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The side effects of national financial sector policies: framing the debate on financial protectionism

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Abstract

The decrease of financial integration both at the global and European level reflects, to a certain extent, a market response to the crisis. It might, however, also be partly driven by policies such as capital flow management measures (CFMs). In addition, several other measures taken by central banks, regulators and governments in response to the crisis may have had less obvious negative side effects on financial integration. Against this backdrop, this paper explores broad definitions of financial protectionism in order to raise awareness of the fact that the range of policies which could negatively affect financial integration may be much wider than residency-based CFMs. At the same time, the paper acknowledges that these measures have mostly been taken for legitimate financial stability purposes and with no protectionist intentions. The paper considers five categories of policy measures which could contribute to financial fragmentation both at the global and at the EU level: currency-based measures directed towards banks, geographic ring fencing, some financial repression policies, crisis resolution policies with a national bias, and some financial sector taxes.

JEL code: F36, F42, F62.

Keywords: Financial integration, financial protectionism, macro-prudential policy, capital controls

Non-technical summary

Signs of financial de-globalisation have emerged both at the global and European level. This decrease in global financial integration could be the result of market forces mirroring, for example, changes in the risk/return pattern of foreign investments. However, it could also stem from policy interventions, such as traditional capital controls, which have recently been used more frequently.

In addition, several other policy measures taken by central banks, regulators and governments in response to the crisis may have had unintended, and less obvious, negative side effects on financial integration. An assessment of the side effects of a wide range of policies on capital flows should take into account the fact that central banks, regulators and governments see a need for more policy space in order to manage the challenges stemming from volatile capital flows and financial fragilities. Against this backdrop, this paper seeks to take a balanced view by emphasising that many of the policy measures considered have a legitimate domestic financial stability objective, while also raising awareness of possible negative side effects on financial integration.

Macro-prudential policies such as currency-based measures directed towards banks typically raise no issues from a legal perspective since they are usually applied to resident and non-resident banks alike. However, they may impact the volume or the composition of international capital flows, as foreign banks could be less willing than domestic banks to lend in domestic currencies. In some cases, this is also the intention of the relevant authorities, given that their stated objective is to limit cross-border lending in foreign currencies, which has often funded unsustainable lending booms.

Geographic ring-fencing (GRF) measures, i.e. limits imposed by national authorities on cross-border capital and liquidity flows within banking groups, do not usually discriminate between residents and non-residents, and target domestic financial stability rather than cross-border capital flows. Unlike trade protectionism measures, GRF measures are implemented not to protect domestic entities from foreign competition, but instead to raise regulation and supervision requirements for foreign affiliate banks to the same level of control as that for domestically incorporated banks. However, if implemented unilaterally as an *ex post* crisis resolution tool, some GRF measures may have negative side effects on financial integration. In these cases there may also be conflict between national and global financial stability, especially when national authorities have an incentive to ring-fence a failing banking group's assets to support domestic, at the expense of foreign, creditors.

Financial repression policies – which include a wide range of measures aimed at facilitating the financing of high government debt – may also have side effects on cross-border capital flows. For instance, capital controls are sometimes included in the mix of policies which constitute financial repression, although other forms of repression – such as moral suasion to form a "captive domestic investor base" – could also have further adverse effects on financial integration.

Crisis resolution policies with a national bias are typical when government interventions, including bank recapitalisations or nationalisations, affect banks' strategies, thereby reducing the cross-border lending activities of the respective banks. Indeed, in some cases, banks receiving government support have been explicitly asked by the authorities to reduce their cross-border activities, with an obvious negative side effect on financial integration. There are many reasons for implementing such policies, including (i) to facilitate restructuring/resolution in the case of bank failures, (ii) to shield the domestic financial system from perceived higher risks in foreign countries, (iii) to secure an adequate credit supply for the domestic economy, and (iv) to protect domestic tax payers' in the case of a further need for recapitalisation, since the benefits of recapitalisation will otherwise also flow to foreign creditors.

Bank levies and financial sector taxes usually raise no issues in terms of free movement of capital. However, when such measures discriminate on the basis of residency or currency they may negatively impact financial integration. In particular, financial transaction taxes (FTTs) may contribute to financial fragmentation if implemented unilaterally.

All in all, the available empirical evidence regarding the impact on financial integration of the measures considered is mixed and suffers from methodological shortcomings, in particular with respect to measurement issues and the identification of causal relationships. Against this backdrop, this paper underscores the need to keep the side effects of certain policy measures on financial integration under close scrutiny in the coming years.

The paper also emphasises that some key reflections must be made when widening the scope of measures that may reduce financial integration beyond residency-based CFMs. First, the notion of protectionism as commonly used in the context of trade protectionism usually implies that a given policy has been implemented to benefit the domestic industry by shielding it from foreign competition. While this may be a side effect of some policy measures considered in this paper, the domestic financial sector does not benefit from other measures considered. In fact, some of the measures may actually put the domestic financial sector at a disadvantage. Second, some of the measures considered are temporary in nature as they were taken during the most intense phase of the global financial crisis. At the same time, crisis prevention measures should be distinguished from crisis mitigation measures. The former might become permanent features of the global financial system, e.g. if they were to be used in a systematic counter-cyclical manner.

A complete welfare analysis of the policy measures considered is beyond the scope of this paper. This would require assessing not only whether the policy measures have been effective in restoring domestic, and perhaps also global, financial stability but also the extent to which they have contributed to a decrease of financial integration. The costs of the latter, while difficult to quantify, should at least in theory be non-negligible. In an international context, recent academic contributions have shown, however, that finding empirical evidence of the benefits of international financial integration is not straightforward. This may be due in part to "threshold effects", i.e. international financial integration may exercise a positive

impact on growth only if a certain level of financial market development, institutional quality, governance and macroeconomic discipline has been achieved. In the case of a monetary union, the costs of a decrease of financial integration are likely to be much greater compared with those in an international context because financial fragmentation leads to less effective transmission of monetary policy.

Policy makers and international organisations mandated to safeguard the freedom of capital movement should focus on measures that are likely to be permanent features of the global financial system. For example, geographic ring-fencing measures such as tighter incorporation requirements for foreign banks might ultimately have a negative impact on international banking, when carried out unilaterally rather than multilaterally with a view to furthering domestic and global financial stability. In the EU, the completion of the banking union will help to address some of the concerns over fragmentation raised in this paper. At the global level, the difficult trade-offs between international banking and national financial stability should be addressed via increased transparency and international cooperation.

1 Introduction

Signs of financial de-globalisation have emerged both at the global and European level. This decrease in global financial integration could be the result of market forces mirroring, for example, changes in the risk/return pattern of foreign investments. However, it could also stem from policy interventions, such as traditional capital controls, which have recently been used more frequently, in particular in some emerging market economies (EMEs) that are exposed to large swings in capital flows.

While the use of traditional capital controls is easily noticeable, other less obvious policies have elements that may reduce financial integration under certain circumstances. In the case of macro-prudential policies which are designed to limit the volume or the composition of capital flows, this may still be relatively clear because such policies are considered by the IMF to be capital flow management measures (CFMs). Such policies are usually designed to address financial stability risks associated with volatile capital flows, but may also lead to a decline in the level of financial integration. In addition, several other policies implemented by central banks, regulators and governments during the crisis may have had unintended, and less obvious, negative side effects on financial integration.

In a European context, the Treaty on the Functioning of the European Union (EU) leaves very little room for outright capital controls in the Union.[1] However, some prudential measures taken for domestic financial stability purposes have been somewhat controversial because they may have had negative side effects on the free movement of capital. The side effects of such measures, in particular those stemming from macro-prudential measures, are monitored to some extent by the European Systemic Risk Board (ESRB), which was set up after the financial crisis. Other measures with negative side effects on financial integration, have, however, been less obvious. For example, restrictions on cross-border lending in certain currencies or ring-fencing constraining the flow of capital and liquidity between parent banks and local subsidiaries may have contributed to a decline in financial integration within the European Union. In the euro area, financial fragmentation is a particular concern, given that it complicates the conduct of a single monetary policy. At the same time, the rise in home bias in the form of increased domestic sovereign bond holdings among euro area financial entities has been particularly pronounced and, as shown in this paper, several measures taken by euro area governments during the crisis in order to safeguard domestic financial stability may have had a domestic bias consistent with the domestic mandates of the respective authorities. For example, banks receiving government support have sometimes been asked to adjust their business models by withdrawing from foreign operations and refocusing on the provision of credit to the domestic economy.

[1] For further information, please refer to Article 63 of the Treaty on the Functioning of the European Union at: http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:12008E063.

An assessment of the side effects of a wide range of policies on capital flows should take into account the fact that central banks, regulators and governments see a need for more policy space in order to manage the challenges stemming from volatile capital flows and financial fragilities. Against this backdrop, this paper seeks to take a balanced view by emphasising that many of the policy measures considered have a legitimate domestic financial stability objective, while also raising awareness of possible negative side effects on financial integration. The paper is organised as follows: Section 2 documents the recent decline in global financial integration and discusses its possible drivers. Section 3 reviews five groups of policy measures which may have negative side effects on financial integration and assesses their compliance with international agreements concerning the free movement of capital. In addition, each policy measure is assessed in terms of its likely economic effects and is illustrated by a case study. Section 4 concludes and sets out some tentative policy implications.

2 The decrease in global financial integration and its possible drivers

2.1 Recent evidence of financial fragmentation

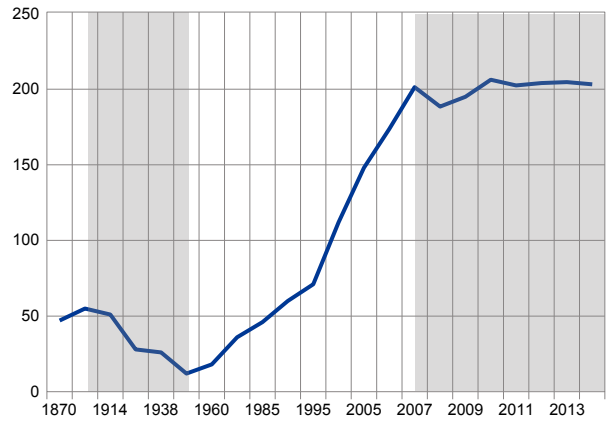
In the aftermath of the crisis, academics and policy makers have started to revisit the costs and benefits of financial integration.[2] At the same time, signs of financial fragmentation have emerged at the global and European level. For example, it has been documented that banks have become less active internationally in the wake of the financial crisis.[3]

When taking a long-term perspective, the long upward cycle in financial globalisation – which had accelerated since the early 1990s during a phase of unprecedented financial liberalisation – has notably abated (see Chart 1).[4] In fact, gross foreign assets relative to GDP rose sharply from 1990 to 2007, when a phase of moderate de-globalisation appears to have started. This observation is broadly consistent with recent empirical findings with regard to the link between financial crises and cross-border banking. While previous crises led to more, rather than less, financial globalisation, the recent crisis may have *reduced* financial globalisation.[5]

Chart 1

Gross foreign assets since 1870

(as a percentage of GDP)



Sources: Obstfeld and Taylor (2004), IMF and ECB calculations.
Notes: Periods of stable or declining gross foreign asset positions relative to GDP are shaded in grey. Data from 1870 to 2000 are from Obstfeld and Taylor (2004) and refer to the UK, France, Germany, Netherlands, United States, Canada, Japan and "other Europe". Data for 2000 to 2011 refer to IMF data for the same countries, excluding "other Europe".

