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Cross-border bank regulation after the crisis – progress and challenges

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Abstract: This paper surveys the recent literature on cross-border regulatory cooperation and policy developments in this area. While institutional arrangements of cross-border regulatory cooperation used to focus on day-to-day supervisory tasks, the crisis has given an impetus to focus on cooperation at the bank resolution stage, with an array of different cooperation forms. A growing theoretical literature has documented different externalities arising from national supervision of cross-border banks, while empirical evidence has been relatively scarce. The paper concludes with a forward looking agenda both for policy reform and academic research in this area.

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1. Introduction

The failure of large cross-border banks such as Fortis, Dexia or the three largest Icelandic banks was one prominent aspect of the Global Financial Crisis. While monetary authorities, such as the Federal Reserve, Bank of England, ECB and Bank of Japan, worked quite closely together to unfreeze financial markets after the Lehman Brother shock, similar cooperation was lacking in the case of resolving cross-border banks, confirming that "banks are global in life and national in death" (as stated by Mervyn King). It is more, the resolution of these banks led to political conflicts between home and host countries, as in the case of Belgium and Netherlands on the split-up of Fortis' asset base or – even worse- between the UK and Iceland, where the British government used anti-terror legislation as crisis resolution tool.

Several reasons have been put forward to explain this failure of intervening and resolving large cross-border banks in a more efficient way. One is a very basic one – the lack of bank resolution frameworks even on the national level, which left authorities with the unappetizing choice between closure and use of corporate insolvency regimes (as done in the case of Lehman Brothers) with large negative repercussions for the rest of the financial system and the real economy or bail-out with taxpayer resources. A second concerns different regulatory and legal systems that limit the opportunities to closely cooperate. A third reason – and a focus of the discussion in this paper – is the mis-alignment of incentives across different supervisors. By law, national supervisors have to focus primarily on national financial stability concerns and thus do not necessarily internalize externalities of their decisions on stakeholders outside their regulatory perimeter. As theoretically and empirically shown, this can lead to distortions in the regulatory decision process.

The rationale for cross-border cooperation in bank regulation and supervision can only be justified by market failures that cannot be overcome on the domestic level. The raison d'être for bank regulation itself are externalities from bank failure, including losses for stakeholders not involved in risk decisions and contagion effects (Beck, 2011). Such externalities from bank failures partly materialize at the domestic level, for example, by causing a credit crunch in the domestic economy, contagion effects throughout the financial system and loss of access by depositors to their savings. Such externalities, however, do not per se create a rationale for international regulation since a domestic supervisor will be best equipped to deal with them. However, the failure of banks in a country can also cause substantial externalities for other countries, and increasingly so, due to the fact that the financial systems of countries have become more interconnected in recent decades, along several dimensions.

This paper discusses both the academic literature and policy discussion and developments over the past years on cross-border cooperation on bank supervision and regulation. While economists have warned before the crisis on the risks stemming from the mis-match of banks' geographic footprint and the regulatory perimeter of their supervisors, the Global Financial Crisis has motivated an array of new theoretical and empirical research on the regulation of cross-border banks. At the same time, policy makers have moved relatively quickly, though at different speeds across geographic regions, in their move towards closer cooperation if not supra-national structures, such as in the case of the Eurozone.

The remainder of this paper is structured as follows. The next section documents the pre-crisis developments in cross-border banking and in cross-border regulatory cooperation. Section 3 discusses lessons learned from the crisis as well as theoretical and empirical insights into the regulatory externalities created by cross-border banking. Section 4 discusses recent policy developments, on the national, regional and global level in cross-border regulatory cooperation. Section 5 looks forward both in the policy and research agenda and section 6 concludes.

2. Where we came from

Many countries, both advanced and emerging, have seen rapid increases in cross-border banking over the past decades. This increase has been especially notable in Central and Eastern Europe: in 1997, there were only five countries with predominantly foreign-owned banks, notably Bulgaria, Estonia, Hungary, Macedonia, and the Slovak Republic. In 2005, on the other hand, two thirds of countries had banking systems dominated by foreign banks. Several Latin American countries have also seen rapid increases in foreign bank ownership, most prominently Mexico, where foreign bank participation rose from 2 percent to 83 percent of assets between 1997and 2005. And while many Sub-Saharan African countries had traditionally very high levels of foreign bank participation in their financial systems, this share increased even further in the first decade of the 21st century, with the rise of regional banks.

