RETHINKING MACRO POLICY II: FIRST STEPS AND EARLY LESSONS
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Financial Regulation[1]

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Aftermaths of banking, sovereign, and other crises often look alike: After years of neglect and quasi-laissez-faire leading to the crisis, policymakers and scholars work assiduously on new schemes that will prevent the next crisis. While this constitutes a useful reaction, this process also reflects political immediacy as much as a long-term perspective. Hence the importance of this "brainstorming conference," whose title (Rethinking Macro Policy II: First Steps and Early Lessons) modestly but rightly reminds us of the limits of our knowledge in these areas.

Concerning financial regulation—the object of this panel—let me briefly discuss three items for reform: structural reforms (in which I would include governance and the interaction with shadow banking), solvency and liquidity regulation, and institutional/supervisory reforms.

Before starting, let me make two preliminary remarks. First, we need to step back a moment and think about why the banking sector is regulated in the first place, regardless of its degree of competition. There are multiple rationales for regulation. The most universal is the protection of depositors, or the deposit insurance fund and the taxpayer if deposits are explicitly or implicitly covered. The state represents the interests of depositors who do not have the expertise, the information, or the incentive to monitor the balance sheet and off-balance-sheet activities of their banks. This "representation hypothesis"[2] explains why even tiny banks, without market power and systemically unimportant, are supervised, and why pension funds and insurance companies are subject to similar prudential requirements. It also explains why investment banks, with no retail investors, are left unregulated or lightly regulated.

The representation hypothesis, however, does not account for the recent bailout of the investment banks and of AIG's holding in the United States or that of LTCM in 1998. Nor does it explain the current emphasis on regulating systemically important financial institutions (SIFIs). Systemic risk is often invoked as an argument for paying close attention to financial institutions, and the representation and systemic risk rationales are related. When large institutions fail, unpaid liabilities (counterparty risk) and fire sales create externalities on the prudentially regulated sector[3] and may put at risk some retail banks or insurance companies. These externalities are, to be certain, highly endogenous: Were retail banks, for instance, to have limited counterparty exposures to institutions outside the prudentially regulated sector, the ex post case for rescuing institutions in the latter sector would be much weaker. We will return to this point later.

The second preliminary remark is that we need to make progress on a general equilibrium view, not only for the standard macroprudential reasons. Making balance sheets safer is a laudable goal given the recent experience, but it cannot be the only rationale. Otherwise,

prudential regulation would be a rather simple matter: It would suffice to impose very high capital requirements, demand CoCos[4] in large amounts, or require banks to invest only in German bunds. There is a demand and supply for liquid instruments, as illustrated in the theory of aggregate liquidity, but so far the latter has been poorly connected to prudential regulation analysis.

Structural Reforms

The rationale for separating retail from investment banking is to insulate basic banking services—and thereby the trilogy of depositors/guarantee fund/taxpayers—from investment banking risks. It is a simple refusal to engage in cross-subsidies and thereby promote value-decreasing marginal investment banking services.

In a sense, structural reform, coming on top of the Basel III prudential regulation, is an admission that society will always lose in the prudential regulation cat-and-mouse game; prudential regulation ought to be capable at the very least of duplicating structural reforms (which often are a special case of prudential regulation without separation but with infinite weights on some assets or activities) and should in theory do better. Thus, either regulators are not trusted to choose and enforce less extreme risk weights, or there is a feeling that outright prohibition has very different effects from high risk weights. Under the latter hypothesis, a specificity of banking is that the mouse moves really fast; indeed, there are few industries in which the balance sheet can be changed substantially within a matter of days. The banking industry, at least in its most "innovative" segments, is highly complex, and asymmetric information with the regulator is paramount. There is latency in conforming to capital and liquidity requirements, which, if very risky instruments are available, may give scope for gambling for resurrection when the bank is under water.

The various proposals for structural separation have been described and commented upon carefully elsewhere.[5] I will make just a few remarks on the economics of such rules to point out where our knowledge ought to be improved upon.

For the sake of illustration, consider the Vickers rule.[6] In essence, it creates a ring-fenced subsidiary (the retail bank) with a limited scope of activities: It can only make loans to households and nonfinancial firms and trade high-quality securities. It can hedge the risk on corresponding exposures—the Independent Commission on Banking (ICB)[7] report calls this the "Treasury function." All other activities are not allowed within the ring-fenced bank but can be performed within the rest of the bank (the investment bank). The ring-fenced bank has operational independence and is prohibited from providing support to the investment bank.

As the ICB report emphasizes, ring-fencing is no substitute for capital adequacy and liquidity requirements. Actually, the report calls for higher capital adequacy requirements for ring-fenced banks than now prevail, which amounts to saying that even the ring-fenced bank may not be that safe.