Further evidence of a decline in global financial integration can be obtained from changes in savings-investment correlations which appear to have increased among OECD countries since 2009 (Chart 2). In addition, a return of "home bias" in banks' portfolios can be detected when relating changes in domestics bank assets to changes in foreign bank assets. Banking statistics in advanced economies reveal a fall in international bank lending relative to domestic lending compared with the pre-crisis boom in international bank lending (Chart 3). In fact, as Chart 3 shows, the foreign assets of banks in advanced economies declined from 2008 to 2011 despite an increase in domestic assets in some countries.

2 See, for example, Coeurdacier, Rey and Winant (2013).

3 See van Rijckeghem, Weder di Mauro (2013) and Forbes (2014).

4 The evidence in this section partly draws on Cœuré (2013).

5 See Kleinmeier et al. (2013).

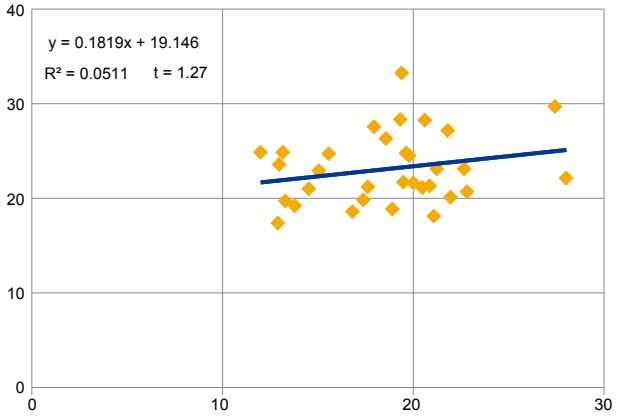
Chart 2

Correlations between domestic savings and investments

(as a percentage of GDP)

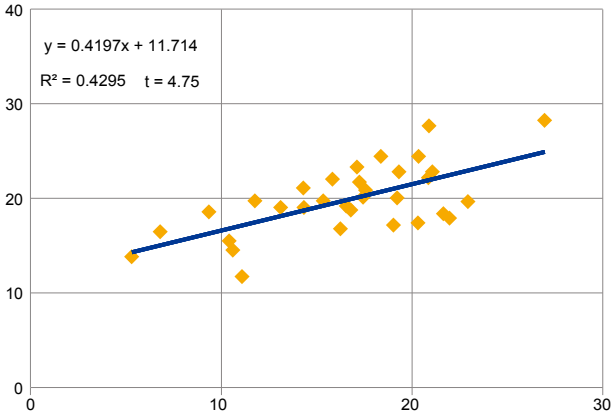
a) Average 2000-2007

x-axis: savings as a percentage of GDP
y-axis: investment as a percentage of GDP



b) Average 2009-2012

x-axis: savings as a percentage of GDP
y-axis: investment as a percentage of GDP



Sources: IMF and ECB staff calculations.
Notes: The country sample refers to OECD countries.

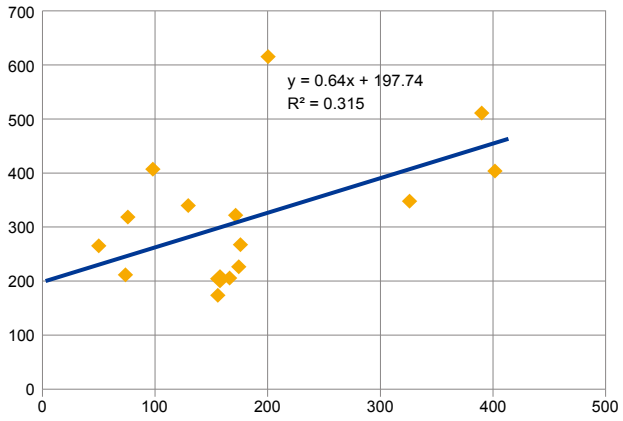
Chart 3

Correlations between changes in domestic and foreign bank assets

(as a percentage)

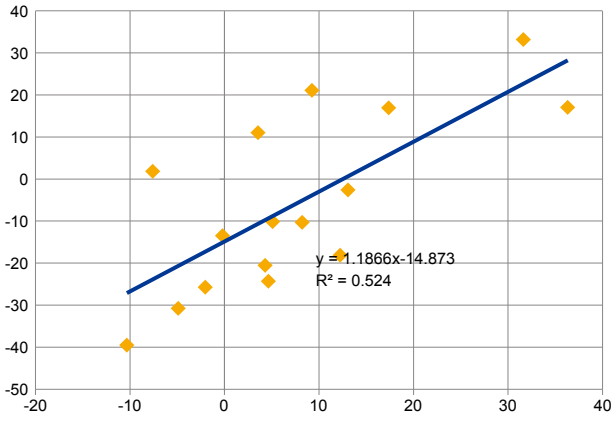
a) Total change 2000-2007

x axis: domestic lending
y axis: international lending



b) Total change 2008-2011

x axis: domestic lending
y axis: international lending

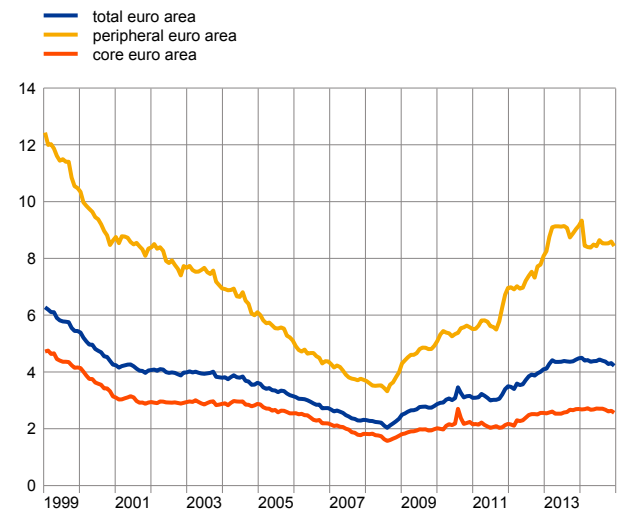


Sources: IMF, World Bank and ECB staff calculations.
Notes: The country sample refers to advanced economies including Australia, Austria, Belgium, Canada, Denmark, France, Germany, Ireland, Italy, Japan, the Netherlands, Portugal, Spain, Sweden, the United Kingdom and the United States.

Chart 4

Euro area MFI domestic sovereign bond holdings

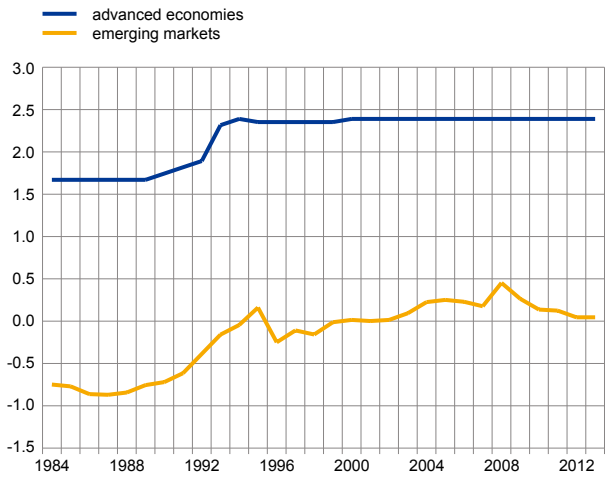
(as a percentage of MFI total assets)



Sources: ECB and ECB staff calculations.

Chart 5

Chinn-Ito index of financial openness



Sources: Chinn and Ito (2008; dataset updated to 2013 as of 01/05/2015. Available at: http://web.pdx.edu/ ~ito/Chinn-Ito_website.htm) and ECB staff calculations.

In the euro area, home bias, defined as the share of domestic sovereign bond holdings, has also risen, in particular after the Eurosystem's LTROs were carried out (see Chart 4). While this increase in home bias may be related to the rise in systemic risk during this period, it could also stem from moral suasion of governments during the crisis.

2.2 Possible reasons for the decrease in financial integration

The decrease in global financial integration could be the result of market forces mirroring, for instance, changes in the risk/return pattern of foreign investments. For example, in many host countries which were previously the recipient of capital inflows, sovereign risk has increased and growth prospects have worsened as large external imbalances have been adjusted, sometimes in a disorderly fashion.

However, financial fragmentation could also stem from policy interventions such as capital controls, which have recently been used more frequently, in particular in some EMEs exposed to large swings in capital flows. In fact, financial openness as measured by the Chinn-Ito index has, on average, decreased in emerging markets since 2008 (see Chart 5).[6]

These measures may have been partly supported by a gradually shifting international consensus, including by the ESCB, towards a view which acknowledges the temporary usefulness of capital controls as part of a broader macro-prudential approach to protect the financial system from unwarranted shocks in certain circumstances.[7]

2.3 Widening the range of policies that contribute to a reduction in financial integration

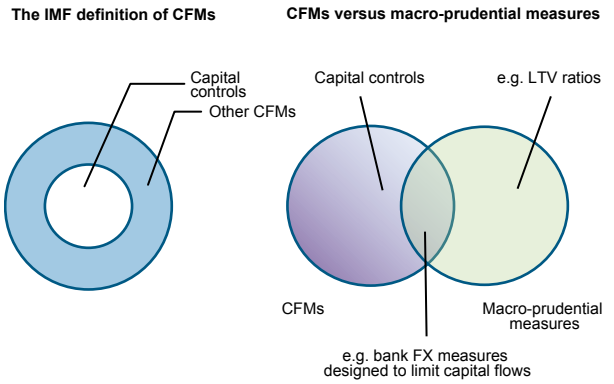
While the use of traditional capital controls is easily noticeable, other policy measures can also contribute to a decline in financial integration in less obvious ways. For

[6] At the same time, some large emerging market economies recorded their highest Chinn-Ito index readings since 2007, see Ramos-Tallada (2013).

[7] See IMF (2012) and ESCB (2011).

Chart 6

The IMF definition of CFMs and macro-prudential measures



Source: Authors.

Chart 7

Capital controls and macro-prudential measures

(number of events)

Sources: Forbes et al. (2015) and ECB staff calculations.

example, macro-prudential policies designed to limit capital flows are considered to be a CFM by the IMF. At the same time, not all macro-prudential measures are CFMs (see Chart 6).

Macro-prudential policies which may be considered to be CFMs are used as frequently as outright capital controls. As can be seen from Chart 7 – compiled from the dataset in Forbes et al. (2015) – the incidence of both capital controls and macro-prudential policies increased markedly during the first half of 2010. Overall, for the period 2009 to 2011, out of the 220 CFM events recorded, 99 were registered as capital control CFMs, while 121 were classified as macro-prudential CFMs. From Chart 8 it is evident that the majority of CFMs affect foreign exchange or banks.[8] In addition, Forbes et al (2015) note that capital controls are mostly used in relation to equities, bonds and FDI, while macro-prudential measures mostly tend to affect banks, loans and foreign exchange.

