main financial centres where the global banks are based, North America, Western Europe and Asia, leverage and leverage growth are also negatively linked to the VIX. Interestingly, leverage and leverage growth in Latin America, Central/Eastern Europe and Africa is found to correlate positively with the VIX. This is important because recent literature has confirmed that excessive credit growth is a strong predictor of crises (Gourinchas and Obstfeld 2012; Schularik and Taylor 2012). Noting that credit flows grew very quickly in the pre-crisis period of 2003-2007, and then collapsed during the Global Financial Crisis (GFC), Rey argues that “patterns of capital inflows and outflows follow a global financial cycle that is synchronized with fluctuations in world-wide risk aversion and uncertainty as proxied by the VIX.” Further, Rey finds that low values of the VIX, over a long period of time, are associated with a build-up in the GFCy: more capital inflows and outflows, more credit creation, more leverage and higher asset price inflation.

### 4.3. International Transmission of Monetary Policy by the U.S.

Given the importance of the U.S. dollar on international financial markets, Rey examines the effect, on the GFCy, of refinancing costs in dollars; that is, Federal Reserve monetary policy. Rey argues that acknowledging that surges in capital flows, particularly credit flows, are associated with increases in global leverage, it is likely that monetary conditions in a centre or financially leading economy are transmitted world-wide or region-wide by cross-border credit flows. Consideration therefore needs to be given to gross flows to monitor currency and maturity mismatch effects on the balance sheets of financial intermediaries and households because such mismatches are known to contribute to financial instability. Rey (2015) then builds on her prior analysis to show that movements in the federal funds rate affects uncertainty, expected stock market volatility, asset prices and risk aversion.

Although many researchers now employ the concept of global financial cycles, Cerutti et al (2017) question the numerical importance of that cycle. Their results, based on twenty-five years of quarterly (1990Q1-2015Q4) capital flow data, disaggregated by direction and type for 85 countries, differs from the aforementioned Rey analysis.

For capital flow data, Cerutti et al. use conventional series from the IMF’s Balance of Payments Statistics for four types of disaggregated capital flows: foreign direct investment (FDI), portfolio equity investment (equity), portfolio debt investments (debt), and bank credit (credit; occasionally they sum portfolio equity and portfolio debt flows for an overall measure of portfolio flows). They use data on both inflows and outflows, both expressed as percentages of GDP. According to the authors, their panel data set is unbalanced and runs from 1990Q1 to 2015Q4 in order to quantify the GFCy over recent history. Additionally, Cerutti et al. argue that the data are of lower quality in earlier periods. Although

---

8 Rey examines the following six geographic regions: North America, Western Europe, Central and Eastern Europe, Latin America, Asia, Emerging Asia and Africa.

9 See also Bekaert, Hoerova, and Lo Duca. (2013).
they have data on 85 countries, they focus on 63 small countries by excluding other possible centre-countries (USA, UK, euro area members, Japan). Cerutti et al. employ two methods to represent the GFCy: method one uses direct observables such as the VIX representation, and method two is an indirect representation proxied by common dynamic factors extracted from actual capital flows. They argue that, since both methods combined rarely explain more than 25% of the variation in capital flows over disaggregated capital flows categories, most variation in capital flows does not seem to be the result of common shocks nor stem from observables in a central country like the United States. Other economists, such as Kristin Forbes argue against dismissing the importance of the GFCy; noting that the Cerutti analysis could be better implemented by focusing on the later part of the 25 year time frame in order to emphasise data post 2000. Specifically, when the Cerutti et al. analysis is used to focus on the post-2000 period when the GFCy was strong, their results become much closer to Rey's findings. Further Forbes cautions that, although Rey's results reflect adjusted R² measures of approximately 0.25, it is the magnitude of the results that matter. Thus, if the ability of the GFCy is to explain 25% of the variance of capital flows, this may not be insignificant but the implications need to be teased out further.