As I said, the Vickers rule has a number of desirable properties; one that I have not yet emphasized is the facilitation of resolution. As in the case of prudential regulation, this

argument is some kind of admission that the requirement for living wills (i.e., the provision by a bank of detailed information on how authorities can dismantle the bank and proceed through an orderly resolution) will not function properly or at least needs to be reinforced by structural separation.

Although the aims of structural separation are well grounded, there are nonetheless serious concerns that the rule may not achieve its purposes. Here are a few potential reasons, on which economists should probably do more research:

- The retail bank can build large macro risks on its retail book; for example, real estate risk (think of Irish, Spanish, and U.S. banks) or through rather simple financial products offered to retail customers, such as guarantees of minimum returns on investment portfolios (as granted by some European banks). Indeed, a number of recent failures had to do with primarily retail banks as well as large investment banks; that is, other institutions then abiding by the separation requirements.
- The ICB report recognizes that such risks exist and, accordingly, allows the retail bank to hedge. Hedging is a well-known double-edged sword. If not carefully monitored, it can enable institutions to (voluntarily or involuntarily) increase risk. Remember that JP Morgan's "London Whale" was actually using very risky credit default swaps as part of the hedging function.
- It must not be the case that authorities feel compelled to rescue the investment bank. There might be two reasons for such a rescue. One is reputation risk for the retail bank, although this argument cuts both ways (i.e., the investment bank might feel compelled to rescue the retail bank). Another is more standard: In 2008, the United States government bailed out all investment banks (except Lehman Brothers) as well as AIG[8] because it was concerned about systemic risk. As discussed in the introduction, direct and indirect exposures of retail regulated entities to failing entities, as well as the possibility of fire sales, probably contributed to this very unfortunate outcome.[9]

Relationship to Shadow Banking

The level playing field in the shadow banking sector (the unregulated sector that performs maturity transformation and, due to the absence of retail liabilities, has no access to public sector enhancements such as central bank liquidity and deposit insurance) has been destroyed in two ways. First, in the case of integrated banks, retail deposit activities and public sector enhancements may unduly cross-subsidize investment banking activities; this is a key rationale for introducing structural separation. Second, nonintegrated investment banks and other shadow banking players[10] can avail themselves of massive access to taxpayer money, as we saw in 2008.

As of today, the exact tightening of rules for shadow banking is still uncertain (Adrian-Ashcraft 2012). Particularly prominent in the last few years have been the proposals for regulating systemically important financial institutions (SIFIs). While I agree with the premises and purpose of this reform, I have reservations. First, in an environment

characterized by complex products and balance sheets and fragmented information,[11] it is rather hard to identify systemically important actors. Would AIG have been deemed systemically important? What about LTCM? Second, there are currently too few regulators to oversee retail institutions; carefully overseeing investment banks or hedge funds would require a substantial expansion in regulatory resources. Besides, activities keep migrating; tomorrow new entities (such as energy companies, which already are active in financial markets) might expand their financial involvement in response to a tight regulation of investment banks and hedge funds. This migration issue compounds the difficulty of achieving widespread financial regulation with scarce resources.

While the jury on this issue is clearly out, my own nonmainstream view is that rather than attempting ubiquitous regulation, it might be preferable to insulate prudentially regulated entities (retail banks, insurance companies, pension funds) from counterparty risk with unregulated financial entities. That would contribute to bringing to a halt the soft budget constraint enjoyed by a number of unregulated entities, which secure cheap refinancing thanks to the expectation that they will be rescued by public money if push comes to shove. A faster migration toward the use of centralized exchanges (which need to be prudentially regulated) and further disincentives for prudential regulated entities not to use OTC (over the counter) markets would be desirable in this respect.

The Vickers rule is a step toward this insulation strategy: The retail bank will have limited exposure to its own investment bank. The extension of the rule to the insulation from the impact of failures of nonaffiliated entities remains a question mark, as exposures may reside in the Treasury function through OTC transactions; to be certain, the rule's proponents seem sympathetic to the use of central counterparty clearing houses (CCPs) in the CCP/OTC debate.[12]

Asset Income Runs

Structural separation is an instance of asset income run; that is, the compartmentalization of the balance sheet through the earmarking of specific assets to specific lenders. While structural separation is demanded by authorities and is meant to protect retail depositors and taxpayers against certain types of risks on the asset side, asset income runs are usually carried out by private lenders. To this extent, earmarking has always existed: Repos (whose use tremendously increased when legal uncertainty concerning the effectiveness of the earmarking guarantee was lifted) and covered bonds are cases in point. And in rough times, asset income runs in various guises (shortening of maturity structure, higher collateral demands) increase. This is particularly the case today.