This increase in cross-border banking, with only a slight dent during the recent crisis, has masked a change in the population of cross-border banks, with banks from emerging and developing countries taking on a more prominent role, at the expense of banks from OECD countries (Claessens and van Horen, 2016). As we will discuss below, this also provides new challenges for cross-border regulatory cooperation.

An extensive theoretical and empirical literature has assessed the effects of cross-border banking on efficiency and development, on the one hand, and stability of host country financial systems, on the other hand (e.g., Cull and Martinez Peria, 2013a). While theoretical predictions on the effects of cross-border banking on the efficiency and development of host countries' financial systems and access to finance by smaller enterprises and households are ambiguous (and often relying on assumptions made about relative advantages and cost structures of foreign and domestic banks), the empirical literature on the effect of foreign bank entry can be summarized as suggesting that the outcomes are highly context-specific. Similarly, the impact of cross-border banking on stability is ambiguous, with cross-border banks helping in local crises by bringing in new capital and management and mitigating against local shocks by relying on parent bank funding, while at the same time they can bring global financial shocks into the local economy. Critical is the reliance on foreign funding; as argued by Cull and Martinez Peria (2013b), the stronger impact of the crisis on banking systems in Central and Eastern Europe than in Latin America can be explained with higher reliance on international funding, in general, and parent bank funding more specifically, in Central and Eastern Europe.

It is important to stress that the increasing role of cross-border banks across the globe has been part of an overall trend towards more globalized finance (see, e.g., discussion in Allen et al., 2011). The decade leading up to the Global Financial Crisis has seen rapid increases in cross-border capital flows, including between banks. In addition, the decade before the crisis has seen bank consolidation within and across countries, increasingly volatile yet cheaper wholesale funding, and a lengthening of the intermediation chain; trends that were not accompanied by the necessary regulatory adjustments.

While there has been a long tradition of global regulatory dialogue (though mostly among advanced countries' regulators), this has mostly focused on common capital and other regulatory and supervisory standards (e.g. the Basel I and II capital accords and the Basel

Core Principles of Sound and Effective Bank Supervision). It is noteworthy, however, that the establishment of the Basel Committee itself took place in the context of the cross-jurisdictional impacts of the failure of the cross-border activities (foreign exchange exposures) of the German Herstatt Bank in 1974.[2]

There are three traditional instruments of dealing with the complications of banks being active across national borders (and thus regulatory perimeters) and the repercussions of a potential failure: consolidated supervision, Memoranda of Understanding and Colleges of Supervisors. While they are closely related to and complement each other, I will discuss the role of each in turn.

Consolidated supervision entails the supervision of banking, financial or mixed groups that include at least one bank. While this concept can refer also to purely domestic groups, in the following I will focus on groups with cross-border activities, be it in the form of subsidiaries or branches. Given the existence of intra-group exposures, the speed with which resources can be shifted across different parts of banks, and the general opacity of banking, it is insufficient to rely on information about the financial health of individual bank branches or subsidiaries. Even when operations are ring-fenced, i.e. intra-group exposures are treated the same as exposures to outside parties, risks can arise due to operational integration. Consolidated supervision entails not only supervision on the group level, "adequately monitoring and, as appropriate, applying prudential standards to all aspects of the business conducted by the banking group worldwide." (BIS, 2010), but also requires the mapping of groups, which requires the tracking of ultimate beneficial owners and their non-banking financial interests, collection of information on non-financial entities, and establishment of reporting requirements. Consolidated supervision requires a minimum degree of cooperation between supervisors of home and host countries, including that the home supervisor takes into account the effectiveness of supervision conducted in the host country where the bank has material operations, and that the home supervisor visits the foreign offices periodically and during these visits meets with the host supervisor.

[2] In 1975, the Basel Committee released its "Principles for the Supervision of Banks' Foreign Establishments" (BIS, 1975), which became known as the "Basel Concordat," in an effort to improve cooperation among supervisors and close existing regulatory gaps. The original Concordat set out the two fundamental principles: (a) no foreign banking establishment should escape supervision; and (b) supervision should be "adequate" and consistent across member jurisdictions (for a more in-depth discussion, see Box 3.2 in Beck et al., 2014).

