

Bank Resolution: Towards a More ‘Holistic’ Approach*

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1. Introduction

Banking resolution has been a vexing problem in the EU Banking Union for years now. Indeed, its Banking Recovery and Resolution Directive as an explicit rule preventing bailouts from the beginning on 2016 ‘even under extraordinary systemic stress’ unless 8% of the balance sheet of the troubled bank has been bailed-in. Unfortunately, this very ambitious rule has not been implemented until now, due to legitimate fears concerning financial stability. Instead, in various episodes, loopholes have been found.

How bad is this ? On the one hand, it is never good not to apply a law and, more specifically, a credible resolution system is a desirable disciplining tool to prevent excessive risk-taking by banks. On the other hand, other jurisdictions are not perfect either: look at the US and Switzerland in 2023. Moreover, EU banks did ‘resist’ in 2023. But has it just been lucky ?

The goal of this policy paper is to discuss how to move forward with this resolution issue, and with regulation in general. Indeed, resolution is not an objective per se: the goal is to minimize the use of external money to help troubled banks (whether public bailouts or money from healthy banks) while preserving financial stability, and whether the troubled bank is resolved, nationalized or sold to another bank is in a sense a second-order issue. To follow Perotti and Martino (2024), banks and prudential authorities are involved in a game, of which resolution is only one potential endpoint.

Here, we therefore take a holistic approach, based on earlier work with Jean Tirole (Dewatripont and Tirole, 1994a, b, and 2012), that allow us to discuss:

1. how a debt-and-equity structure emerges as an optimal governance structure in nonfinancial firms;
2. how the specificity of bank creditors, i.e. depositors, implies the need for a public authority that ‘represents’ them;
3. what extent the Basel I and II frameworks ‘matched’ the optimal structure derived in 1;
4. to what extent Basel III improved upon Basel II and what remains to be done.

This approach allows us to discuss various avenues of improvement of the system both in terms of crisis prevention (macroprudential regulation, solvency and liquidity, but also internal governance, a potential ‘low-hanging fruit’ at a time where there is limited political appetite for much higher solvency requirements), and of credible bank resolution. Finally, we discuss another vexing issue for the Banking Union, namely cross-border mergers which, if properly done, could make the Union more stable (through a faster ‘orderly exit’ of weak banks from the market and the emergence of better-diversified banks) without making resolution more difficult.

2. Bank governance and regulation as an incentive scheme: trading off insurance and incentives¹

2.1. The Dewatripont-Tirole model of optimal corporate governance

The model of Dewatripont and Tirole (1994a) is in the spirit of the branch of the security design literature initiated by Aghion and Bolton (1992), who argue that securities are characterized not only by income rights but also by control rights. It therefore analyzes a managerial moral hazard

¹ This section is based on *Dewatripont-Tirole* 1994a, 1994b and 2012.

problem in which it is optimal to discipline the manager at least in part through performance-contingent corporate choices.

If the corporate actions meant to discipline the manager are not contractible, and if, as is generally the case, optimal corporate choices are time-inconsistent, investors in control of corporate choices must face an incentive that differs from firm-value maximization in order to be induced to take the ex-ante optimal action. This "double moral hazard problem" in turn calls for the presence of at least a second group of outside investors who receive the remainder of the revenue of the firm. This second group of investors is similar to the "budget breaker" introduced by Holmström (1982) to address moral hazard in teams.

Suppose that the action the manager prefers (call it C for "continuation") is riskier than the action she likes less (call it L for "liquidation"); the efficient provision of managerial incentives calls for allocating control to investors with a concave, that is, "debt-like," return after bad performance, and a convex, that is, "equity-like," return after good performance. This suggests that the second-best optimum can be implemented with standard debt and (outside) equity, with contingent control: equity control after good performance, and debt control after bad performance. The model thus predicts securities that consist of realistic bundles of control and income rights.

Timing and payoffs

Here we briefly present an example of the Dewatripont-Tirole (1994a) model discussed in Dewatripont and Tirole (2012). Assume a manager/entrepreneur who has no financial resources to cover an investment cost and turns to investors for financing. The capital structure—that is, the allocation among investors of contingent cash-flow and control rights—is designed at this financing stage. The manager then exerts either a high or low effort. This effort results in a good or bad short-term performance. This short-term profit is verifiable, and so conditions the allocation of control. After observing a signal about future prospects, the group of investors put in control by the realization of the short-term profit then chooses a corporate action or strategy; it can take a conservative policy ("liquidation"), "continue", or "gamble for resurrection". Finally, the verifiable long-term profit is realized.