4.4. Monetary Policy Spillovers to Small Open Economies

In open economies, the exchange rate is an obvious transmission channel for external monetary conditions. If the exchange rate floats, a fall in the foreign interest rate leads to an appreciation of the domestic currency. A similar effect is created by asset purchases by major central banks which drive down interest rates: as in quantitative easing for example. As for the small economy’s interest rates, the local central bank can respond to actual or pending changes in advanced economy monetary policy by changing their own policy rates. Or it can do nothing. A small economy might decide to follow suit when the centre economy lowers interest rates because currency appreciation will negatively affect output, and any favourable trade effects from higher growth in advanced economies would come with a lag (Mohanty 2014). But in any event, credit offered in the small economy will expand because the funding base (reserves, liquidity) in the banking system will increase because of the capital inflows and unchanged domestic interest rates. The result will be positive effects on investment spending and output, but a build-op in inflationary pressures. This will happen whether the small economy likes it or not, unless the local central bank chooses to follow the centre country’s central bank. One can imagine the exact opposite sequence of events if the centre country raises interest rates. Here, if the smaller economy does nothing, there will be capital outflows, a loss of credit control leading to contracting credit in the banking system (falling reserves and liquidity) at unchanged low domestic interest rates. Again, the only way to avoid these negative effects is to follow the centre’s central bank’s lead.

Another source of spillovers is that the pricing of small country bonds in local and international markets will inevitably be determined, in part, by the U.S. long-term interest rate effect on global benchmarking of yields and risk appetite. In addition, capital flows created by cross-border bank lending, and portfolio flows or market risk-taking, account for a good part of gross capital flows between smaller economies. Since international banks began to cut down their assets following the global financial crisis, cross-border lending has become more volatile. And the cross-border lending share in total capital flows has decreased over time while the portfolio share has increased (Mohanty, 2014). These composition shifts and increased benchmarking due to the globalisation of capital markets can only make it more difficult to control credit expansions (or decline) by conventional monetary means.
5. MODERATING THE EFFECTS OF EXTERNAL MONETARY POLICIES

The choice of exchange rate regime: One possibility is to ask if a flexible exchange rate (for the Euro in this case) is better placed to moderate the impact of external financial and monetary shocks on the banking system in the small open economies of the euro area than a fixed or stabilised exchange rate. This is an important issue; if a flexible Euro could offer a sufficient cushion, it could minimise the external risks to the Euro’s banking activities.

In practice however, there is no consensus about how policymakers should best respond to the transmission of external monetary policy. Generally, three approaches encompass the options. The first is to allow the external exchange rate to appreciate when aggregate demand is strong and inflation rises (or depreciate when demand is weak and inflation not a threat). However, significant appreciation carries its own risks and could shift output from the tradable to the non-tradable sector. In that case, Eichengreen (2013) suggests employing active countercyclical measures as well, adding a tightening fiscal policy to dampen spending when capital inflows rise. This will reduce the upward pressure on asset prices and create countervailing downward pressures on domestic interest rates. He argues this approach might increase monetary policy flexibility to respond to inflation. However, he also acknowledges that the required scale of fiscal adjustment could be unrealistically high.

Capital controls: A second approach is to restrict capital flows (in or out) directly, which according to the BIS, could assist monetary policy in the short-run via moderating the size and volatility of inflows and could modify inflows toward more stable flows (to reduce the risk of damaging outflows in the future). The third approach to consider is the use macro-prudential tools. We return to that option below.

With capital controls, the issue is to ascertain whether they are (or can be) more beneficial for preventing sudden stops or reversals in capital inflows that might be destabilizing, if not destructive, as opposed to following the policy prescriptions of the ‘Washington Consensus’ programme for full liberalization (Williamson 1989). To do this, the IMF policy reversal on the use of capital controls in 2010, coupled with the use of macro-prudential policies, can be used as a starting point for financial management in smaller open economies.