Memoranda of Understanding are legally non-binding declarations of intent to cooperate on certain issues. MoUs can be time limited or not; they can refer to general cooperation agreements or to cooperation on specific banks. They are typically established between supervisory authorities and cover "material supervisory concerns" related to branches or subsidiaries of one country's banks operating in the other country. Such Memoranda can cover information exchange on license applications to open branches or subsidiaries, major financial, regulatory or governance events or changes and cooperation in crisis situation.

There are several limitations to the usefulness of Memoranda. One challenge is that only the exchange of hard information can be mandated, while it is often the soft information about a bank's health, not necessarily reflected in balance sheet ratios, that is relevant for supervisors. The main challenge of cross-border MoUs is the non-binding nature, as either party may decline to fulfil its obligations without penalty. This challenge is particularly relevant in times of crisis, where the incentives for the host and home country supervisors to share information diverge (D'Hulster, 2011). To put it bluntly: the value of Memoranda of Understanding rises and falls with the share price of the bank involved. As the share price of the bank in question falls towards zero, i.e. the bank is failing, so does the value of the Memorandum

Colleges of supervisors are "multilateral working groups of relevant supervisors that are formed for the collective purpose of enhancing effective consolidated supervision of an international banking group on an ongoing basis" (BIS, 2010). Colleges are not meant to be decision-making bodies, but mechanisms for increasing cooperation, coordination, and flow of information to enhance the effectiveness of consolidated supervision of cross-border banks. As in the case of Memoranda, they can be for specific banks or for general cooperation. Colleges meet on a regular basis (once or twice a year) to exchange information and coordinate supervisory activities. They are typically established between countries with significant cross-border bank integration. According to Basel Committee (BIS, 2010) guidance, supervisory colleges should be structured to allow the home supervisor to exercise meaningful oversight of groups on a consolidated basis, while allowing host country authorities to be sufficiently represented to enable the home supervisor to benefit from their in-depth assessment of local subsidiaries.

Similarly to Memoranda of Understanding, Colleges of Supervisors suffer from several shortcomings: First, they are as strong as their weakest link in terms of supervisory quality.

Second, their structure is asymmetric as they primarily represent the home country supervisor's interests. Home country supervisors are primarily interested in inviting host country supervisors with branches and subsidiaries that are significant for the bank's operations. This might leave out host country supervisors with subsidiaries that are dominant in the host market, but not of material importance to the overall bank, mostly the case for smaller and less developed financial systems. Third, there is the issue of committee decisions. Given that colleges of supervisors are informal rather than sanctioned by legal agreement, the accountability of supervisors to their countries, and the difficulties of taking and enforcing decisions in a group that lacks statutory authority, each supervisor is in effect free to take his/her own decision, even if not in line with the decisions of the committee or the interests of other supervisors. Ultimately, the final decision whether to intervene in the parent bank, with repercussions for subsidiaries elsewhere, lies with the home country supervisor. A final concern relates to the participants of such colleges. While supervisors are the most relevant persons for day-to-day supervision during normal times, resolution and fiscal authorities are critical in the case of crisis management, be it in relation to idiosyncratic bank failures or systemic bank fragility.

In summary, the pre-crisis arrangements for cross-border cooperation were focused on sunny-day cooperation, but did not constitute an adequate basis for crisis management. They were not necessarily addressing the asymmetric interests of home and host country supervisors, had limited legal value and did not address the main –legal and political - challenge that supervisors represent primarily the interest of domestic stakeholders.

3. What we learned from the crisis

The crisis has forced a more radical rethinking of both the rationale for and the structure of cross-border cooperation of regulators. The nature of the crisis, however, has also stimulated an array of new research exploring the different channels through which the fragility and failure of cross-border banks can impose negative externalities on other countries.

There are several strands of literature discussing cross-border regulatory and supervisory coordination. One strands concerns regulatory convergence. For example, Dell'Ariccia and Marquez (2006) show that competition between national regulators can lead to lower capital adequacy standards, since national regulators do not take into account the external benefits of higher capital adequacy standards in terms of higher stability in other countries. Having a central regulator, on the other hand, implies a loss of flexibility, and is therefore more likely to happen among homogeneous countries. Even within such regulatory unions, however, regulation still has to be tighter relative to the highest level under independent regulation in order for all participant countries to be better off. Acharya (2003) argues that coordinating capital adequacy ratios across countries without coordinating on other dimensions of the regulatory framework, such as resolution policies, can have detrimental effects, with all countries ultimately adapting the most forbearing resolution policies. This underlines the importance to coordinate or centralize not only part, but the overall financial safety net, certainly an important lesson in the current discussion on the Eurozone banking union.