More precisely, the timing goes as follows:

- (i) *Financing.* The manager/entrepreneur raises an amount I for investment from outside investors. The capital structure concomitantly designed specifies the incentive scheme of the investor in control at stage (iv) below.
- (ii) *Moral hazard.* The manager chooses *unobservable effort* a belonging to $\{a_0, a_1\}$. The high effort costs her ϕ ; the low effort costs her nothing. We assume the firm has a positive NPV only if a_1 is chosen.
- (iii) *Short-term profit realization.* The *verifiable short-term profit* π belonging to $\{\pi_0, \pi_1\}$ is realized. A high effort increases the probability of a high short-term profit: $\Pr(\pi_1 | a_1) = p_1 > \Pr(\pi_1 | a_0) = p_0$. We assume that $\pi_0 < 0 < \pi_1$. We interpret a negative profit as a shortfall of income to honor some liabilities to workers or suppliers, liabilities that are senior to investor claims on the firm; such liabilities have to be paid at stage (iv), either out of liquidation proceeds or by investors if they choose to avoid liquidation.
- (iv) *Exercise of corporate control.* An unverifiable continuous signal s belonging to $[s_{min}, s_{max}]$ (with $s_{max} < 1/2$), independent of π , is observed. After observing this signal, investors in control (as specified at stage (i)) select *unverifiable action* A belonging to $\{L, C, G\}$. Action L ("liquidation") generates I for sure. The other two actions generate a random "long-term profit" later on, at stage (v).

- (v) *Long-term profit realization.* The *long-term profit* is *verifiable* and independent of previous managerial effort. Its probability distribution thus depends only on the choice of corporate strategy A , namely : Action C ("continuation") generates 1 with probability s , α with probability s , and 0 with probability $1 - 2s$, while action G ("gambling") generates 1 with probability $s + \tau$ and 0 with probability $1 - s - \tau$.

We assume that $l + \pi_0 > 0$, so that if at stage (iii), $\pi_0 < 0$ is realized, the liabilities it represents can be repaid at stage (iv) out of l if action L is chosen. On the other hand, an investor who wishes to choose another action has to first pay up $-\pi_0$ since the other actions may not deliver any income.

The problem is interesting only if it is optimal to induce the high managerial effort, which we will posit. More importantly, we assume that monetary incentives do not perfectly align managerial and investor incentives; for simplicity, we capture this through an assumption of extreme risk aversion: the manager does not respond at all to monetary incentives; that is, she demands a given wage, normalized to 0, and does not enjoy money beyond that level (as shown in Dewatripont and Tirole (1994a), the results extend to the case in which the manager responds to monetary incentives, as long as solving the moral hazard problem is inconsistent with the realization of the first best; we will come back to this below). By contrast, the manager cares about the corporate action choice: She receives private benefit B unless the liquidation action L is selected. We assume that $B > \phi / (p_1 - p_0)$, so that the cost of effort for the manager is lower than the rise in expected short-term profit it implies.

For conciseness, we also assume that action C is not only the action preferred by the manager, but also the ex-post efficient one. In particular, it yields a higher expected long-term profit than action L even after the worst possible signal. In turn, we assume that action L generates in expectation more long-term profit than action G , even for the most favorable signal.²

The ex post efficiency of action C combined with the managerial preference for that action imply that it is always optimal to continue after a good short-term performance. Continuation then both increases investor return and boosts managerial incentives.

Anticipating on our treatment, the rationale for introducing action G is to create scope for asset substitution by shareholders in control of an undercapitalized bank. Asset substitution will be a concern under a negative macroeconomic shock, and the presence of action G will make forbearance undesirable.

The verifiability of profits gives value to equity as the "residual claim" (by contrast, only "hard" claims have value in models with unverifiable profits). The non-verifiability of the action choice introduces a second moral hazard problem to the model besides the managerial effort choice, and therefore creates a need for endowing the investor in control with an incentive scheme, so as to appropriately discipline the manager. Finally, adding a continuous unverifiable signal s (which is defined so as to be higher, the higher the gain of choosing action C over action L) allows us to uniquely define the capital ratio that implements the second-best managerial incentive scheme.