In addition, interest rate-setting may not be sufficient to address the consequences of easy monetary conditions and volatile capital flows. Central banks have increasingly come to rely on a range of non-monetary policy measures, such as loan-to-value and debt service-to-income ratios. As a result, in small economies and those with insufficient depth in domestic financial markets, capital controls on inflows and/or outflows have re-emerged to support monetary and financial stability. Data from Akinci and Olmstead-Rumsey (2015) show that capital inflow restrictions and macro-prudential policies that target the banking sector are associated with lower credit growth. We turn to those instruments next.

The Re-emergence of Capital Controls: Capital controls can be defined as regulations on cross-border trade in assets that differentiate between residents and non-residents. Numerous economists, such as Ben Bernanke (2017), or Hélène Rey, support the use of capital controls in small open economies with incomplete financial markets. Even the IMF conceded in 2010 that such tools could be beneficial under certain circumstances.

The gist of the IMF’s argument is that, from an individual country point of view, the usual toolkit to manage potentially damaging capital inflows (currency appreciation, accumulating reserves, fiscal and

---

monetary policy adjustments, strengthening the prudential framework) may not be enough. For example, the usual macro policy remedies may not be appropriate in some circumstances because inflation is a concern (so lowering domestic policy rates will be ill advised); or because the currency is already too strong; or reserves are more than adequate. In many others, it may not be possible to address financial fragility quick enough through the domestic prudential framework alone. For both macroeconomic and prudential reasons therefore, there may be circumstances in which capital controls are a legitimate component of the policy response to surges in capital inflows (Ostry et al. 2010).

Ostry et al. however caution that multilateral aspects must be part of the judgment to use capital controls. For example, the widespread use of capital controls could seriously affect the efficient allocation of investment across countries and harm prospects for output and growth. Similarly, an increased use of capital controls could crowd out less distortionary policies to manage inflows and contribute to contagion where countries whose individual circumstances do not justify the use of controls chosen to place restrictions on inflows. The adoption of controls could also lead to a widening of global imbalances where countries with undervalued currencies use those controls as a means to resist appreciation. On the other hand, if those controls reduce the precautionary demand for reserves by curtailing inflows of “hot money”, and especially risky forms of liabilities, they could contribute to reducing global imbalances and thus enhance systemic stability. In short, there appears to be no substitute for a multilateral framework to govern the use of capital controls to moderate the external risks to the banking system.

Empirical work by Pasricha et al. (2015) underscores the potential for spillovers (good and bad) between neighbouring economies. They find significant spillovers from capital controls in emerging market economies in 2001-11. These spillovers became more important after the GFC than before the crisis, and were created by inflow tightening rather than outflow easing. Hence, caution is needed when capital controls are used for macroeconomic management because the impacts seem to be limited and situation-specific. We should also pay attention to any damage to outward investment flows.

**FDI Flows, Foreign Banks and Financial Market Depth:** Ostry et al. (2010) find that countries with larger stocks of foreign liabilities or financial FDI fared worse in the global financial crisis than countries with larger stocks of nonfinancial FDI. These results are not surprising since debt represents fixed obligations for the borrower and imply limited risk sharing with creditors. Moreover physical FDI is less likely to leave the country during a crisis, and could even become a source additional financing. Financial FDI, on the other hand, may bring additional risks—for example, it may reflect lending from a parent bank to a branch or local affiliate which is more in the nature of debt than FDI.