One important lesson out of the recent has been the importance of being able to resolve in an efficient way that minimizes the costs to the rest of the financial system and the real economy while at the same time imposes market discipline on risk decision takers. A similar lesson applies to cross-border banks, with the additional complication that several regulators interact with each other. Several theoretical models therefore refers specifically to the resolution phase of cross-border regulatory cooperation. One important dimension of cross-border regulatory cooperation is the exchange of information. Holthausen and Ronde (2002) consider cooperation between home and host country supervisor on the intervention decision for a multinational bank. Given that national regulators represent national interests, a misalignment of interests leads to suboptimal exchange of information and distorted intervention decisions. Specifically, while the host country supervisor reports to the home country supervisor about the state of the branch located in its jurisdiction, she reveals only as much information as serves her own interests. This can result in either too stringent or too lenient an intervention decision. Holthausen and Ronde (2002) also show that banks can exploit the divergence of interests of home and host country supervisors with welfare minimizing investment choices.

One of the major issues in bank resolution is the issue of loss allocation. Freixas (2003) shows that ex post negotiations on burden sharing lead to an underprovision of recapitalisation, as countries have an incentive to understate their share of the problem in order to bear a smaller share of the overall costs. This leaves the home country as largest country with the decision whether to shoulder the costs on its own or to close the bank close and liquidate it. Similarly, Goodhart and Schoenmaker (2009) point to the advantage of ex-ante burden sharing agreements in helping overcome coordination problems between regulators. They also show that bank-specific burden sharing agreements are more efficient than generic country-level burden sharing agreements, which might be harder to implement as they effectively imply general fiscal transfers.

The legal organization of cross-border bank expansion might also have repercussions for distortions on regulatory cooperation. As general rule, subsidiaries are incorporated in the host country and subject to separate regulation and supervision by host country supervisors, while branches are part of the parent bank's balance sheet and subject to home country regulation and supervision. Calzolari and Loranth (2011) analyse how different organizational structures of multinational banks can influence regulatory behaviour. Specifically, organization of foreign presence through branches leads to higher incentives to intervene as the home country regulator can draw on all assets. At the same time, it can reduce intervention incentives if the regulator is responsible for repaying all deposits, including in foreign branches. Calzolari, Colliard and Loranth (2015) show that national supervision of multinational banks can result in too low monitoring; a problem that can be addressed by supranational supervision. On the other hand, however, supranational supervision can bias banks' towards a branch-based expansion model, which would impose higher cost on the home country deposit insurance scheme. Beck, Todorov and Wagner (2013) show that different dimensions of cross-border banking (deposit collection, investment and ownership) distort regulatory interventions in different directions. Specifically, a high share of foreign equity results in a too early intervention decision by the supervisor (as continuation benefits accrue partly to equity holders outside the country), while a higher share of foreign assets and deposits result in a delayed intervention decisions, as part of the cost of failure fall to stakeholders outside the country.

Cross-border linkages can also come through other sources than ownership linkages. Niepmann and Schmidt-Eisenlohr (2013) model connections across banking system through interbank markets and show that decisions by national governments on recapitalization of failing banks are inefficient, due to three different sources. First, governments maximize national welfare, but do not take into account spillover effects to other countries. Second, there is no cooperative burden-sharing agreement in place. Third, there is a free-riding problem related to the sequential nature of intervention: a bailout by one country benefits the other country through increased returns on interbank deposits. The anticipation of the bailout may prevent the country B to intervene itself. The larger the interbank linkages, the bigger the incentives to free-ride.