Managerial Incentives

Ex post profit maximization is inconsistent with the manager choosing high effort, which is costly for her. Indeed, ex post profit maximization leads to a continuation rule ("always C ") that is

² These two assumptions can be concisely expressed by the following condition: $s_{max} + \tau < l < s_{min} (1 + \alpha)$.

independent of past profit and so to a managerial utility that does not respond to the choice of effort.

Intuitively, the least costly way to induce high effort is to always use action C after good short-term profit but to commit to choose action L after bad short-term profit for levels of signal s below a threshold s^* defined by : $(p_1 - p_0) \Pr(s \leq s^*) B = \phi$.

Implementing the optimal managerial incentive through the capital structure

In this simple example, we want the ex post profit maximizing action C always taken after good short-term profit as well as after bad short-term profit for levels of signal s above s^* , but action L to be taken after bad short-term profit for levels of signal s below s^* .

Dewatripont and Tirole (2012) identify conditions under which standard securities, namely, debt and equity, can be chosen as to achieve the optimal managerial incentive, for example through the use of a 'debt cap' $D \leq D^*$, where D denotes the face value of debt. Debt is here a claim on the bank's long-term profit, which is senior the shareholders' claim. Initially, the firm starts with debt level D^* , and shareholders are in control, and will remain so after good short-term profit. But control will switch to debtholders after bad short-term profit unless shareholders recapitalize the firm to compensate for the negative short-term profit π_0 so as to keep satisfying their debt cap.

The intuition for why a debt-equity structure with debt cap D^* does the trick here is as follows. First, note that shareholders do prefer action C to action L and 'enjoy' staying in control after good short-term profit. Second, after bad short-term profit, their choice is more complex: will it be worth it for them to inject $-\pi_0$ into the firm to keep debtholders from taking control ? This will require two conditions :

- (i) that, after taking control, debtholders would prefer to choose the riskless action L which will be detrimental to shareholders who come 'after' debtholders, rather than paying $-\pi_0$ and also choosing action C. One can show that debtholders will indeed go for action L if π_0 is low enough;
- (ii) that ensuring action C rather than action L is attractive enough for shareholders for signals above the s^* threshold. Since shareholders receive as final payment the maximum between 0 and the total return minus the face value of the debt, that is, $s(1 - D^*) + s(\alpha - D^*)$, and since the shareholders' incentive to recapitalize rises with s , the optimum can be achieved by choosing D^* such that $\pi_0 + s^*(1 + \alpha - 2D^*) = 0$.

Finally, note that we have to check that the debt level is not too high to avoid shareholders from going for action G. Indeed, the higher the debt level, the more risk-loving shareholders become, and while G offers a lower total expected return than C, risk shifting can induce them to go for this action at the expense of debtholders.

2.2. Application to banks

Rationale for regulation

Coming to financial institutions, Dewatripont and Tirole (1994b) argue that banks (and for similar reasons insurance companies, pension funds, ...) differ from regular firms in that their debtholders, that is, depositors, are not able to exert control rights appropriately and need to be "represented." Disciplining managers appropriately then calls for a depositors' representative. The exercise of regulatory control is for example key to preventing banks in trouble from "gambling for resurrection" by raising interest rates on deposits and attracting funds from depositors who

"count" on implicit or explicit support from the authorities (deposit insurance fund) or from taxpayers.

Deposit insurance in this respect has a further benefit beyond its primary goal, the prevention of bank runs (Diamond and Dybvig 1983). If coupled in bad times with control rights allocated to either the deposit insurance fund or to the regulator entrusted with the defense of depositors, deposit insurance provides the representative of passive depositors with an incentive scheme. Under this view, the depositor representative's mission is to minimize losses borne by the insurance fund, or equivalently maximize the value of deposits.

Evaluating Basel I and II in light of the Dewatripont-Tirole model

In a sense, Basel regulation has attempted to achieve this from the start (i.e. with Basel I in 1988), with its capital requirement and threat of control switch to the resolution authority, with two well-known challenges: (i) calibration, and (ii) the credibility of the control switch/resolution.

There is also a third key issue highlighted by Dewatripont and Tirole (1994b) however : the relevant managerial performance to address is the *idiosyncratic* one, not the performance linked to aggregate shocks: one should not punish managers for a recession or reward her for a boom, as explained very well by Holmström (1979). This issue was ignored by both Basel I and Basel II, which neglected the fact that a macroprudential approach is needed for optimal managerial discipline, and not solely to avoid macroeconomic procyclicality.