Research by Gopalan (2017) does not support the increased weakness associated with FDI noted by Ostry. Gopalan argues that the presence of foreign banks is significantly and positively associated with financial development. Further, he finds strong evidence for the importance of institutional thresholds in order for foreign banks to have a beneficial impact on financial development. Gopalan and Rajan (2015) likewise point out how foreign banks contribute to overall financial and money market development by fostering financial sector depth and financial inclusion. Further, the role of foreign banks in transmitting different types of external and internal shocks to the host economy is important – not least because many small or developing economies are now gravitating toward more market determined exchange rate regimes. That has resulted in a growing role for interest rates as the primary instrument for economic management. Bank lending then tends to transmit shocks to the credit markets through supply-side effects, rather than the cost of credit. Control over credit expansions becomes more important, therefore.
Why is the depth of financial markets important in this context? Barajas et al. (2013) show ample evidence of a positive relationship between financial depth, economic growth, and macroeconomic volatility. Concurrently, rapid expansions in credit are often associated with higher bank fragility and the likelihood of a systemic banking crisis. Although this evidence may appear to conflict, the authors note that the same mechanisms through which finance assists growth also makes it susceptible to shocks and, ultimately, fragility. In other words, the maturity and liquidity transformation from short-term savings and deposit facilities into long-term investments is at the core of the positive impact on the real economy. But it can also render the system vulnerable to shocks. Further, information asymmetries and agency problems between savers and entrepreneurs that banks help to resolve may also turn into a source of fragility given agency conflicts between depositors, creditors and banks.
6. PRUDENTIAL RATIOS AS POLICY INSTRUMENTS

Central bank operations can also affect a commercial bank’s capital requirements. Reserve balances are usually zero-weighted on a risk basis, so changes in reserves have no impact on risk-weighted capital ratios. But they may have an impact on unweighted measures that can be used for policy purposes, such as liquidity or leverage ratios and ultimately NSFR requirements.

Excluding assets obtained for leverage ratio purposes from reserve accounts turns out to be a sensible policy. Leaving aside that it is already in the central bank’s hands to determine the overall level of reserves, and in some regimes each individual bank’s holdings. The real issue is what happens dynamically over the credit cycle.

Suppose that there is a liquidity crisis, or even just a straightforward economic downturn, and a central bank decides it needs to expand the money supply for conventional monetary policy purposes. Supplying more reserves – by any conventional method – would then add liquidity. But if those reserves were counted as assets for the leverage ratio, improving liquidity metrics would potentially increase capital requirements whenever the leverage ratio was binding. To that extent, such a policy would become pro-cyclical and limit the central bank’s ability to mitigate whatever negative shocks were experienced.

By contrast, leaving reserves out of the leverage ratio calculation gives the central bank a macro-prudential policy instrument through its balance sheet size. It could even expand its balance sheet and offset any monetary effects via interest rates (perhaps by cutting rates less than otherwise given the likely circumstances of easing). That way it could use the two tools, interest rates and money supply, to help it hit both monetary and financial stability objectives. That is just the classic theory of economic policy result: to reach two policy targets, we need two independent instruments. However this does pre-suppose that the demand for reserves is interest rate sensitive – otherwise there would not be two effective instruments, just the one. But the experience so far has been that reserves are relatively insensitive to interest rate changes, especially if (as in the US) the required reserves carry a rate of return related to the policy rate.

In summary, the banks are now safer because they hold more than sufficient liquidity. On the other hand, changes in credit risk mean that the unsecured inter-bank lending markets have been shrinking, whilst secured inter-bank markets are steady but not expanding, in part because of the leverage ratio constraint. Market making for illiquid securities has also diminished as it is no longer cost-effective for banks to use their balance sheets to support clients. Those market changes are important for this paper because they mean that banks are less able to manage their reserve accounts by lending to, or borrowing from, another bank. That creates a need for direct policy interventions to ensure that commercial banks can diversify to manage their liquidity and meet their regulatory requirements.

The overall effect of these new regulations on banks has been to limit their role as intermediaries compared to pre-GFC times. That in turn means that other firms are growing in importance. In time this is likely to mean that central banks will want to widen their choice of counterparties and regulatory boundaries. In fact some extensions in that direction are already being made on systemic grounds.

Reserve accounts at the central bank are the highest quality and most liquid asset that a commercial bank can hold. Pre-crisis, the main use of such accounts was to meet necessary payment flows, as routine banking payments between banks were cleared and then settled across their reserve accounts. That use of central bank accounts is still very much present. In the UK, the system used to operate in a tiered fashion: only the large commercial banks were allowed to hold reserve accounts, with smaller banks conducting their banking activities via the clearing system. And some medium-sized banks
chose not have a reserve account; they had to bank with larger banks which raises stability risks as it increases interconnectedness. The lesson: even the smallest banks need to hold reserve accounts.