In summary, the existing literature points to different sources of externalities stemming from the failure of cross-border banks that are not internalized by national supervisors. First, externalities arise from cross-border activities of specific financial institutions. For example, the failure of a bank that has foreign assets will incur costs abroad, among others by leading to lower credit availability to foreign firms. Such costs will not be taken into account by a domestic supervisor, leading to inefficient decisions. A point in case is Iceland (which from the perspective of the Icelandic supervisor had a lot of foreign assets and deposits) where it can be argued that supervisors had insufficient incentives to control bank risk. Beck, Todorov and Wagner (2013) show empirically that banks' cross-border activities distort supervisory incentives as evidenced by actual intervention decisions during the crisis of 2007-2009. The implications for international regulation are straightforward: in order to avoid these distortions, the geographic perimeter of the responsible supervisor should match the geographic footprint of the bank. Or, put differently, the benefits from moving supranational regulation are higher for regions with significant cross-border banking activities.

A second externality of failures by cross-border banks can come from linkages through interbank markets (as modeled by Niepmann and Schmidt-Eisenlohr, 2013) and exposure to common assets. As the experience with the crisis of 2007-2009 has shown the importance of cross-border spillovers due to fire-sale externalities and common asset exposures, informational contagion among investors, direct interbank exposures or counterparty risk. Thus even where there are no direct cross-border bank ownership linkages, links through markets can lead to spill-over effects that are not taken into account by national supervisors. Such externalities have become larger as market funding and non-intermediation business have become more important for banks especially in advanced countries over the past decades.

A third source of externalities is regulatory arbitrage. Banks have incentives to move to jurisdictions with lighter regulation – such jurisdictions benefit from an "inflow" of banking business but this will cause negative externalities for other countries if and when lighter regulation leads to bank failure (Ongena, Popov and Udell, 2013). Related to this, a cross-border financial institution subject to regulation and possible resolution in different jurisdictions might trigger a regulators' run on the bank leading to an efficient resolution process (D'Hulster, 2011). Again the externalities are higher among financially more integrated countries since the hurdles to moving business across borders are lower.

Finally, specific externalities arise within a monetary union because a country cannot simply devalue its currency to regain competitiveness following a shock and hence may need to tap – in some form or other – the resources of other countries to bail-out and restructure its banking system. In addition, relying on a common lender of last resort might result in a tragedy of commons problems, as it is in the interest of every member government with fragile banks to "share the burden" with the other members. It is important to note that this externality applies on the systemic level, rather than just for individual institutions.

If all countries were identical, it would be easy to agree on the right structure for international regulation and implementation would be straightforward. However, countries differ in practice along various dimensions, which increases the cost of closer cooperation and convergence (Beck and Wagner, 2016). First, countries differ in their legal systems. This makes it hard to specify a common set of rules and standards, forcing cumbersome adaptation of general principles to local circumstances. For example, while some countries are moving towards an universality approach where international insolvency is treated as a single case, many countries adopt a territorial approach where each country looks out for its own creditors before contributing assets to pay creditors in other countries.

A second source of heterogeneity arises from preferences. Countries may differ for example in how they view the role of the government in the economy, focus on fiscal independence or with respect to their risk tolerance. For example, a basic trade-off in banking (and finance more generally) is between risk and return; e.g., lightly regulated institutions may perform better under normal conditions but may be more prone to fragility, while heavy-handed regulation reduces the risk but maybe also depress banks' profitability and their contribution to economic growth.

Third, heterogeneity can also result from asymmetric interests and resources between home and host country supervisors, such as in the case of market-dominating subsidiaries that form only a small part of the overall banking group. While the subsidiary is considered systemically important for the host country, it is not for the overall banking group and for the home country supervisor. This reduces the usefulness of Colleges of Supervisors as cooperation tool, as discussed above.

Regions and countries differ markedly regarding the extent to which their banks pose externalities to other banks but also how heterogeneous their economies and banking systems are. This leads to the straightforward but important conclusion that the optimal degree of cross-border regulatory convergence also differs across regions. In particular, applying this trade-off, homogenous regions with strong externalities should implement a large degree of common supervision. On the other end of the spectrum, the gains from supranational regulation are the lowest for heterogeneous regions in which cross-border externalities are limited.

Beyond the efficiency of close cross-border cooperation if not supranational regulatory structures is also the question of political feasibility. Beck and Wagner (2016) show that while closer cooperation and supranational regulatory structures might be more efficient than national regulation, not all countries might benefit from a move towards supranational regulation to the same extent and for some countries it might even involve losses. This would then make agreement on such supranational structures more difficult if not impossible to agree on. Such distributional implications of supranational supervision are especially important in the context of resolution and deposit insurance. The discussion about the structure and extent of the banking union and the resulting limited single resolution fund and absence of a common deposit insurance scheme is testimony of this.

