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Ring fencing and consolidated banks' stress tests☆

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ABSTRACT

The recent crisis has spurred the use of bank stress tests as a crisis management and early warning tool. However, a weakness is that current stress tests are based on consolidated balance sheets, and thus omit potential risks embedded in banking groups' geographical structures by assuming that capital and liquidity are available wherever they are needed within the group. This study presents a framework to integrate ring fencing and regulatory differences (e.g., minimum capital requirements) into cross-border bank stress tests. Case studies show how some forms of ring fencing—home or host regulators limiting flows of capital and income within a group—could significantly increase banks' capital needs.

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1. Introduction

The global crisis and subsequent events revealed weaknesses in the stress testing exercises (and other types of risk, stability and early warning exercises) carried out by the public and private sector. Subsequently, the toolbox has been bolstered in recent years, in ways that have addressed a number of methodological issues (i.e., the sophistication of stress tests in technical terms, inclusion of liquidity and contagion, etc.) and scenario-related considerations (i.e., the severity and scope of shocks). Nevertheless, several weaknesses and challenges remain, many of them related to the lack of adequate data, especially from a cross-border context.[1]

This paper focuses on the limitations of carrying out stress tests using consolidated banking groups' balance sheets and income statements, especially when stress testing international banking groups. Stress tests run at the group level using "only" consolidated data do not take into account the possibility that home or host regulators might limit or even fully block flows within banking groups. This paper provides evidence, given existing data limitations, that a stress test approach using both consolidated and unconsolidated balance sheet data is necessary and relevant due to the potential implications of "ring fencing"—defined as partially or fully limiting cross-border banking groups' ability to re-allocate funds from subsidiaries with excess capital and/or liquidity to those in need of capital and/or liquidity.[2]

In this context, a straightforward conceptual approach for how unconsolidated and consolidated balance sheet data can be combined is developed in order to take into account the risks potentially embedded in banking groups' geographical structure. In addition, this paper presents evidence on the cost of (partial) full ring fencing

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[1] See Foglia (2009), Ong and Čihák (2010) and Borio et al. (2013) for recent discussions on stress test limitations, and Cerutti et al. (2011) for the data challenges in the context of systemic risk analysis for global banking.

[2] Note that this geographical perspective of ring-fencing is different from the activity restrictions embedded in the Volcker Rule (section 619 of the Dodd Frank Act), which restricts deposit-taking banks from engaging in certain types of activities (e.g., proprietary trading).

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for the largest European banks. The ring fencing approach builds on Cerutti et al. (2010), which was the first paper measuring the potential important impact of different degrees of ring fencing through simulations on banks' subsidiaries in Emerging Europe. Although ring fencing is currently extensively discussed in the policy arena, very little empirical work has been done in this area. Two related exceptions are Schoenmaker and Siegmann (2013) and van Lelyveld and Spaltro (2011) who estimated the cost associated with ex-ante burden sharing agreements, but not the impact of ring fencing on banks' capital buffers. From a theoretical angle, the literature (see Freixas, 2003; Dell'Ariccia and Marquez, 2006) has also highlighted how the lack of ex-ante coordination across national regulators can lead to an inefficient outcome due to the underprovision of financial stability at a global level (i.e., like in a standard public good problem).[3]

The European stress tests run by the European Banking Authority (EBA) in 2010–2011 as well as the stress tests run by U.S. authorities in 2009 and 2012 are good examples of the mentioned progress in, and limitations of recent stress tests.[4] Both exercises came up with a series of conceptual improvements, which increased stress test coverage and sophistication. However, these stress tests were conducted using consolidated banks' balance sheets, thus assuming that resources available at one location within a group could immediately be used in another location. This assumption is in line with the literature on multinational banks' internal capital market. For example, De Haas and Van Lelyveld, 2010; Cetorelli and Goldberg, 2012a, 2012b have highlighted that global banks have (to some extent) been able to reallocate funds across locations in response to their relative needs.

While this assumption is likely to be always valid within countries and likely to be valid more generally in closely integrated jurisdictions with similar rules (i.e., the European Union), evidence from crises' periods has shown that this is also frequently not the case. This is because (at least) some degree of ring fencing by host supervisors is likely at such times. While foreign subsidiaries do not necessarily need to suffer explicit discrimination during periods of stress, regulators have imposed additional unilateral restrictions covering all (or many) banks in their jurisdiction in order to safeguard national financial stability, effectively limiting international banking groups' ability to reallocate resources within the group.[5] Moreover, in some cases, host supervisors seem to have explicitly targeted foreign banks. EBRD (2013)'s compilation of unilateral financial sector measures during the crisis mentions that supervisory measures in Albania, Poland, and the Czech Republic directly covered parent banks' operations (e.g., restricting transactions between liquid foreign subsidiaries in the Czech Republic and their foreign parent banks). In addition, Cerutti et al. (2010) documented anecdotal evidence that bank regulators in Croatia, Poland and Turkey limited the distribution of net income by subsidiaries of foreign banks despite relatively strong bank fundamentals in 2009. Anecdotal evidence points also to potential episodes in core EU countries. For example, German supervisors tried to clamp down Unicredit's increased borrowing from its German subsidiary in 2012, and British regulators barred the UK arm of Banco Santander from transferring funds to its Spanish parent.[6]