These trends are broadly consistent with another recent study on CFMs in EMEs (Pasricha, 2012), which is based on a different dataset and which confirms that the pre-crisis trend towards capital account openness has stalled. The study also finds that since the crisis there has been a shift towards "prudential-type" measures at the expense of pure capital controls.

In addition to the impact of certain macro-prudential measures, several other (mostly temporary) policies undertaken by central banks, regulators and governments during the crisis may have had unintended negative side effects on financial integration. For example, national governments' support of banks during the crisis may have resulted in a decrease in financial integration as banks may have been asked via moral suasion, or as an explicit condition for support, to re-focus on their home markets. Such policies, which are difficult to pin down, were labelled in one influential study as "financial protectionism" defined as "nationalistic change in banks' lending behaviour as a result of public intervention".[9] Looking ahead, more permanent policies, such as new incorporation

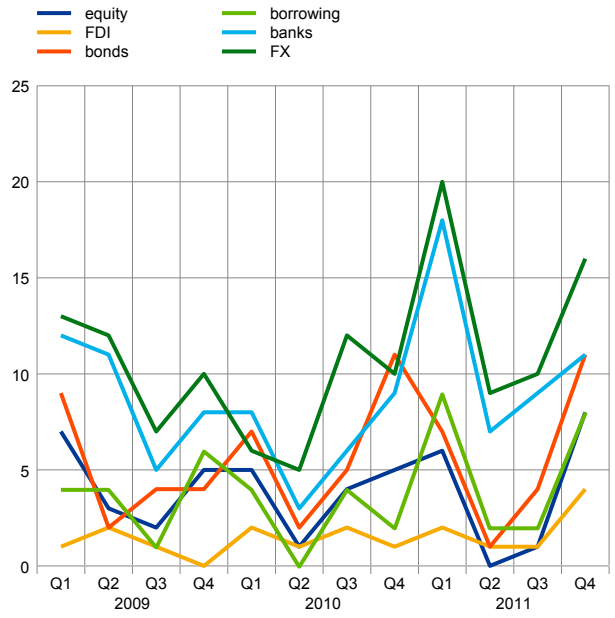
[8] Forbes et al (2015) define capital controls as "measures that limit the rights of either residents or non-residents to enter into international capital transactions, or that affect the transfers and payments associated with these transactions". Macro-prudential measures are defined as "regulations focused on strengthening the ability of the domestic financial sector to cope with risks related to foreign exchange or international exposure; these measures do not directly target capital flows, focusing instead on the balance sheet risk which could result from these flows".

[9] See Rose and Wieladek (2014).

Chart 8

Type of capital flow affected by CFMs

(number of events)



Sources: Forbes et al. (2015) and ECB staff calculations.

requirements for global banks, may also contribute to global financial fragmentation.[10]

When undertaking an assessment of a wider range of policy measures contributing to a reduction in financial integration, it is useful to start with the IMF's definition of capital flow management measures (CFMs). According to the IMF (2012, p. 40), CFMs refer to measures that are designed to limit capital flows. CFMs comprise:

- **Capital controls:** Residency-based CFMs, which encompass a variety of measures (including taxes and regulations) affecting cross-border financial activities, that discriminate on the basis of residency;
- **Other CFMs:** Measures which do not discriminate on the basis of residency, but are nonetheless designed to limit capital flows. These other CFMs typically include measures, such as certain prudential measures, that differentiate between transactions on the basis of currency (e.g. currency-based measures).

The IMF definition of CFMs thus already goes beyond the concept of pure capital controls and includes a potentially large set of macro-prudential policies, assuming that these have a cross-border dimension and are intended to limit capital flows.

However, the IMF definition might need to be broadened further for the following reasons, and in the same spirit as for the relevant Treaty provisions in the EU.[11] First, the focus of the IMF definition has been on macro-prudential measures, while a broader definition could include several other policies of central banks, regulators and governments which may have negative side effects on financial integration. Second, the "intention principle" somewhat limits the scope of policies that can be considered, because authorities are unlikely to reveal their intention to curtail cross-border flows via certain policies as they are often committed to financial openness through bilateral or multilateral agreements, which are sometimes legally binding. In this regard, the OECD Codes of Liberalisation, a legally binding agreement that is also open to adherence by non-OECD countries, are a more powerful instrument because in assessing whether a measure falls within the scope of a Code, what matters is its bearing on the obligations set out in the Code's Articles and in its lists of operations for liberalisation, not the intent with which an Adherent declares to have introduced the measure.[12]

10 In this context, fundamental concerns about the relationship between international banking and financial stability have been raised. Some have argued that global financial stability may be compatible with either national financial stability or international banking, but not both (Schoenmaker, 2013).

11 See Annex I of Council Directive 88/361 EEC of 24 June 1988 for the implementation of Article 67 of the Treaty.

12 OECD (2015), "The OECD's Approach to Capital Flow Management Measures used with a Macro-Prudential intent", OECD report to the G20, April 2015. Available at: http://www.oecd.org/daf/inv/investment-policy/G20-OECD-Code-Report-2015.pdf

Dropping the "intention principle" and replacing it with an economic analysis of the side effects of certain policy measures on capital flows would leave us with a broader set of policies to be carried out by central banks, regulators and governments. Ultimately, a scope this broad would include all policy measures that might significantly affect the volume and/or the composition of capital flows.

In order to limit the scope of policies which could impact financial integration over and above the effect of traditional capital controls, this paper considers measures which have come explicitly under the scrutiny of academic researchers and featured in policy discussions. Such measures comprise:

- **Certain macro-prudential policies** which may restrict capital flows, such as currency-based measures;
- **Geographic ring-fencing measures** including requirements for foreign banks to establish their presence in host countries via subsidiaries rather than branches, limiting cross-border capital and liquidity flows within globally active banking groups;
- **Some financial repression policies** aimed primarily at easing the funding constraints of governments, including, for example, moral suasion or supervisory or regulatory pressure on the financial sector to increase investments in domestic (sovereign) assets;
- **Crisis resolution policies with a national bias**, e.g. certain public bank restructuring or resolution schemes resulting in reduced cross-border lending, carried out in a context of bank recapitalisations or nationalisations;
- **Bank levies and financial sector taxes** where the former may discriminate against foreign financial institutions or foreign currencies and the latter may lead to financial fragmentation if not applied uniformly.

These measures are applied to foreign banks (e.g. in the case of geographic ring-fencing) and domestic financial institutions (e.g. in the case of other policies which go beyond the IMF classification of CFMs) alike. In the following section these measures, having been defined as precisely as possible, are first assessed with regard to their compliance with the relevant EU Treaty provisions, where applicable, and the OECD Codes of Liberalisation.[13] Second, the economic effects of the measures are assessed on the basis of the relatively scarce academic literature. Finally, each policy measure is illustrated by a case study, drawing on experiences within the EU and on those from other advanced and emerging economies.

[13] In many areas there has been a traditionally high level of congruence between EU Treaty provisions concerning capital movements (Articles 63 and 65) and the OECD Codes. Article 16 of the OECD Codes provides that non *de jure* discriminatory domestic arrangements which may have the effect of frustrating liberalisation may be brought under the scrutiny of the Codes.

3 Selected policy measures with possible side effects on financial integration

3.1 Currency-based measures directed towards banks

3.1.1 Definition and compliance with international agreements

Following recent research by the OECD, currency-based measures directed towards banks comprise the following four main categories: (a) measures relating to banks' FX positions; (b) measures relating to banks' FX liabilities; (c) measures relating to banks' FX assets; (d) other currency-based measures (De Crescenzio et al., 2015).[14] These measures have been used not only by emerging market economies (see case study below), but also within the EU in order to limit foreign currency borrowing which can create financial stability risks.[15]

When applying the IMF definition of CFMs to currency-based measures, these should only be treated as CFMs if they are introduced to change the magnitude, composition and/or other characteristics of capital flows. In turn, they should be treated as macro-prudential measures if they are introduced to pursue financial stability objectives. However, since measures which successfully reduce the magnitude of excessive capital inflows may indirectly help to contain the build-up of financial stability risks, this distinction is not conceptually robust. An alternative, useful distinction which could be made in this context is that between *ex ante* macro-prudential measures (designed to prevent a crisis) and *ex post* measures (designed to address problems due to the outbreak of a crisis).

In the EU, discrimination by currency could be seen as a restriction on the free movement of capital within the Union. Currency-based measures might comply with the Treaty if they constitute prudential measures or pursue other legitimate public interest objectives, in line with Article 65, and if they are necessary and proportionate and do not represent a means of arbitrary discrimination. In this context, the ESRB's recommendations on FX lending have been seen as compliant with EU law, except for its reciprocity clause which is directly targeted at cross-border lending. Other *ex ante* currency-based measures used for prudential or consumer protection reasons (e.g. in line with the ESRB recommendation or as stipulated in the upcoming Mortgage Credit Directive that will come into force in 2016[16]) also need to be considered from a free flow of capital perspective.

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14 For the sake of brevity, the text refers to "currency-based measures" instead of "currency-based measures directed towards banks" from here onwards.

15 OECD research shows that the resort to the use of CFMs discriminating on the basis of currency has been more frequent in the post-crisis period. These measures may help address balance sheet exposures that operations in FX can create for banks and which can lead to greater systemic risk. As is the case for all CFMs, currency-based measures can equally support the attainment of exchange rate or other external balance objectives for the country (De Crescenzio et al., 2015).

16 Directive 2014/17/EU of the European Parliament and the Council on credit agreements for consumers relating to residential immovable property of 4 February 2014.

When assessing the compliance of currency-based measures with the OECD Code of Liberalisation of Capital Movements, the OECD's report to the G20 (OECD, 2015) concludes that while macro-prudential measures generally fall outside the scope of the Code, currency-based measures that either prohibit operations covered by the Code or create disincentives for their implementation, have a bearing on the Codes' obligations (OECD, 2015; De Crescenzio et al., 2015).[17] A full description of how currency-based measures, such as a leverage cap on banks' FX derivatives positions or a levy on FX non-core liabilities, work to restrict cross-border capital flows, is provided in the OECD report.

3.1.2 The economic effects of currency-based measures

The academic literature on the effects of currency-based measures on macroeconomic outcomes, financial stability and capital flows is quite scarce[18] and is still not fully convincing due to measurement issues. In fact, most empirical studies aggregate all currency-based measures into a unique variable, which may be problematic due to the implicit assumption that different currency-based measures impact the dependent variable (e.g. macroeconomic outcomes, financial stability or capital flows) in the same way (aggregation issue).[19] In other studies, currency-based measures are not distinguished from other macro-prudential policy measures.[20] In addition, in most studies, currency-based measures enter the econometric analysis as binary dummy variables, only taking into account whether they have been implemented or not (intensity issue).

With these caveats in mind, Ostry et al. (2012) show that (a) FX-related prudential measures (as well as capital controls) are associated with a lower proportion of FX loans in domestic bank lending and (b) FX-related prudential measures (and capital controls) are associated with a shift away from portfolio debt flows towards portfolio equity and FDI flows within a country's overall external liability structure.