Dewatripont and Tirole (1994b) argue that a key to optimality is to keep the incentives of both managers and shareholders unaffected by the macroeconomic shock. This requires an automatic injection of fresh capital in a recession: like Basel I/II, forbearance is also suboptimal. Indeed, while a pure microprudential approach, i.e., not taking the business cycle into account at all, means punishing shareholders in a recession (which would reduce short-term profits) and rewarding them in a boom (which would reduce short-term profits). But 'fiddling' with accounting rules (in the US 1980s Savings and Loan crisis, authorities even invented 'regulatory accounting practices' to hide losses, as discussed by Dewatripont and Tirole, 1994b) does induce undercapitalized banks to gamble for resurrection, which is also undesirable: one should instead 'bite the bullet' and 'neutralize' the macroeconomic shock through an exogenous injection of capital.

The Basel III macroprudential framework

Of course, Basel III did introduce a dose of macroprudential regulation after the Great Financial Crisis of 2007-2009, as well as other modifications. In the next sections, we turn to a brief assessment of what has been achieved and especially what more needs to be done. But before this, let us already discuss Basel III's macroprudential framework.

As discussed by Dewatripont and Tirole (2012), the Basel III idea of asking banks to build capital buffers in good macroeconomic times in order to be able to release them in bad , as done with Basel III countercyclical capital buffers, or with its precursor policy, Spanish dynamic provisioning, is an appropriate solution when positive and negative macroeconomic shocks alternate deterministically. Note that it is however a form self-insurance, which 'works' only provided the bad shock 'follows' good ones, so that there is a buffer to be released.

Instead, when macroeconomic shocks are random, one could do better. Possible solutions include:

- (i) The issuance of CoCos (whose triggers would distinguish between idiosyncratic and macroeconomic events, so as to appropriately discipline bank management; this would not be easy to design though).
- (ii) Requiring banks to subscribe to a capital insurance scheme, which could be private (but be aware of limited private resources, as in the case of AIG) or preferably State-provided (à la Kashyap et al., 2008), would make more sense. While such a scheme looks de facto like a prefunded bailout, it does not lead to moral hazard provided that it is fully tied to exogenous macroeconomic shocks. And it is based on the idea of the State as insurer of last resort, which is very classical in economics.
- (iii) Introducing other forms of automatic stabilizers, e.g. deposit insurance premia indexed on the business cycle, as recommended by Dewatripont and Tirole (1994b).

Anyway, one should keep in mind that banks are fragile because of their role as liquidity providers, so they can be culprits but also victims. This pleads for more countercyclical regulation than we currently have in Basel III.

3. How has post-crisis regulation performed so far and what should be done now ?

There is wide agreement that, next to the introduction of macroprudential regulation which was discussed just before, Basel III is also better than Basel II in terms of solvency and of liquidity requirements. Stress-testing and attention to resolvability are also acclaimed.

While some bankers complain about ‘excessive Basel III requirements’, analysis from both academics and ‘officials’ disagrees: see e.g. Cecchetti (2014) and BCBS (2016). In fact, some academics think regulation should be much stricter: see in particular Admati-Hellwig (2023). This latter view has quite some followers, as discussed for example in Vickers (2017).

At the same time, it is fair to say that ‘political momentum’, for example for much higher solvency ratios, is not there at the moment: the banking sector has been reasonably resilient since the Great Financial Crisis, despite many adverse shocks, like the Eurozone sovereign crisis, covid-19 and even the recent surge in inflation. Indeed, while in 2023 several significant failures arose in the US, and Crédit Suisse failed in Switzerland, the dominant political mood is not one demanding for much stricter solvency regulation.

This is not to say that the system should not be made safer in several dimensions, but it is probably politically wise to try and do it in a somewhat ‘delicate’ fashion, to avoid for example the risk of a temporary credit crunch that could come with a rapid increase in required solvency ratios.