This anecdotal evidence is likely underestimating the prevalence of ring fencing restrictions since banks reported that supervisors also made use of informal moral suasion or unpublished Basel II/III prudential requirements (EBRD, 2013). It becomes even more difficult to assess the level of ring fencing, since the degree to which host country authorities ring fence their foreign affiliates, as well as the capacity of foreign banking groups for working around host country restrictions are a function of the severity of the crisis. A foreign bank could work around host country supervisors' restrictions by selling their subsidiaries (or part of them) to domestic banks or other foreign banks, provided that host supervisors agree to the specific deal.[7]

Ring fencing considerations are mainly relevant for the large cross-border banks around the globe, such as the large EU banking groups with significant diversified geographical structure in terms of assets, liabilities and profits. This feature and the fact that the June 2011 EBA stress test released detailed consolidated data motivate this paper's focus on large European banks. Our estimates, using projections based on banks' 2010 data from the EBA exercise, indicate up to 3 percentage points of additional Core Tier I capital needs for banks under very strict forms of ring fencing from all supervisors of their outside EU subsidiaries, and up to 2.4 percent if simulations are circumscribed to the countries for which anecdotal ring fencing evidence has been documented. It should be noted, however, that our numerical results do not necessarily reflect current circumstances—running stress tests to test banks' current resilience was not the purpose of this paper. Many banks have since raised capital and some of them have changed their geographical structure (e.g., by selling subsidiaries).

The magnitude of the estimated adjustments is comparable to Basel III's proposed (up to 2½ percent) core Tier 1 capital adequacy capital surcharge to be applied on Global Systemically Important Banks (G-SIBs).[8] The G-SIB surcharge would broadly cover the estimated additional capital needed for the most affected banks under the full ring fencing scenario from non-EU countries. However, the Basel III calibration of the level of additional G-SIB capital surcharges is not meant to be a buffer against ring fencing, yet, in conceptual terms, the classification of G-SIBs into different risk buckets is based, among the five factors, on cross-jurisdictional activity and bank size. These two factors, especially the cross-border activity, are also important in explaining the results of our analysis. The establishment of a potential (regulatory) capital buffer that would explicitly account for ring fencing would require further simulations based on different ring fencing assumptions (e.g., different severity levels of stress, and the potential impact of ring fencing behavior in different parts of the world), and have to include all major cross-border banks—US banks, Swiss banks, etc. The more

3 See Hardy and Nieto (2011), for example, who analyze the beneficial ways to come up with a joint design of prudential supervision and deposit guarantee regulations.

4 See EBA (2011), Fed (2012), and Annex I for more details.

5 For example, regulators in Albania, Bulgaria, Czech Republic, Hungary, Poland, Romania, Serbia, Slovak Republic issued unilateral financial sector measures to safeguard national financial stability (see EBRD, 2013).

6 Ring fencing restrictions can also originate from home country supervisors. For example, Austria's regulators—worried about increasing impairments in Eastern European—pushed Austrian banks to reduce lending in that region, originating protests from countries such as Hungary and Romania. Austria later partly rescinded the rules (for more details see article "Turmoil Frays Ties Across Continent" published by The Wall Street Journal on May 31, 2012).

7 Nevertheless, this is sometimes not easy during crises. For example, despite the fact that Dexia, National Bank of Greece, and Banco Comercial Portugues announced in late 2010/2011 their initial intentions to sell their respective Denizbank, Finansbank, and Millennium profitable subsidiaries in Turkey and Poland, only Dexia was able to do so in June 2012 since the global financial crisis forced potential buyers to focus on increasing their capital ratios rather than expanding. There can also be an adverse market reaction to potential fire-sales of affiliates during crises, due to the classical lemon problem linked to valuation uncertainty of assets.

8 Basel III uses an indicator-based approach to group G-SIBs into four categories of systemic importance. The selected indicators reflect the size of banks, their interconnectedness, the lack of readily available substitutes or financial institution infrastructure for the services they provide, their global (cross-jurisdictional) activity and their complexity. For more details see Basel Committee on Banking Supervision (2011) and Financial Stability Board (2012).

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