Forbes et al. (2015) point out that currency-based measures do not impact upon macroeconomic variables. These measures therefore show no significant effect on net portfolio capital inflows unless they are perceived by investors as "major" changes to capital controls. They also show that an increase in the number of macro-prudential measures can significantly contribute to financial stability by reducing bank leverage, inflation expectations and bank credit growth over the following year. Beirne and Friedrich (2014) show that the effectiveness of currency-based measures on capital flows is underpinned by the structure of the domestic banking system.[21]

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17 Such measures may be maintained by Adherents who have limited the scope of their commitments under the agreement by lodging reservations or by the invocation of a derogation clause.

18 Oliveira Santos and Elliot (2012) do not mention currency-based measures when, for example, they deal with estimating the costs of financial regulation.

19 See e.g. Ostry et al. (2012).

20 See e.g., Forbes et al. (2015).

21 In particular, it has been found that a high share of non-resident bank loans for a country implementing a macro-prudential policy reduces the domestic effectiveness of most macro-prudential policies, while a high return on assets in the domestic banking system has the opposite effect.

Currently, no studies could be found which assess the potential impact of, in particular, macro-prudential measures or currency-based measures on variables which could be indicators of financial protectionism (e.g. the loan mix ratio, defined as the ratio of domestic lending to total lending, used by Rose and Wieladek, 2011).[22] For example, this kind of analysis should investigate whether banks' FX asset measures (e.g. measures differentiating loan-to-value ratios or debt-to-income requirements for FX loans) – which may be legitimate from a financial stability perspective – have tended to alter the composition of FX loans to national borrowers. In addition, currency-based measures may dampen capital flows if foreign banks are not prepared to lend in domestic currency.

3.1.3 Case study: Recent currency-based measures in Korea

Background

The Korean financial system was vulnerable to capital flow reversals not only during the Asian crisis in the late 1990s but also at the beginning of the global financial crisis. Prior to 2007, Korean financial institutions, both locally-owned banks and foreign-owned bank branches, had made a large-scale shift to short-term funding denominated in foreign currencies. Despite also holding dollar assets, banks could not easily liquidate these assets because they were mostly long-term exposures to corporates, e.g. longer-term export credit to export companies secured by export revenues. Therefore, although the overall currency mismatch on the consolidated balance sheets of the corporate and banking sectors might have seemed negligible at first, the resulting maturity mismatch between long-term dollar claims and short-term dollar funding put the banking system at risk. This came to a head when dollar funding suddenly dried up in the wake of the fall of Lehman Brothers in September 2008. Following the crisis in 2008-09, capital inflows to emerging markets resumed, and Korea became subject to net capital inflows and associated pressure on the exchange rate.[23] Korea tightened regulations with the potential to restrict short-term capital flows in a series of steps after 2009, including currency-based measures from 2010 onwards.

Recent currency-based measures

The Bank of Korea has used several macro-prudential measures to address currency mismatches in the banking sector. First, Korea has rules regarding the net foreign exchange positions of banks to limit their foreign exchange risks. These rules have been used for many years as part of the Basel minimum standards for internationally active banks, and have been exempted, for example, from the OECD code's disciplines. However, Korea has also put in place additional measures which are

[22] The lack of empirical research on the possible role of macro-prudential and currency-based measures in reducing financial integration could be due to the fact that this analysis often requires microeconomic data since, for panel data studies, the cross-sectional dimension otherwise requires macro-prudential policies to be comparable across countries.

[23] This case study partly draws on a conversation taking place within the OECD, relating to Korea's position vis-à-vis the OECD Codes of Liberalisation. A more general description of how a leverage cap on banks' FX derivatives positions or a levy on FX non-core liabilities restrict cross-border capital flows is provided in a recent OECD report to the G20 (OECD, 2015).

not part of the current Basel minimum standards and which, according to an OECD survey, no other OECD member has in place.

In particular, these measures include:

(a) *a leverage cap on a bank's FX derivative position*; The leverage cap on a bank's FX derivative position, first introduced in October 2010, requires banks to limit their FX derivative position (including FX forwards, FX swaps, and cross-currency interest rate swaps) at or below a target level (as specified as a percentage of the bank's equity capital for the previous month).[24] To the extent that the measure applies to operations by residents abroad, it has a bearing on liberalisation commitments under item XII/B of the OECD Code, calling for freedom for residents to buy and sell FX (spot and forward) when abroad. To the extent that the leverage cap only targets operations among residents, it constitutes an internal measure and thus fall outside the scope of the Code, except to the extent that such an internal measure would be seen as frustrating liberalisation commitments (OECD, 2015). According to the OECD, the restrictive nature of these measures stems from the cost to a bank of raising additional capital if it increases its forward position. The fact that resident and foreign banks currently have leverage caps below their statutory maximum levels does not provide an indication of the impact of these caps at times of financial stress.

(b) *a macro-prudential stability levy (MSL).* The MSL, introduced in August 2011, is imposed on the outstanding amounts of non-deposit foreign currency liabilities, with the levy rates varying from 2 to 20 basis points, and with lower rates applied to liabilities of longer maturity. The Bank of Korea estimates that during the first years of their implementation, the leverage cap and the MSL reduced banks' short-term foreign borrowings by about 0.5-0.6% and 0.2-0.3% of annual GDP respectively. The levy on FX non-core liabilities has a bearing on the OECD Code's obligations to the extent that it interferes with the freedom to use foreign currency as a denomination and the settlement of listed operations between residents and non-residents.

Overall, the MSL's target was not only to further reduce banks' currency mismatches but also to reduce banks' overall reliance on non-deposit funding and capital inflows. Although several countries introduced bank levies in the aftermath of the global financial crisis, the Korean tax on non-core liabilities is not considered to be a common macro-prudential measure. While the fiscal revenue obtained from bank levies often boosts general government revenue, the Korean levy is credited to a special account of the foreign exchange reserves, underlining the financial stability purpose of the measure. Bruno & Shin (2012) also point to the fact that since only non-core liabilities are targeted by the levy it could also serve to mitigate the

[24] In June 2010, with a grace period for compliance extending to 9 October, the FX derivative positions of Korean banks were set a ceiling of 50% of banks' equity. For foreign financial institutions the ceiling was imposed at 250%, following the rationale that the ratio should be higher than that for Korean banks since foreign banks have little capital at local branch level. In May 2011, the leverage cap on FX derivatives was set at 200% for foreign banks and at 40% for domestic banks. In November 2012, the leverage cap was further tightened to 150% for foreign banks and to 30% for domestic banks.

pro-cyclicality of the banking sector without interfering with the intermediation of core deposits from savers to lending.[25] While the MSL discriminates neither between foreign exchange liabilities vis-à-vis residents and non-residents nor between domestic and foreign banks, it is designed to have an impact on the composition of capital flows to the Korean financial system, and may therefore be considered to be a capital flow management measure. OECD research argues that in countries where banks face limitations to borrowing in their domestic currencies on international markets, given that there is no ready market for operations in the domestic currency outside the country concerned, a levy on banks' FX liabilities has an effect similar to that of a tax on foreign liabilities and could be used to attain external balance objectives. The measure has a bearing on the OECD Codes' obligations.

3.2 Geographic Ring-fencing

3.2.1 Definition and compliance with international agreements

Geographic ring-fencing (GRF) measures are defined in this paper as limits, imposed by national authorities, on cross-border capital and liquidity flows within banking groups. Elements of GRF have been in place in most jurisdictions for years, reflecting, in particular, the responsibilities of the host supervisors towards the domestic subsidiaries of foreign banks.[26] Since the start of the crisis GRF measures have been used more frequently. In fact, the crisis has led to a tightening in regulation, especially in those countries where the crisis hit hardest and in countries with the lowest level of initial regulatory controls.

Examples include direct restrictions on foreign branch activities, a shift in favour of foreign banks operating through subsidiaries, and an increase in constraints on the relationship between subsidiaries and parent banks. At the same time, the focus on local supervision has also strengthened. National authorities are expected – especially in the EU – to apply internationally-agreed Basel III increases in capital and liquidity requirements to all locally-incorporated banks, including subsidiaries of foreign banks. This tightening in local supervision – which is often intended to ensure a level playing field between foreign and local banks – may have the side effect of reducing the ability of capital and liquidity to flow across borders within the banking group to where such flows are most needed.

Overall, most GFRs do not usually discriminate between residents and non-residents and target domestic financial stability rather than cross-border capital flows.[27] Unlike trade protectionism measures, GFR measures are implemented not to protect domestic entities from foreign competition but instead to increase regulation and supervision requirements for the operations of foreign affiliate banks in the host country to the same level of control as that for domestically incorporated banks. If,

[25] See Bruno, V. and H. Shin (2012, p. 13).

[26] Branches have also traditionally been subject to local liquidity requirements and also, in some jurisdictions, particularly EMEs, to local capital requirements.

[27] GRF measures may be aimed at reducing the probability or impact of individual domestic bank failures or at maintaining the stability of the domestic financial system as a whole.

however, implemented unilaterally *ex post* as a crisis resolution tool, some GRF measures may have negative side effects on financial integration.

In these situations, there may be conflicts between national and global financial stability, especially when national authorities have an incentive to ring-fence a failing banking group's assets to support domestic creditors at the expense of their foreign counterparts.

In the EU, a recent survey by the European Commission confirmed that some EU banking supervisors introduced measures with ring-fencing effects between 2008 and 2013.[28] Since then, many of these measures have been phased out and this has inspired the creation of the Single Supervisory Mechanism (SSM). According to the survey, the measures were mostly taken in response to the economic and financial crisis and were put in place in order to retain bank assets within national borders or to pre-emptively strengthen the liquidity position of local banks (see Box A).

Box A

Supervisory measures having the effect of ring-fencing in the EU

Evidence from surveys of the European Commission

Through surveys among the EU-27 supervisors, the Commission identified two broad categories of measure:

(a) Measures that affect the whole banking system with an impact on other countries' financial systems. These include, for example:

- laws that permit the prohibition of intra-group flows of liquidity or capital, or the distribution of profits to a parent company;
- recommendations to the whole banking system leading to the prohibition of the payment of dividends and requiring profits to be allocated to strengthening the capital base; measures to reinforce the quantitative liquidity requirements for all institutions established in a country.

(b) Individual measures focusing on a particular institution, such as:

- recommending subsidiaries to sign "voluntary" commitments to establish special ring-fencing regimes with respect to the rest of the group (e.g. restrictions on intra-group transfers of funds and payment of dividends, limits on intra-group exposures);

[28] The complete survey results are confidential. The information included in this paper is largely based on a letter in July 2014 from the Commission, Directorate General Internal Market and Services to all national banking supervisors (with copies to the Chairs of the SSM and the EBA). See also European Commission (2015).

- requiring subsidiaries to develop plans to reduce funding to the rest of the group on the grounds of excessive risk concentration;

- prohibiting crisis-related actions by banks in trouble, such as maintaining certain assets in the host country to protect depositors.

Finally, with regard to the changes to the legal structure of banks, some of the replies to the survey by the Commission mention increased pressure from host supervisors to restructure branches into subsidiaries.

Source: European Commission.