Earmarking specific assets to specific liabilities has two benefits (and, to pursue the analogy, both benefits are mentioned by structural separation proponents to make their case). First, it facilitates resolution. Relatedly, lenders need to ascertain only the value of the specific asset that is matched with their liability and not the quality of the entire balance sheet, a possibly daunting task for the lender; by contrast, asserting the value of a single asset (say, of a government security) may be a no-brainer. Alternatively, the lenders may bring their

specialized knowledge to assess the value of the collateral; they thereby certify a piece of the balance sheet.

Earmarking also has costs. First, it is known that there may be less adverse selection or less moral hazard on a bundle than under individual assets.[13] Second, and currently very much to the point, it creates more scope for a rat race, in which each lender tries to obtain priority over other lenders.[14] Indeed, one of the current concerns is that the Deposit Insurance Fund would face an empty shell when trying to collect, after all good assets have been collateralized with private lenders; put differently, such asset income runs make bail-ins infeasible. One would therefore expect in the near future more prudential moves toward limiting asset income runs; a case in point is the recent Australian decision to limit at 8 percent the fraction of assets that can be used to create covered bonds.

Prudential Regulation Reforms

This is no place to review the very extensive discussions and alterations concerning various aspects of regulatory reform: capital adequacy, countercyclical buffers, treatment of derivatives, and so on. Similarly, I cannot cover the many question marks remaining today, including the future of internal models or the homogenization and coordination of resolution processes. Let me content myself with a few light remarks concerning an innovation of the current reforms: the introduction of liquidity requirements into the Basel process, with two ratios in the making—the liquidity coverage ratio (LCR) and the net stable funding ratio (NSFR). Reflections on the former are more advanced; the LCR will become operative in 2019 (with a light version for 2015).

The LCR will be based on stress tests: Banks must claim access to a sufficient buffer of high-quality liquid assets to be able to face outflows during a month. The NSFR will relate longer term funding to longer term liquidity.

The academic contributions on liquidity have helped clarify the need for a liquidity requirement on top of a solvency one. They have emphasized three main rationales: agency, microeconomic externalities, and macroprudential concerns. The agency rationale has a standard prudential flavor and relates to the need for constraining a specific form of risk taking: engaging in an excessively unbalanced maturity transformation by not hedging against short-term shocks, market collapse, or increase in interest rates. The externalities rationale is to prevent propagation to other financial institutions through counterparty risk or fire sales. The third rationale also takes up on the first one and emphasizes the strategic complementarities in balance sheet mismatches. Authorities (first monetary, then fiscal) are more tempted to bail out the financial sector if more of its members have engaged in dangerous levels of maturity transformation; the classic example of a collective bailout is the massive transfer of wealth from savers to borrowers during times of low interest rates.[15]

Where, in my view, academic research falls behind is in providing guidance to technical but important issues in liquidity regulation: Should liquid assets receive risk weights in liquidity ratios as general assets do in capital ratios? (It would seem so.) Should central-bank-eligible assets, which are liquid by definition, be counted as liquid assets, given that the choice of

what counts as liquidity in the computation of the liquidity ratio and central banks' choice of acceptable collateral are two (imperfectly substitutable) public sector interventions in the provision of aggregate liquidity ? Could the focus on a certain horizon give rise to detrimental cliff effects and gaming strategies (like automatic rollover/substitution of liabilities with maturity just above the horizon)? To what extent should the buffer be usable? How do we incorporate general equilibrium considerations and country specificities? For example, countries differ in their stock of government debt and in the amount of retail deposits, which will be deemed largely more stable than wholesale deposits under the LCR regulation. Also, implications of bank distress differ across countries according to the indebtedness of the country itself or the autonomy of the monetary policy. Should asset quality be assessed through ratings, as is currently proposed despite the Dodd-Frank Act hostility to ratings? This list is far from exhaustive.

This discussion points to a blatant need for academic research in the area. Economists have, over the last 20 years, made much progress in conceptualizing liquidity, but they have not yet reached the point where their theories can be made operational for prudential purposes. At best, the new knowledge suggests educated guesses, but this is insufficient.

Strengthening Regulatory Institutions: Europe's Banking Union

Regulation is pretty hopeless without good supervision. Let me therefore conclude with a few words on a specific institutional matter: Europe's nascent banking union. My hunch here is that Europe in this area is definitely moving in the right direction, and yet the new institutions are not only incomplete with respect to resolution and deposit insurance but also are unlikely to function well as currently designed.