4. What we have changed after the crisis

Following the crisis, there has been action on the national, regional and global level.
The lack of bank resolution frameworks on the national level has been addressed across Europe. Resolution frameworks across Europe have been significantly strengthened, on the national level, but also – with the bail-in clause introduced under the Bank Recovery and Resolution Directive (BRRD) – on the European level. In addition, broadening the concept of loss-absorbing equity to total loss absorbing capacity (TLAC), which also includes unsecured debt and should amount to 16-20% of risk-weighted assets and at least 6% of total exposure, as suggested the Financial Stability Board, and the minimum requirement for own funds and eligible liabilities (MREL), under discussion in the context of the bail-in clause in the BRRD, are important steps towards reducing the likelihood and size of future tax payer funded bail-

outs. In addition, resolution and restructuring plans (also known as living wills) for larger banks should make the potential resolution of systemically important financial institutions easier. Critically, by sending a clear message that no bank is too large to fail, such rules, concepts and plans send a clear signal to risk-decision takers and mitigate moral hazard problems.

In the context of more stringent bail-out regimes, there has also been the recommendation to move from multiple points of entry (MPE) regimes to a single point of entry regime (SPE). The distinction is similar to that of branches vs. subsidiaries. While in the case of MPE regimes losses are borne by the branches where they are generated and host countries' authorities have statutory power, under a SPE regime, resolution losses are imputed to the bondholders of the parent holding (which must guarantee ex ante enough loss absorbing capacity) and the statutory power for resolution is assigned to the authority of the parent holding country (i.e. home country supervisor). Such distinction in regimes has far-reaching consequences. It affects the way in which authorities internalize cross-country spill-overs and their commitment, it affects the way banks function and whether they decide to internationalize, but most importantly it determines the investors of which country have to bear losses in the case of bank failure.

There has also been a strengthening of cross-border regulatory cooperation. For example, in 2010, the Basel Committee issued the "Good Practice Principles on Supervisory Colleges" (BIS, 2010), intending to promote the use and strengthen the operation of supervisory colleges. In particular for systemically important financial institutions, Crisis Management Groups should be formed that include the supervisory authorities, central banks and finance ministries of jurisdictions that are home or host to entities of the group that are material to its resolution, and should cooperate closely with authorities in other jurisdictions where banks have a systemic presence.[3] The tasks of such groups would include preparing for the recovery and resolution planning process for systemically important institutions under institution-specific cooperation agreements and ensuring the resolvability of systemically important institutions.

[3] See FSB (2011) for further discussion. Where separate public authorities responsible for guarantee schemes or resolution authorities exist, these should also be included.

Some region have gone even further by expanding the existing college structure to stakeholders in bank resolution, including resolution authorities and the Minister of Finance as the taxpayers' representative. One example in this respect is the Nordic-Baltic region, where Denmark, Estonia, Finland, Iceland, Latvia, Lithuania, Norway and Sweden recently signed a Memorandum of Understanding on cross-border cooperation reflecting the interconnectedness of their banking systems. The notable difference between this agreement and other agreements is that it includes ministries of finance as tax payer representatives, an explicit focus on crisis management and resolution, as well as specific burden sharing agreements.

As discussed above, Memoranda of Understanding are legally non-binding declarations of intent whose value drops dramatically in times of distress. For cooperation to become legally binding, it has to be mandated in banking legislation. However, concerns may arise as to whether such legally mandated cooperation is constitutional, i.e. does not violate the sovereignty of the collaborating authorities. The cooperation among regulators in Australia and New Zealand is an example of such legally binding cooperation. The two countries are closely integrated financially, with branches and subsidiaries of Australian banks dominating New Zealand's financial sector. This has led to extensive cooperation and information-sharing between the Australian Prudential Regulatory Authority (APRA) and the Reserve Bank of New Zealand (RBNZ), facilitated by similar levels of regulatory development, joint history and a common legal tradition. The cooperation is further strengthened by a 2006 amendment to the Reserve Bank of New Zealand Act, which legally obliges the RBNZ to cooperate and consult with Australia's financial supervisory authorities to try to avoid actions that may negatively affect financial system stability in Australia. The Australian Banking Act was amended in similar manner. There is also a Trans-Tasman Council on Banking Supervision (which includes the RBA and the Australian and New Zealand Treasuries) that meets on a regular basis. Recently, a Memorandum of Cooperation on Trans-Tasman Bank Distress Management was drafted.