In the view of the European Commission some of the ring-fencing measures implemented in the EU appear to be justified and are in line with applicable EU banking legislation, despite their impact on the free movement of capital between Member States. However, in certain cases, it appears, in the view of the Commission, that supervisors have decided to take action unilaterally, without consulting the other supervisors concerned, even when they were obliged under EU law to work in cooperation. The Commission also has some doubts as to the appropriateness and proportionality of some measures in view of the prudential concerns they were designed to address.[29] Looking ahead, the Commission envisages that the new European regulatory framework will reduce the risk of ring-fencing within the single market, e.g. through harmonised liquidity coverage requirements in the Union.

Under the OECD codes, EU banking regulations affecting capital movements were briefly discussed by the Advisory Task Force on the OECD Codes of Liberalisation in April 2013. Since such measures are largely unexplored in the context of the OECD Codes, it was agreed that the European Commission and EU Member States that adhere to the Codes should keep the OECD Secretariat informed of future developments for consideration by the Task Force, as appropriate.

3.2.2 The economic effects of GRF measures

Local (sub-consolidated) prudential requirements constrain the free movement of capital and liquidity within banking groups. In principle, such constraints could be costly for banks and the broader global economy but they are also likely to generate a number of economic benefits from a host country perspective.

There are, though, a number of reasons why host authorities might want discretion over regulating and supervising banking entities operating in their jurisdiction. First, there may be asymmetric information between the host and home supervisors. It may

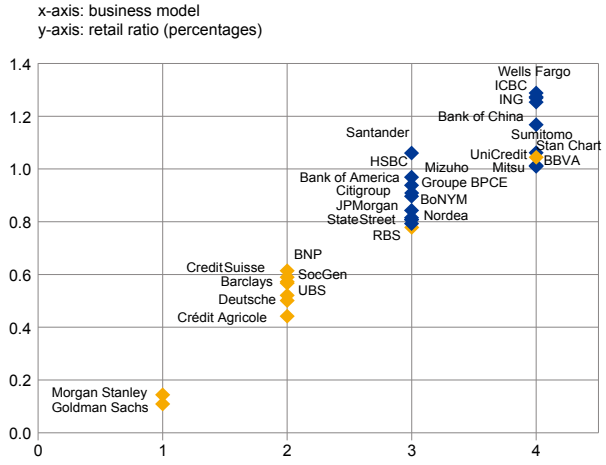
[29] The Commission also stressed that soft law tools such as recommendations or requests to enter into voluntary commitments are often wrongly seen as not constituting supervisory measures that trigger cooperation obligations.

also be difficult for the single home supervisor to accurately judge all the risks facing the banking group, and it is probably easier for local supervisors to assess local risks. In addition, incentives may not be fully aligned between the group and host supervisors. For example, changes in the lending behaviour of foreign affiliates would probably be borne by the local (host) than home economy. In fact, the evidence suggests that foreign banks, especially branches, have particularly pro-cyclical domestic lending behaviour.[30] This, in turn, seems to partly reflect the volatility of parent-to-affiliate intragroup banking flows which are used in particular as a funding source for foreign branches. Therefore, from the host authority's perspective, unrestricted cross-border intragroup banking flows are a double-edged sword. On the one hand, they allow foreign parent banks to support their affiliates abroad if the affiliate is hit by an adverse local shock. On the other hand, they make it easier for foreign parent banks to withdraw funding from their affiliates abroad, e.g. if they themselves face a shock. In the recent boom and bust lending cycle, the growth in domestic credit in a number of countries tended to be much more cyclical for foreign branches than for subsidiaries. For the UK, Hoggarth et al. (2013) find that during the recent crisis, the growth in credit to UK borrowers from foreign branches fell sharply and by much more than that from UK-incorporated banks. They also find lending by foreign branches to be more concentrated in cyclical sectors and that these branches experienced more rapid growth before the crisis, indicating that the quality of lending by foreign banks might also improve if they are required to operate as subsidiaries.

Chart 9

Business models and retail activity of G-SIBs

(as of end-2012)



Sources: SNL Financial, published accounts, Capital IQ, and Author's calculations.
Notes: Retail ratio = (net customer loans + customer deposits) / total assets;
1: IB – investment banks; 2: IBU = investment banking-oriented universal banks;
3: CBU = commercial banking-oriented universal banks; 4: CB = commercial banks;
Blue diamonds refer to banks with generally decentralised business models;
Red diamonds refer to banks with generally centralised business models.

Also, more local micro- and macro-prudential policy instruments are available for foreign subsidiaries than for branches. In most developed countries the main supervisory tool that can be applied to foreign branches concerns liquidity requirements.[31] Encouraging foreign affiliates to operate as subsidiaries rather than branches often goes hand-in-hand with limits on intragroup flows. Subsidiaries, unlike branches, usually face permanent large exposure (LE) limits to and from their parent bank.[32]

The benefits of increased subsidiarisation to the host country need to be weighed against the costs to global banking groups and possibly the broader economy. In order to assess whether local minimum capital requirements affect banks' overall group-wide capital needs, balance sheet data from a sample of major global banks (G-SIBs) are considered. As shown in Chart 9, most wholesale-oriented banks operate centralised branch structures to raise funds where

30 For banks in the United States, see Goulding and Nolle (2012); for Italy, see Albertazzi and Bottero (2013); for the UK, see Hoggarth et al (2013).

31 However, this tool will no longer be available from next year for branches of parent banks headquartered in other EEA countries when, within the EEA, lead responsibility for liquidity supervision shifts to the home supervisor.

32 However, within the EU, subsidiaries are allowed to be exempt from LE limits to their parent companies or other subsidiaries of the same group. This is subject to prior regulatory approval from the home regulator under EU rules.

Chart 10

Tier 1 capital ratios of G-SIBs

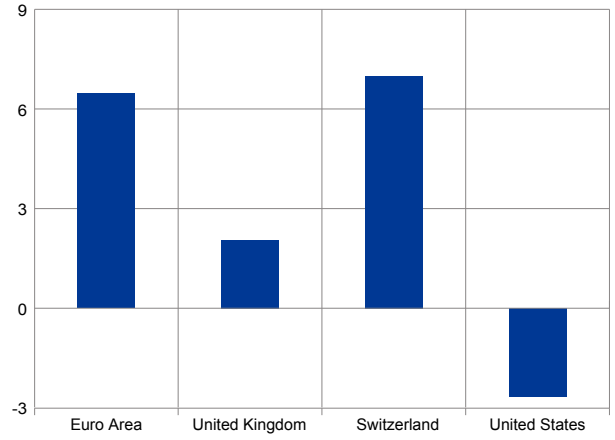
(as of end-2012)

Sources: SNL Financial, published accounts and Capital IQ.
Notes: Excludes Goldman Sachs, Bank of New York Mellon, Morgan Stanley and State Street.

Chart 11

Total net intragroup assets abroad by individual domestic-owned banking systems

(percentage of their total foreign claims)



Sources: BIS and Bank of England Calculations.
Notes: Data refer to end-2013. The number for the euro area is calculated based on the sum of positions for individual BIS reporters for which data are available. These are: Austria, Belgium, Germany, Spain, France, Ireland, Italy and the Netherlands. Data for Germany and Spain are as of end-2011 since data for end-2012 and end-2013 are confidential.

this is cheapest and lend where the returns are highest (see the red diamonds in the bottom left quadrant of Chart 9).

Wholesale banking groups may therefore face non-trivial costs associated with changing their banking models. However, a cross-sectional snapshot of banking group capital ratios at end-2012 does not provide evidence for this concern as there appears to be no direct link between funding models and the Tier 1 capital ratio (see Chart 10). More research is needed to confirm this, e.g. in the form of an event study of how banking groups' capital ratios have changed over time following increases in local capital requirements, or by controlling for additional cross-sectional bank characteristics. Beyond empirical studies, Cerutti and Schmieder (2014), who integrate ring-fencing into cross-border bank stress tests, find that some forms of ring-fencing could significantly increase banks' capital needs. However, even if GRF measures made it necessary for global banks to raise their group-wide target capital ratios, a FSB/BCBS analysis suggests that this would not have a material impact on GDP growth, provided that this was done gradually.[33]

For EU banks, limiting cross-border intragroup flows would be likely to affect the business model of some EU-owned G-SIBs since their operating entities are, in aggregate terms at least, large net lenders to their foreign affiliates abroad (see Chart 11). From the perspective of EU countries as hosts to foreign-owned banks, there would be a risk if foreign affiliates were large net borrowers from their parent banks abroad, since in that case the funding gap would have to be filled by domestic or non-affiliated foreign creditors. This risk has decreased in aggregate terms in most EU Member States compared to what it was at the outset of the financial crisis (see Chart 12). Under a hypothetical extreme scenario, i.e. a complete ban on intra-group funding, there could be a funding gap for some EU banking systems.

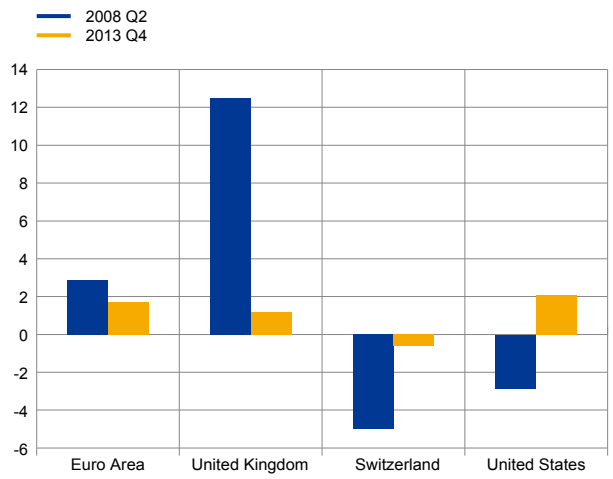
Overall, encouraging subsidiarisation will mean that local affiliates will have less funding available from parent banks. GRF measures could therefore lead to the emergence of new risks stemming from substitution effects, e.g. if intragroup funding

[33] See FSB/BCBS Macroeconomic Assessment Group (2010).

Chart 12

Net intragroup liabilities of foreign affiliates by country

(percentage of host GDP)



Sources: BIS and Bank of England Calculations.
Notes: The number for the euro area is calculated based on the sum of positions for individual BIS reporters for which data are available. These are: Austria, Belgium, Germany, Spain, France, Ireland, Italy and the Netherlands. Data for Germany and Spain are as of end-2011 since data for end-2012 and end-2013 are confidential.

were replaced with wholesale or cross-border interbank funding.[34] The latter sources of funding have been even more volatile and responsive to shocks in global risk than intragroup funding.[35] Ultimately, it is banks' risk structures and the regulatory and prudential policy tools available to the authorities to deal with these, rather than the legal structure of foreign banks *per se*, that are safeguarding financial stability. Finally, GRF measures may also lead to potential retaliatory actions by foreign authorities.

More broadly, GFR measures, like other measures considered in this paper, may lead to a decline in global financial openness and should, at least in theory in the long run, depress global growth and international risk sharing.