Minimum reserve requirements can also be used as a potential tool to make a bank hold a minimum level of liquidity. But implementation of the LCR rules have probably made any such considerations redundant; reserve requirements would have to be set at an unusually high level to be binding above LCR requirements. A case for doing so could still be made if the definition of HQLA was loosened to such an extent that banks were holding too little high quality liquidity. But it would be difficult for a central bank to impose its own liquidity regime over and above that decided by the Basel Committee and implemented by national laws and regulations.

Reserve account balances count as HQLA. But we do not yet know what proportion of their required HQLA commercial banks will wish to hold in that form. That has been obscured by QE, which makes extracting what scope there is for using macro-prudential regulations as possible policy instruments difficult.

However, whatever QE did for the real economy, by massively expanding reserve balances that count as HQLA, QE almost certainly made it easier for commercial banks to meet their LCR requirements and their NSFRs requirements. This would normally increase the stimulus effect of QE. On the other hand, depending what sort of deposits a bank receives, potential deposit outflows could also rise to offset the benefit to the LCR. Retail deposits are treated as ‘sticky’ and hence do not require matching HQLA. Similarly, if banks were able to issue more term debt, that would count as term funding until it neared maturity. Both would also count as stable funding for NSFR purposes. But if the consequence of QE was a rise in corporate deposits or those from the financial sector, then that would just offset the LCR increase (the effect on the NSFR depends on the term of the funding obtained).
7. CONCLUSIONS

Nonstandard monetary measures, and their near relatives (official lending, credit easing or OMT operations), have become important policy instruments in recent years because they are among the few policy instruments that remain effective in bad times – and in particular when interest rates have come close to their zero lower bound.

For the most part, these measures have been deployed for monetary policy reasons – to target short-run demand pressures and inflation. But they also affect financial stability through their impact on the financial system in general and bank balance sheets. Different operational choices may have similar monetary impacts but differentiated impacts on regulatory metrics and market conditions. These choices need to be recognised in a formal stability mandate which the ECB currently lacks. This should be an explicit aim of the banking union.

To the specific questions raised in the briefing outline, a gradual tightening of euro-area monetary policy that recreates positive overnight deposit rates is unlikely to affect liquidity ratios much; they are high already (indicating negative rates were not a deterrent) and the experience has been that liquidity ratios have been interest rate inelastic. Similarly, non-performing loans are mostly contracted at historical interest rates – even if those at floating rates might be impacted. Finally, whether the banks would decide to adopt a more risky lending behaviour to protect their margins also seems unlikely. There is no sign that they have tried to do so when interest rates rose in the recent past and there would be little reason to do so now since bank lending rates have risen faster than deposit rates, meaning that bank margins have increased. Instead the main risks to bank lending arise outside the euro area due to the difficulty of controlling credit expansions in globalised markets.
REFERENCES


Abundant Liquidity and Bank Lending Activity: an assessment of the risks

Questions

1) From the point of view of financial and economic stability, it would pay to give the ECB an explicit mandate to ensure stability in the financial system (beyond monitoring the systemically largest banks). Can that be done effectively within the banking union framework, or do we need to charge a new (or separate?) institution with the responsibility?

2) Macro-prudential requirements off potentially powerful ways to steer financial stability across the Euro System. Who can best monitor compliance and decide which macro-prudential instruments to use in conjunction with general monetary policy?

3) Is it fair to say that macro-prudential regulation is best used as a long run policy, and general monetary policy a short run one?
This paper assesses the risks facing the euro area banking system, as it returns to normal financial conditions without ECB support. In the first part we argue that risks to bank lending mainly stem from the transmission of external monetary policy effects that may not be aligned with ECB policies. The second part of the paper therefore offers some ideas on the need to moderate spillover effects from outside monetary policies or events. We also review how far new prudential policies, regulatory measures and/or policies can be used to mitigate those unfavourable risks.

This document was provided by Policy Department A at the request of the ECON Committee.