A supranational supervisor is the strongest form of regulatory cooperation across borders if it is set up to match the geographic perimeters of banks and regulators, as it effectively delegates the regulation and supervision of banks to a regulatory authority responsible for several countries. Such a supranational supervisor internalizes costs of bank failures that are external to domestic supervisors and thus helps to overcome coordination problems.

It is important to note, however, that the existence of a supranational supervisor of itself does not resolve the problem of cross-border externalities. The first obvious question is to assess the mandate of the supervisor within the financial safety net, in terms of independence and powers. Most important is the degree to which the overall financial safety net is moved to the supranational level, i.e. resolution powers and resources are moved to the supranational level and linked to supranational supervision, as already discussed above. The discussions within the Eurozone have been exactly along these dimensions, i.e. complementing the Single Supervisory Mechanism with the necessary resolution mechanisms and resources. In the context of the Eurozone, this has taken on increasing urgency, as the supervisory responsibility has been partly shifted towards the ECB, and SRM. Given limited fiscal space, particularly in many peripheral countries, but also given the incentives for burden-shifting that occur when members of a currency union are confronted with bank fragility (see discussion above), many economists fear that this split of responsibility will neither resolve the current crisis nor lay the foundations for a sustainable financial safety net for the Eurozone (see the different papers in Beck, 2011, for a discussion).

5. Where we have to go and what we have to learn

As discussed so far, there is an array of different cooperation arrangements across the globe that go beyond the traditional forms of Memoranda of Understanding and Colleges of Supervisors. Given the dynamic nature of banking, however, cooperation arrangements have to adapt to changing circumstances. One complicating while at the same time stimulating factor has been the increasing diversity of cross-border banks, mentioned already above. While 20 years ago, home country supervisors were mostly in the advanced countries and developing country regulators were mostly host country supervisors, many regulatory authorities now fulfil both the function of home and host country supervisor. Take the example of the Central Bank of Kenya, which is host country supervisor in the case of, e.g., Standard Chartered and Citibank, but home country supervisor for Equity Bank and Kenya Commercial Bank, both active across East Africa.

The dynamic nature of cross-border regulatory cooperation can be illustrated with the East African Community (EAC), consisting of Burundi, Kenya, Rwanda, Tanzania, and Uganda. On the one hand, the three original members of the EAC (Kenya, Tanzania and Uganda) share a common political history and thus certain parallels in their regulatory and legal framework. In addition, financial integration has been increasing rapidly across the community, not only in terms of many multinational banks being active across several of the five countries (e.g., Standard Chartered, Barclays but also Ecobank), but with banks from one country spreading out across other countries within the community.

There is also the issue of regulatory arbitrage across jurisdictions, and related to this, the incentives for supervisors to engage in a race-to-the-bottom. In particular, countries that are not strongly integrated with the regulatory system of other countries may develop very different standards and requirements, creating space and incentives for financial institutions to arbitrage across jurisdictions. By doing so, they might impose high external costs on other countries. While there is no clear panacea to these problems, international standards, such as developed by the Basel Committee can put a floor on how far individual jurisdictions can go in loosening regulation.

Another issue is that of coordinating across heterogeneous countries with different economic interests and political weights. During the 2007-9 crisis, a consortium of international bodies under the leadership of the EBRD convened regulators and banks from home and host countries in Europe to avoid aggressive capital repatriation and a credit crunch in Central and Eastern Europe, with some success (De Haas et al. 2015). Similar arrangements might be necessary to prevent regulatory runs across heterogeneous but well integrated countries. In addition, a champion of the interests of small host countries of large cross-border banks in Africa and Latin American might be needed, given the limited influence with home country supervisors in Europe or the US. Beck et al. (2014), for example suggest host country colleges of supervisors across Africa to represent the interests of small host countries vis-à-vis advanced home country supervisors such as the Bank of England or the Banque de France.