In the EU context, the survey carried out by the European Commission shows that ring-fencing along national borders in the Union has led to market fragmentation which is economically inefficient and may have exacerbated the adverse feedback loops between weak banks, sovereigns and the economy in stressed euro area countries.[36] In addition, ring-fencing along national borders may have entrenched significant differences in the financial and economic conditions of countries within the euro area. It may also prevent Member States from reaping the full benefits of the single market, distort optimal capital allocation, make the transmission of a single monetary policy more difficult and trigger adverse spill-over effects across borders, all of which could delay the economic recovery.

Overall, local GRF measures should be judged on a case-by-case basis, assessing whether the net benefits are positive and the measure is "proportional". Such an assessment should also take into account potential adverse side effects both domestically and abroad, and be supported by actions to improve cross-border cooperation and transparency.[37] In particular, the local regulations concerning foreign branches in many countries are opaque. The gap in the Basel framework on minimum international standards for the treatment of foreign branches should therefore be considered by the Basel Committee on Banking Supervision.

[34] If parent bank funding is denominated in foreign currencies it can also entail risks related to currency mismatches.

[35] See Reinhardt and Riddiough (2014).

[36] See footnote 26.

[37] In the UK, the PRA recently clarified its approach on branch supervision for non-EEA branches in order to ensure the safety and soundness of the UK financial system. The framework has three elements, consisting of (i) whether the supervision of the firm in its home state is equivalent to that of the PRA (ii) the branch's UK activities and (iii) whether the PRA has an assurance from the home supervisor over the firm's resolution plan in a way that reduces the impact on financial stability in the UK. This last element has been clarified recently, while the first two elements have always been part of the UK authorities' approach to branches.

Insufficient cooperation or attention to wider risks could encourage the imposition of *ad hoc* supplementary measures that further restrict the flow of funds within banking groups following a crisis event. Uncoordinated local asset protection measures activated on the cusp of a crisis could prove particularly costly. This could catalyse the collapse of global banks, triggering fire sales across asset markets, and increase losses in the global banking system more generally. A similar outcome might result from host authorities using ex ante state contingent triggers, activated in a near-crisis situation, on locally operating foreign banks. Minimising the financial risk to each country individually may not be consistent with maximising the overall global value saved during a resolution. This risk should be managed as part of recovery and resolution planning for internationally active banking groups.

3.2.3 Case study: new incorporation requirements for foreign banks in the US

The United States has recently adopted and announced planned measures concerning incorporation requirements for the establishment of foreign banks and/or bank branches. On 18 February 2014, the US Federal Reserve issued a final rule that obliges non-US banks operating in the United States to hold more capital in order to increase the resilience of the banking system, thereby implementing Section 165 of the Dodd-Frank Wall Street Reform and Consumer Protection Act.[38] The final rule stipulates that foreign banks with US non-branch assets of USD 50 billion or more will be required to establish a US intermediate holding company for their US subsidiaries. As a result, the foreign-owned US intermediate holding company will generally be subject to the same risk-based and leverage capital standards applicable to US bank holding companies. The intermediate holding companies will also be subject to the Federal Reserve's rules requiring regular capital plans and stress tests.

A foreign banking organisation with combined US assets of USD 50 billion or more will be required to establish a US risk committee and employ a US chief risk officer. The same requirement applies to US bank holding companies with assets of USD 50 billion or more. In addition, the foreign banking organisations will be required to meet enhanced liquidity risk management standards, conduct liquidity stress tests, and hold a buffer of highly liquid assets based on projected funding needs during a 30-day stress event. Foreign banking organisations with total consolidated assets of USD 50 billion or more, but combined US assets of less than USD 50 billion, are subject to enhanced prudential standards. In addition, the final rule implements stress testing requirements for foreign banking organisations with total consolidated assets of more than USD 10 billion and risk committee requirements for foreign banking organisations that meet the asset threshold and are publicly traded. The compliance date was initially extended for foreign banking organisations to 1 July 2016, a year

[38] See Board of Governors of the Federal Reserve System (2014), Press Release 18 February 2014, available at http://www.federalreserve.gov/newsevents/press/bcreg/20140218a.htm, as well as the U.S. Government Publishing Office Electronic Code of Federal Regulations, Chapter 12, Part 252 - Enhanced Prudential Standards (Regulation YY), available at http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=cf69eb924cea74aac02264a0ea36596d&r=PART&n=12y3.0.1.1.17

later than initially proposed. The final rule also generally defers application of the leverage ratio to foreign-owned US intermediate holding companies until 2018.

Compliance with OECD Codes of Liberalisation

Because of their potential relevance under the OECD Codes of Liberalisation – the requirement to incorporate as a subsidiary limits the freedom to transfer funds across borders within a globally operating bank – the new US incorporation requirements were also considered by the Advisory Task Force on the OECD Codes of Liberalisation. The Task Force noted assurances from the US delegation that their authorities are aware of their obligations under the OECD Codes, and that any new requirements regarding foreign banks' branches would conform to these obligations. The United States currently has a reservation under the Current Invisibles Code concerning the retail deposit-taking activities of branches of foreign banking organisations for balances of less than USD 100,000. Overall, there is no discrimination against non-residents because foreign banks have to comply with the same standards as domestic banks. Nevertheless, the OECD Secretariat was asked to prepare an assessment, as some delegates felt that these measures could have profound effects on the branching business model of global banks.

3.3 Financial repression policies

3.3.1 Definition and compliance with international agreements

As reported in Kirkegaard and Reinhart (2012), the term "financial repression" was originally coined by McKinnon (1973) and Shaw (1973) to describe various policies that allow governments to "capture" and "underpay" domestic savers.[39] According to van Riet (2013; 2014), financial repression policies include a wide array of measures aimed at facilitating the financing of high government debt. Since such policies may also have (sometimes unintended) side effects on capital flows, they partly overlap with the measures considered in this paper, i.e. policies which could negatively affect financial integration. In addition, some authors include capital controls in the mix of policies which constitute financial repression.[40]

Outright financial protectionism and financial repression differ in their principal objective. Financial repression refers to a set of policies imposed by the government that seek to control the functioning of the domestic financial sector, the aim being to facilitate the financing of government debt. Instead, outright financial protectionism often refers to measures taken to protect the stability and competitive position of domestic financial intermediation, primarily – though not exclusively – by imposing

[39] The use of the term "financial repression" for policies of advanced economies has remained controversial. For example, Krugman, (2011) argues that the term was originally used to describe extremely distortionary policies in developing countries, e.g. imposing sharply negative real interest rates on savers over long periods. In his view, the term should not be used to describe much more defensible policies in the advanced economies.

[40] See e.g. Kirkegaard and Reinhart (2012) and Reinhart (2012). To achieve financial repression, restrictions on international capital flows will sometimes be necessary to prevent the circumvention of restrictions through external transactions. Obviously, financial repression can be more effectively implemented in a regime of financial protectionism in which there are limited possibilities for cross-border transactions.

requirements on foreign financial institutions. Therefore, one key difference between financial repression and outright financial protectionism stems from the fact that the former distorts the market to the disadvantage of the domestic financial sector, while the latter does that to the domestic financial sector's advantage, as in the case of trade protectionism.

An alternative way of viewing the difference between outright protectionism and repression is as follows: while the former is concerned with keeping international capital "out" to protect the stability of domestic financial intermediation, the latter aims at keeping domestic sector capital "in" to facilitate the financing of government debt. As argued by Kirkegaard and Reinhart (2012), this reading could also be interpreted as suggesting that the advanced economies and the emerging markets have common ground for tighter restrictions on international capital flows, whereby the former aim at creating a captive audience for domestic debt and the latter seek to discourage "hot money".

Outright financial protectionism and financial repression also have other elements in common. First, both can be justified by authorities under the broad umbrella of "macro-prudential policies", a term which refers to governments' efforts to safeguard the health of the entire financial system. Another commonality is that both types of policies are characterised by opaqueness and a pervasive lack of transparency. This makes it very difficult in practice to determine whether policy measures actually constitute "damaging" hindrances to financial integration or, alternatively, are intended for other "prudent" purposes, such as ensuring the stability of domestic financial intermediation or restoring the public finances.

Finally, in the aftermath of the financial crisis, the threat of a re-emergence of both outright financial protectionism and financial repression may be extremely significant. First, the crisis has demonstrated that financial globalisation facilitates the international contagion of crisis, thereby increasing calls for measures that insulate economies from such spillovers. Another legacy of the crisis is the very high level of public debt in many advanced countries, meaning that governments are increasingly willing to resort to financial repression.[41] Indeed, some observers have stated that various forms of financial repression are, in fact, increasingly used in the aftermath of the financial crisis.[42]

Types of financial repression policies

As shown in Table 1, sourced from van Riet (2014), financial repression is a general term including a whole set of policies, laws, regulations, taxes, distortions and controls imposed by the government on the domestic financial sector, with the aim of controlling the financial sector (sometimes also including the operations of the central bank). As stated above, the ultimate purpose of these policies is to reallocate savings to the public sector and bring down the heavy burden of public debt. By controlling the financial system, the government can channel funds to itself in a cheaper way than if it were reliant upon market financing.

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41 Financial repression played an important role in reducing the massive stocks of debt during the period 1945-1980.

42 See e.g. Reinhart and Sbrancia (2011); Kirkegaard and Reinhart (2012), van Riet (2013; 2014) and Goodhart (2010), among others.

Table 1

Financial repression policies

Main category/ technique	Sample measures	Main channel
1: steer financial market conditions in order to tilt the allocation of savings to the government	- explicit or indirect caps or ceilings on interest rates	- subsidizes the gov't if gov't borrows directly from banks; tilts savings towards troubled state banks
	- tax (dis)incentives, like transaction tax on equities or a tax exempting government securities	- makes investing in gov't bonds (or other types of debt) relatively more attractive
	- tax discrimination against residents' holdings of foreign financial assets	- makes investing in domestic financial assets more attractive; creates a 'home bias' in residents' portfolios
	- preferential treatment of government debt (via substantial differentiation in capital requirements, exceptions to large exposures regimes, exceptions in FTT or preferential treatment as collateral)	- makes investing in gov't bonds relatively more attractive
	- placement of significant amounts of debt that is nonmarketable	- direct funding for the gov't against attractive rates
2: impose a higher demand for sovereign debt (or for certain industries) upon a captive domestic investor base	- moral suasion or supervisory or regulatory pressure on banks or pension funds to invest more at home, to withdraw foreign assets or to repatriate funds held in subsidiaries and branches	- "relieves" government from investing in for instance infrastructure; creates a home bias in residents' portfolios
	- quantitative controls on (or prohibition of) residents' holdings of foreign financial assets	- if binding, restricts residents' investment abroad; creates a home bias
	- directed lending to the gov't	- increases demand for gov't bonds
3: confiscate private assets	- capital levy on citizens	- like a tax
	- nationalisation of pension funds	- direct way to relieve debt problems
	- expropriation of foreign assets	- redistribute wealth
	- restructuring of sovereign debt	- direct way to relieve debt problems
4: put pressure on central banks to support their distressed government	- monetary financing of gov't debt	- massive purchases of gov't debt (unsterilized) by the central bank
	- high inflation	- reduces real interest rates
	- cap sovereign bond yields	- reduces costs of borrowing by the gov't
	- by pressing for abnormally low interest rates (i.e. an aggressively expansive stance of monetary policy)	- reduces costs of borrowing by the gov't
5: otherwise	- government ownership or domination of banks	
	- extensive management of banks	
	- restricting entry in the financial sector	

Sources: van Riet (2014) and the authors.