There are three rationales for abandoning domestic regulation. The first is expertise. In the cat-and-mouse game discussed earlier, it is rather unlikely that there will be adequate expertise in the 27 national supervisors; pooling resources may enable regulators to have access to more expertise. Second, there are strong cross-border externalities of a bank failure in Europe: impact on foreign counterparties and borrowers, effect on the foreign deposit insurance scheme (for subsidiaries, although not for branches), ring-fencing, and appropriation of liquidity. Third, bank failures may increase government debt and later force Europe to rescue the country itself. The Maastricht Treaty did not integrate the fact that private bank debt can be public debt.

Despite the recent move to create a supranational supervisor located at the European Central Bank (ECB), there are still strong concerns that national interests remain powerful under the new system. In my view, there is a need to provide the key national supervisors in each country with a European mission and status. Otherwise, there is a real danger that information will be withheld from the ECB precisely when this information should be acted upon to trigger early intervention or resolution. Such a European status would also make the board less captured by national interests: We have observed how decision-making bodies composed primarily of national representatives can be quite ineffective at taking difficult decisions; a case in point is the Economic and Financial Affairs Council (Ecofin) in the run-up to the European crisis.

Europe's banking union is still by and large missing a resolution authority. The Competition Directorate (DG Comp) currently substitutes for such an authority but only for some aspects; it makes bailouts more difficult and tries to prevent the distressed banks' use of government funds to gamble for resurrection. But it does not have any money to create bad banks or facilitate purchase and assumption. In the future, we will need the treatment of individual failures to be financed by a deposit insurance fund collecting fees from insured institutions. Systemic failures will require a strengthening of European Stability Mechanism (ESM)'s firing power.

The creation of a European deposit insurance scheme should be made feasible by credible, European-oriented supervision. At this stage, though, losses on underwater legacy assets could imply substantial cross-subsidies among countries under a mutualized deposit insurance scheme. Putting these assets into bad banks that become the property of countries is fair, and starting again with a clean slate can make common deposit insurance happen. To be certain, these bad assets will worsen the countries' financial situation. But in a restructuring situation, there is no distinction to be made between public debt due to profligacy and public debt due to negligence in prudential supervision.

Notes

[1] The author is grateful to the participants in the roundtable, the audience, and Joshua Felman for helpful reactions to the ideas developed here.

[2] See Dewatripont-Tirole (1994) for a more detailed argument on the representation hypothesis.

[3] Another common source of systemic risk created by bank failures is the creation of sovereign risk through bailouts and recessions, as dramatically illustrated by the recent examples of Spain, Ireland, and Cyprus.

[4] CoCos or contingent convertible bonds are bonds that are converted into equity contingent on a specified event, for example an insufficient capital adequacy ratio.

[5] See, for example, Vickers (2012).

[6] As John Vickers discussed earlier in this panel, the U.S. Volcker rule has some drawbacks, which led Europeans (most notably the U.K. Independent Banking Commission chaired by John Vickers and the Liikanen Commission at the European level) to look for different approaches to insulating retail banking from investment banking. (Liikanen 2012). In a nutshell, the Volcker rule rules out proprietary trading, the ownership of private equity and hedge funds, and activities leading to a conflict of interest. At the same time, it allows hedging, the proprietary trading of U.S. government securities, underwriting, and market making. (Note that market makers' inventory risk is in essence proprietary trading and that underwriting is the sale of a put option.)

[7] See ICB (2011).

[8] The AIG insurance company was relatively healthy as well as ring-fenced relative to the investment bank. Thus, we are discussing the bailout of an investment bank rather than of a prudentially regulated entity.

[9] This is not an exhaustive list. For example, one might think of rescues of shadow banks that lend to politically sensitive entities.

[10] Traditional banking activities are more and more performed by a variety of players, such as hedge funds or Special Purpose Vehicles (SPVs) For instance, hedge funds lend to mid-caps.

[11] Each regulator knows only about his or her own jurisdiction. Domestic turf issues, national interests, and mere overload impose limits on the sharing of information among regulators.

[12] Links can also occur through fire sales and wholesale funding (although there will be restrictions on the latter), and not just derivative transactions. This insulation from the nonretail sector would not be complete, although it would be seriously reduced.

[13] See, for example, Diamond (1984) and Farhi-Tirole (2013).
[14] See, for example, Bizer and DeMarzo (1992) and Brunnermeier and Oehmke (2013).
[15] See Farhi-Tirole (2012). The transfer and concomitant diversion of savings to other uses is not the only cost. Low short-term rates encourage future maturity mismatches and therefore a continued fragility of the financial sector. Furthermore, institutions that have committed to certain returns for their customers are highly incentivized to gamble for resurrection (in the parlance of finance, to reach for yield).

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