Closer to home, many observers have pointed to the completion of the banking union for the Eurozone as a pressing task. The Single Resolution Mechanism will come into effect on January 1, 2016. It was the subject of much haggling, and has been widely criticised, but it goes hand in hand with at least one substantial reform: the bail-in rules that come on top of higher capital requirements, introduced under a separate bank recovery and resolution directive. However, in its current form, the SRM is still mainly a country-based framework, with supranational support only kicking in at a second stage. The fact that the UK is outside the SRM will critically hamper its effectiveness, given the importance of London as an international financial centre. In addition, the target size of the resolution fund of €55bn would not cover any major bank failure, which leaves the problem of too-big-to-fail unresolved in Europe. Further, and unlike the situation in other larger economies, there is no public backstop funding mechanism in place – something that, as the recent failure of the Portuguese Banco Espírito Santo showed, is much needed. The Portuguese government had to rely on troika (European Commission, ECB and IMF) funding to resolve the bank, in light of its own precarious fiscal position. European sovereigns and their banks are still caught in a deadly embrace. The third pillar, a common deposit insurance fund, has been quietly dropped, for the same reason that no public backstop has been established for the SRM. While the European Commission is pressing for such a scheme, there is still substantial political resistance, especially from Germany. The underlying issue is that legacy problems and forward looking institution building are being mixed. In addition, there is the critical question of what is the relationship with non-euro countries, both those that will join the SSM and those that will not. The critical difference for non-euro members of the SSM would be an asymmetry in their financial safety net, with lender of last resort and resolution funding strictly on the national level, although solutions such as access to liquidity lines might be considered (Zettelmeyer, Berglöf and de Haas, 2012).

Another important issue concerns macro-prudential regulation. The discussion so far has been primarily about micro-prudential regulation, i.e. regulatory coordination for individual banks. The cross-sectional dimension of macro-prudential regulation – increased capital requirements for systemically important financial institutions (SIFIs) – has been partly addressed with the concepts of Global SIFIs. However, there are also important externalities stemming from credit boom and bust cycles in one country for fragility in other countries. In its current state, however, macroprudential regulation is purely on the domestic level. Case in point is the Eurozone. While the Single Supervisory Mechanism can use macro-prudential tool covered under the CRR and CRD IV, it cannot use other macro-prudential tools, which will remain exclusively under national authority (Sapir, 2014). Given that not only micro- but also macro-prudential decisions have externalities beyond national borders, this seems another gap in the banking union. The European Systemic Risk Board (ESRB), which does not have any formal powers beyond issuing warnings and recommendations, cannot completely fill this gap.

On the research side, work has focused on the optimal supervisory architecture. However, it is important to realize that there is a feedback loop with changes in the supervisory architecture having an impact on decisions by cross-border banks, as pointed out by, for example, Calzolari, Colliard and Loranth (2015). Assessing the interaction between supervisory architecture and the behaviour of cross-border bank is an important field for further research. In addition, research that looks beyond the dichotomy of national vs. supranational supervision to the broader array of possible forms of cooperation is necessary. Niepmann and Schmit-Eisenlohr (2013) and Beck and Wagner (2016) are first steps into this direction. Finally, while most of the literature on cross-border regulatory cooperation has used theoretical models, more empirical work is urgently needed to test different and possibly contrasting theories.

6. Conclusions

This paper has surveyed both post-crisis policy development in cross-border regulatory cooperation as well as a small but expanding theoretical and empirical literature in this field. I have also pointed to the need for further policy actions and future research in this area.

In conclusion, it is important to stress that financial stability is not a self-standing objective but a pre-condition for a sound and effective banking system that can support the real economy. As indicated above, a lot has been written about the benefits and shortcomings of cross-border banking. There is certainly something to be said about a balanced banking system, both in terms of ownership but also origin countries of cross-border banks (Allen et al., 2011). There is also evidence that the delayed resolution of European banks and the sovereign-bank doom loop have contributed to slow recovery across Europe, compared to the U.S. An effective system for regulating and supervising cross-border banking can thus support a revival of the Single Market in Banking, though as a necessary but not sufficient condition.

Cross-border regulatory and supervisory cooperation is essential for reaping the benefits of closer financial integration while managing its risks to stability. As banking systems change and cross-border linkages change, adjustments are needed. This area is certainly a rapidly moving one, both in academic work as in policy developments.

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