Regarding this set of policies, this paper only considers measures which have an effect on international capital flows. Specifically, these are:

- discriminatory measures against residents' holdings of foreign financial assets (e.g. via prohibition, quantitative controls or tax discrimination);
- moral suasion and/or supervisory and regulatory pressure on domestic financial institutions (banks and/or pension funds) to increase home bias in their portfolios (e.g. by investing more at home or by withdrawing foreign assets or repatriating funds held abroad).

As regards compliance with international agreements, financial repression policies which discriminate against holdings of foreign assets may contravene the Treaty on the Functioning of the European Union. In fact, not only outright capital controls, but also efforts aimed at establishing a captive investor base, might be inconsistent with the Treaty.

While the Treaty stipulates that: *"… all restrictions on the movement of capital between Member States and between Member States and third countries shall be prohibited"* (Article 63), it also provides, within the specific exceptions, some space for national authorities to use prudential measures, provided that they do not

represent a means of arbitrary discrimination (Article 65 1b).[43] Whether financial repression policies can be seen as prudential if their aim is mainly to facilitate the financing of government debt (e.g. by creating a captive investor base) remains debatable. In general, the primary objective of financial repression is to control the domestic financial sector in order to reallocate savings to the public sector. However, in some extreme cases, financial repression can also be linked to financial stability motives. In particular, in times of fiscal stress, when a government becomes vulnerable to an uncontrollable "debt run", the government might use financial repression to prevent this from happening. For instance, capital controls may prevent a deterioration of the tax base and enhance the governments' ability to tax capital effectively; a larger domestic investor base enables the government to oversee the financial sector more extensively.

Under the OECD Codes, these financial repression policies have not been examined explicitly. However, home bias in banking lending and borrowing due to regulations is an area where the Advisory Task Force has agreed that further work may be warranted in the future. In principle, policies discriminating against foreign investments do not conform with the OECD Codes.

3.3.2 The economic effects of financial repression

The economic effects of financial repression have remained controversial. On the one hand, Diaz-Alejandro (1985) argues that some banking crises leading to huge drops in growth had their roots in rapid processes of financial liberalisation. In the same vein Stiglitz (1994) emphasises the utility of some repressive measures on the grounds of market imperfections. According to this line of reasoning, ceilings on interest rates, for instance, may improve financial stability and even the allocation of funds. Krugman (2011) argues that economic performance in the US from 1947 to 1980 (the post-war boom) may have benefited from such policies. On the other hand, other scholars have stressed that financial repression has adverse side effects, as it creates economic and distributional distortions (Fry, 1997). In fact, channelling domestic savings as a priority to the national government may crowd out private capital formation and prevent an efficient allocation of capital, thereby impairing economic growth. Growth could also be harmed because of distorted incentives for governments; privileged funding and easy debt resolution could feed moral hazard, undermine incentives for fiscal discipline and create scope for delaying necessary reforms. Persistently high public debt, in turn, tends to be associated with lower economic growth above certain thresholds.

Financial repression might also contribute to financial fragmentation as the link between government and banks is reinforced instead of being loosened (with

[43] According to van Riet (2013), some of these exceptions were recently invoked by the European Parliament during the debate on the new EU regulation on enhanced surveillance of euro area countries facing financial stability risks. In particular, in 2012 the European Parliament proposed allowing distressed euro area countries to introduce restrictions on capital movements to support their fight against tax evasion. This suggestion was rejected. At the same time, proposals were adopted that allowed the countries concerned to initiate measures aimed at stabilising markets and preserving the efficient functioning of their financial sectors. Therefore, in principle, the new EU regulation could legitimise national regulatory actions and moral suasion in support of government debt financing.

adverse effects on monetary transmission). Capital controls and moral suasion on a captive domestic investor base could have additional adverse effects. Indeed, a larger domestic investor base also implies greater economic damage from a potential future sovereign debt restructuring, while capital controls limit both domestic and foreign investors' ability to diversify portfolios, and help inefficient financial institutions to survive.

3.3.3 Case Study: Financial repression in the euro area?

As shown in Section 2, the banking sectors in most euro area countries have increased home bias in their sovereign exposure in recent years. However, it is difficult to determine whether this constitutes outright financial protectionism, financial repression or a market-driven outcome of the crisis. For instance, there is some evidence that the increase in home bias in the more vulnerable countries initially reflected an opportunistic shift in the portfolios of banks towards the higher yielding (and riskier) bonds of their own country. However, Battistini et al (2013) find that banks in the most vulnerable countries – in contrast to banks in the core countries – raised their domestic exposure following an increase in country-level sovereign risk, suggesting perhaps some indirect evidence in support of financial repression in the more vulnerable countries (see also Becker and Ivashina, 2014).

There is some anecdotal evidence that there has been some moral suasion and pressure on banks in the euro area. According to van Riet (2014) this has included:

- moral suasion of banks to take advantage of the three-year LTROs to park this liquidity in government bonds, which subsequently could be used for collateral purposes;
- supervisory pressure on banks to withdraw their foreign assets from stressed countries or to repatriate funds held in subsidiaries/branches in non-stressed countries;
- moral suasion of pension funds to invest more at home, in government bonds, infrastructure and government guaranteed mortgage bonds.

However, it remains difficult to determine whether this evidence for the euro area, which is based on anecdotal and outcome-based information, actually constitutes financial repression, in particular because there are often no legal requirements or obligations to invest at home. In fact, in some cases, there might be good reasons for some moral suasion on the part of the government. For instance, in times of fiscal stress, when an uncontrollable debt run might materialise, moral suasion of domestic banks may prevent this. Along similar lines, some pressure on large institutional investors to invest more at home – thereby reducing their extremely large foreign exposures – might help to reduce domestic distortions such as heavy reliance on market funding.

3.4 Crisis resolution policies with a national bias

3.4.1 Definition and compliance with international agreements

In the context of crisis resolution policies, some government interventions, including bank recapitalisations, nationalisations, moral suasion and other legislation affecting banks' lending strategies (e.g. restructuring/resolution schemes) have reduced the cross-border lending activities of the respective banks.[44] For example, during the deleveraging process of European banks, cross-border loans declined more significantly than domestic loans (see Section 2.1), partly because some banks, in particular ailing banks receiving some kind of government support, were explicitly asked by the authorities to reduce their cross-border activities.

The reasons for enacting such policies are widespread, including (i) facilitating restructuring/resolution in the event of bank failures, (ii) shielding the domestic financial system from perceived higher risks in foreign countries, (iii) securing an adequate credit supply for the domestic economy and (iv) protecting tax payers' in the case of a further need for recapitalisation, since otherwise the benefits of recapitalisation will also flow to foreign creditors.

With respect to the Treaty, it appears that such measures could be based on the specific exceptions which allow national authorities to use prudential measures, provided that they do not represent a means of arbitrary discrimination (Article 65 1b). In this case, authorities would, in principle, have to demonstrate that enforced deleveraging from foreign assets is for prudential reasons, i.e. the higher risk of foreign operations (point (ii) above). It is unclear, however, whether such measures always comply with this condition, particularly since a bank's foreign operations are not necessarily riskier than its domestic operations. For example, for some Spanish banks their exposure to Latin America acted as a hedge against rising domestic credit risk during the crisis.

Under the OECD Codes, rising home bias in banking lending due to regulations is, however, a largely unexplored area (see Section 3.3.1).

3.4.2 The economic effects of crisis resolution policies with a national bias

Relatively little research has been carried out on crisis resolution policies which may have had some impeding effect on financial integration. Policy discussion of such measures has been mainly prompted by one study by Rose and Wieladek (2011) who examined the loan mix for British and foreign banks, both before and after unusual public interventions such as nationalisations and public capital injections. The authors find strong evidence of what they term "financial protectionism" which they define as a "nationalistic change in banks' lending behaviour, as a result of

[44] Such policies are also discussed in the context of government subsidies which are seen by some authors as a form of murky (trade) protectionism because they sometimes discriminate against foreign competitors. See Evenett and Jenny (2009).

public intervention, which leads domestic banks to either lend less or at higher interest rates to foreigners". After nationalisations, foreign banks reduced the proportion of loans going to the UK by about 11 percentage points and increased their effective interest rates by about 70 basis points. In contrast, nationalised British banks did not significantly change either their loan mix or effective interest rates. The authors therefore conclude that foreign nationalised banks seem to have engaged in "financial protectionism", while British nationalised banks have not.

One major drawback of this study is, as the authors acknowledge in a revised version (Rose and Wieladek, 2014), that the loan mix ratio used is not a true measure of home bias because it does not include the domestic lending of parent banks and refers only to a bias of foreign subsidiaries in their lending to the UK. In addition, it is not clear why privatisations have similar effects to nationalisations, and why interventions of UK authorities should have different effects. Also, the results could be distorted by the fact that the UK is a major financial centre with a high presence of foreign banks and thus not fully representative of cross-border banking flows in general.

More direct evidence of "financial protectionism" that is partly related to national crisis resolution policies is available for German banks. Buch et al (2011) find that banks covered by the rescue measures of the German government have increased their foreign activities after these policy interventions, but they have not expanded compared with banks not receiving support. In addition, Buch et al. (2013), using a gravity modelling framework to assess cross-border bank lending, find that German banks which received state support during the crisis have reduced their international assets. However, there are other possible explanations for this reduction in foreign activities. Using balance sheet data for the largest foreign affiliates of the biggest 68 German banks, Düwel and Frey (2012) show that parent banks' lending in their home markets has been a limiting factor for the affiliates' business abroad, as home lending is a core business of German banks and is hence given priority in a crisis.

Overall, it appears difficult to prove empirically that certain crisis resolution policies have caused an increase in home bias in international banking. While the effect appears obvious when governments and regulators explicitly ask for a reduction of cross-border assets when the government is providing support to ailing banks, such clear-cut cases have been rare (see case study below). As a result, most empirical studies look at the cross-border effects of government support in general, so any direct causality is less clear.

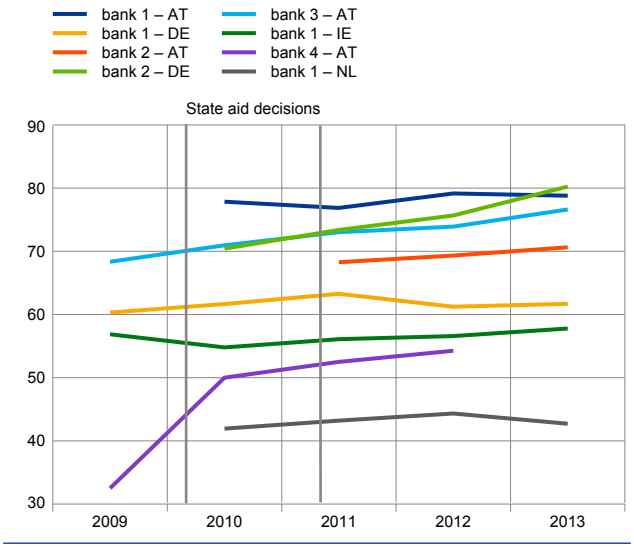
3.4.3 Case Study: EU State aid conditionality

During the financial crisis, numerous banks in several EU countries needed public support. In the context of the European Commissions' conditionality for state aid, some of these banks were explicitly asked to withdraw from their cross-border

Chart 13

Domestic loans of banks receiving state aid with external conditionality

(as a percentage of total loans)



Source: SNL, EU Commission Press Releases Database.
Notes: State aid decisions across the countries in the chart took place between the first quarter of 2010 and the second quarter of 2011.

banking activities. Such measures were presumably aimed at limiting public subsidies for failed bank business models.[45]

The lending behaviour of such banks – in particular their loan mix after the granting of public support under these conditions – may shed some light on the impact of these measures on financial integration. The analysis is based on information available from the EU Commission's Press Releases Database on State Aid.[46] Among those banks which were explicitly asked to reduce their cross-border exposures, domestic loans as a percentage of total loans did indeed rise slightly for a number of banks after the state aid decisions, (see Chart 13).

However, there are several arguments that policies undertaken in the context of EU state aid conditionality do not sufficiently explain the overall post-crisis cross-border deleveraging which has taken place among European banks. First, the share of banks affected – though not negligible – does not represent a predominant part of the EU banking sector. Second, a number of banks which did not receive state aid have nevertheless taken strategic decisions to reduce their cross-border business due to risk and return considerations. Finally, it is difficult to measure the possible impact on cross-border decisions where state aid conditionality has not explicitly focused on these activities but where overall reductions of the balance sheet were required.

3.5 Bank levies and financial sector taxes

3.5.1 Definition and compliance with international agreements

Financial sector taxes have recently been used by many governments to ensure that the burden stemming from bank rescue operations during the financial crisis is fairly shared.[47] Such taxes may be distinguished according to their tax base, which in turn is based on financial institutions' balance sheets (bank levies, financial stability contributions), profits or remunerations (financial activity taxes), or financial transactions.

45 In line with the communications of the European Commission on measures for banks in crisis and on the guidelines on restructuring aid to banks, the conditionality aims at limiting the distortion of competition which could result from subsidising failed bank business models through the provision of state funds or guarantees, and at involving the owners in sharing the burden created by the cost of the bank rescues. See EU Commission Communication IP/08/1495, 13 October 2008, and EU Commission Communication IP/09/1180, 23 July 2009, available at http://europa.eu/rapid/press-release_IP-08-1495_en.htm?locale=en and http://europa.eu/rapid/press-release_IP-09-1180_en.htm?locale=en

46 EU Commission Press Releases Database, State Aid: Overview of decisions and ongoing in-depth investigations in the context of the financial crisis, http://europa.eu/rapid/press-release_MEMO-13-337_en.htm

47 OECD (2013a) provides an overview of financial sector taxes in OECD countries. Although the document, issued "For Official Use" is not publicly available, this classification facilitates an official consultation with academics, NGOs, industry, etc.

Unless financial sector taxes are aimed specifically at influencing cross-border capital flows, or discriminate on the basis of residency or currency, they usually raise no issues from the perspective of free movement of capital. For example, the bank levy introduced by the Hungarian authorities in September 2010, although high by international standards, did not raise issues in this regard because it had to be paid by all resident banks, i.e. domestic banks as well as subsidiaries of foreign banks.

At the same time, financial transactions taxes (FTTs) levied on transactions may impact capital flows if cross-border financial transactions are affected. For example, FTTs recently implemented in some euro area Member States have raised concerns with respect to the free flow of capital within the Union.[48] At the same time, some legal opinion has stressed that FTTs are not incompatible *per se* with the Treaty's provisions on the free movement of capital, because otherwise there would be a denial of national tax competence.[49] On the other hand, taxes on foreign exchange transactions are seen by the ECB as incompatible with the Treaty provisions on the free movement of capital.[50]

Under the Code of Liberalisation of Capital Movements, bank levies applied irrespective of the residency of the bank's counterpart or the currency used in the operation concerned are "conforming measures". Nevertheless, certain financial sector taxes which are mainly borne by foreign banks may raise issues under the Codes.

3.5.2 The economic effects of bank levies and financial sector taxes

Assessing the economic effects of bank levies and financial sector taxes in terms of public revenues generated, effects on risk-taking in the financial sector, market liquidity and distortions stemming from exemptions (with sometimes important repercussions on the conduct of monetary policy) is beyond the scope of this paper.[51] A direct impact of bank levies on financial integration can be only expected if the measure discriminates on the basis of residency or currency (see above). In the case of FTTs, cross-border capital flows could be affected in countries with an open financial account.

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48 On 14 February 2013 the European Commission therefore published a proposal for implementing an FTT in 11 euro area Member States (BE, DE, EE, GR, ES, FR, IT, AT, PT, SI, SK) via "enhanced cooperation" (COM/2013/71). The proposed EU FTT would apply to (almost) all financial markets, instruments and actors. It would, however, not be levied on foreign exchange (spot) transactions, as it was considered that taxing such transactions would be incompatible with the Treaty principle of free movement of capital. Since May 2013 negotiations in the Council have stalled due to a lack of consensus on several issues (e.g. the exemption of certain instruments/segments such as government bonds and/or repos, the principle(s) on which the tax will be raised (issuance vs. residence principle), reduction/annualisation of tax rates, and a phased approach whereby equities would be covered first and other instruments later). In January, the participating Member States renewed their commitment to reaching an agreement and proposed that the tax should be applied to the widest possible base, with low rates (see "Joint Statement by ministers of Member States participating in enhanced cooperation in the area of financial transaction tax" of 27 January 2015).

49 See http://ec.europa.eu/taxation_customs/resources/documents/taxation/other_taxes/financial_sector/legal_aspects_proposal.pdf

50 See the legal opinion of the ECB on the proposed foreign exchange tax of Belgium in 2004, published at https://www.ecb.europa.eu/ecb/legal/pdf/en_con_2004_34_f_sign.pdf

51 For an overview of the economic impact of financial transaction taxes, see e.g. Matheson (2011).

According to the European Commission, FTTs or similar taxes in some EU member countries have risked causing a fragmentation of the Single Market for financial services and to frequent occurrences of double taxation and double non-taxation.[52]

3.5.3 Case study: Recent bank levies in selected OECD countries

At the OECD, the issue of bank levies was first raised during the Investment Committee's Freedom of Investment Roundtable on 5 December 2011, when Korea reported a bank levy which is applied to foreign exchange borrowing by resident banks (OECD-UNCTAD, 2013). It was agreed that a discussion of the treatment of bank levies under the Codes of the OECD would benefit from a broader review of bank levies in other OECD countries. OECD countries which offered to contribute to this exercise in September 2013 included France, Germany, Korea, Sweden and the United Kingdom.[53]

All countries in the sample examined applied bank levies which did not differentiate between operations by residency or currency, the only exception being Korea which applied a levy to foreign currency-denominated operations. Therefore, the measures of all countries', with the exception of Korea, fell outside the scope of the Codes. At the same time, Korea's measure merited further examination under the OECD Codes. According to the Korean authorities, the bank levy (which is covered in detail in Section 3.13 as a currency-based measure) serves as a macro-prudential tool whose aim is to discourage short-term capital inflows, while not discriminating between residents and non-residents.

The IMF and OECD agreed that this measure belongs to the class of CFMs that are also macro-prudential measures, as outlined in the IMF's report to the G20 "*Measures which are Both Macroprudential and Capital Flow Management Measures: IMF Approach*" and in the OECD's report to the G20 "*The OECD's Approach to Capital Flow Management Measures used with a Macro-Prudential intent*".

[52] See http://ec.europa.eu/taxation_customs/taxation/other_taxes/financial_sector/index_en.htm

[53] This section is largely based on OECD (2012, and 2013).

4 Conclusions and tentative policy implications

This paper has explored a broad range of policies, beyond those confined to residency-based CFMs, that could negatively affect financial integration.

When considering several policies which have been undertaken during the crisis the evidence presented indeed suggests that some macro-prudential CFMs, such as currency-based measures directed at banks, geographic ring-fencing, some financial repression policies and crisis resolution policies with a national bias, as well as certain financial sector taxes, can indeed contribute to financial fragmentation both at the global and at the EU level. However, a number of difficulties arise when including such policies in a broader definition of financial protectionism.

First, the notion of protectionism, as commonly used in the context of trade protectionism, usually implies that a certain policy has been implemented to benefit the domestic industry by shielding it from foreign competition. While the intention of outright financial protectionist measures *is* to benefit the domestic industry at the expense of foreign competitors, many of the policy measures considered in this paper do not generally have this intention, even though they may still have negative side effects in relation to financial integration.

Second, even if one were to broaden the concept of financial protectionism to include policy measures which lead to a decline in financial integration, it is debatable whether measures which have other primary objectives should be rejected on these grounds.

Finally, some of the measures considered have been temporary in nature as they were undertaken during the most intense phase of the global financial crisis. In fact, some of the measures (e.g. most ring-fencing practices in the EU) have already been phased out. At the same time, *ex ante* measures designed to prevent a crisis should be distinguished from measures designed to address problems due to the outbreak of a crisis (*ex post* measures). The former might also become permanent features of the global financial system if they were to be used in a counter-cyclical manner (e.g. macro-prudential measures aimed at dampening boom-bust cycles in capital flows).

With these caveats in mind it is nevertheless useful to draw the attention of policy makers to the side effects on financial integration of some financial sector policies. A complete welfare analysis of such measures – which goes beyond the scope of this paper – would therefore need to assess not only whether these measures have been effective in restoring financial stability, but also to what extent they have contributed to a decline in financial integration. The costs of such a decline may be difficult to quantify but, at least in theory, should be non-negligible. In the international context, recent academic contributions show that empirical evidence cannot immediately

be found for the benefits of international financial integration.[54] However, this may be due to the "threshold hypothesis", which postulates that international financial integration may exercise a positive impact on growth only if a certain level of financial market development, institutional quality, governance and macroeconomic discipline has been achieved.[55] In the case of a monetary union, the costs of a decline in financial integration are likely to be larger compared with those in an international context because financial fragmentation leads to a less effective transmission of monetary policy.

Policymakers and international organisations which serve as the guardians of free capital flows (e.g. the European Commission and the OECD[56]) should, in this regard, focus on measures which are likely to become more permanent features of the global financial system. For example, incorporation requirements for foreign banks might ultimately lead to a negative impact on international banking when carried out bilaterally instead of multilaterally. In the EU, the completion of the banking union will help to address some of the concerns raised in this paper, since it will mitigate, or perhaps even fully remove, the difficult trade-offs between national and European financial stability. However, at the global level, the international financial system may still face the "financial trilemma" (Schoenmaker, 2013) according to which global financial stability can only be fully achieved in relation to either national financial stability *or* international banking.

[54] For example, see the recent review in Rey (2013).

[55] See Kose et al. (2009).

[56] In the case of the IMF, it has been proposed in the latest Triennial Surveillance Review to grant the Fund jurisdiction over members' capital accounts. Under its New Institutional View on the management of capital flows, the Fund has recently become more open to the idea of the temporary usefulness of CFMs under certain circumstances.

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