This being said, let us stress that vigilance is needed, including in jurisdictions which did not experience ‘problems’ in 2023. It is interesting indeed that the Eurozone did manage to avoid the Crédit Suisse and US problems, and the SSM should be applauded for that. Praise should also go for EU regulation which applies Basel III rules to many more banks than in the US : in the Banking Union, a bank with a balance sheet of \$100 billion bank is ‘very significant’, one even have direct ECB control for banks with balance sheets above € 30 billion, and even the smallest banks have to respect the EU implementation of Basel III. But, on the other hand, looking forward, one could argue that the G-SIBs of the Banking Union are more fragile than in the US ones, so that the Crédit Suisse case is more relevant and worrisome for us than the US banking problems where being exempted from Basel III requirements was a key problem. Indeed, Crédit Suisse was subject to

Basel III rules. And while the EU applies Basel III rules to all banks, shouldn't it apply them more seriously ? It is in fact embarrassing that the EU is still the only jurisdiction which is not Basel-III compliant.

Maybe more importantly, aren't we moreover too tolerant in Europe in terms of allowing internal models to reduce capital requirements for some big banks ? Maybe this is what the stock market is telling us: the table below lists G-SIBs ranked by 'bucket': the FSB has asked the BCBS to compute an index of 'systemic importance', based on measures of size, complexity and interconnectedness, and to impose surcharges as percentages of risk-weighted assets for each bucket. The first column of the table indicates these percentages, the second one lists the banks which appear in each bucket and where they are headquartered, limiting ourselves to the US, UK, Switzerland and Eurozone (EZ). Finally, the last 3 columns indicate their market caps (on June 14, 2024), their total assets (at the end of 2023), both in US\$, and their ratio, which we could call their 'market-based leverage ratio'.

		Market cap	Assets	Market lev ratio
(2.5%)	JP Morgan Chase (USA)	555	4090	13.6
(2.0%)	Bank of America (USA)	306	3273	9.3
	Citigroup (USA)	114	2432	4.7
	HSBC (UK)	162	3000	5.4
(1.5%)	Barclays (UK)	39	1993	2.0
	BNP Paribas (EZ)	74	2914	2.5
	Deutsche Bank (EZ)	30	1436	2.1
	Goldman Sachs (USA)	144	1698	8.5
	UBS (Switzerland)	97	1607	6.0
(1.0%)	Bank of New York Mellon (USA)	43	434	9.9
	Groupe Crédit Agricole (EZ)	42	2386	1.8
	ING (EZ)	55	1111	5.0
	Morgan Stanley (USA)	155	1228	12.6
	Santander (EZ)	72	1942	3.7
	Société Générale (EZ)	20	1716	1.2
	Standard Chartered (UK)	23	812	2.8
	State Street (USA)	22	338	6.5
	Wells Fargo (USA)	200	1959	10.2

It is striking to see how jurisdictions can be 'ranked' along this dimension : the 'market-based leverage ratios' belong in the US to an interval going from 4.7% to 13.6%, for UBS it is 6% (after acquiring Crédit Suisse ...), while for the UK the interval goes from 2% to 5%, and in the Eurozone the interval goes from 1.2% to 5.2%. These numbers are dangerously low, and can be related to the risk of inducing shareholders to take action G mentioned at the end of section 2.1.

Market caps are of course an indication of the future profitability of banks, not simply a measure of current health. Nonetheless, future profits are needed to keep banks healthy. Making sure banks abstain from distributing dividends, and adapt their business models to stay profitable, or sell themselves if they are not able to ensure their sustainability, should therefore not be off the table in the Eurozone/Banking Union in particular.

Interestingly, while we have just argued in favor of 'strengthening solvency rules' for large banks in the Banking Union, several observers have said that what we need is more supervisory effectiveness rather than 'more rules', e.g. on capital or liquidity. It is true that rules that look strict

but aren't really (e.g. because accounting numbers move too slowly) can give a false sense of security, so that the advantages put forward by academic economists of 'rules' over 'discretion', in this case 'rules' over 'principles', is worth reexamining: indeed, this false sense of security can be an 'unintended consequence' of some rules. But rules are needed to give a 'legal basis' for intervention. One clear lesson of the problems encountered in 2023 is the potential usefulness of including rules based on market indicators next to slow-moving accounting ones, that is, to strengthen our rules. But this could obviously have consequences for some of our big banks in the Eurozone ...

With this distinction in mind, let us now turn to three other dimensions which could strengthen the resilience of our banking system: (i) changes in internal governance; (ii) changes in the specifics of resolution, and (iii) the potential benefits and costs of cross-border banking.

4. Bank internal governance

The 'saga' of individual banks and their interaction with supervisors does illustrate how difficult the relationship becomes when bank solvency deteriorates. This is not surprising since the lower the solvency of the bank the higher the distance between shareholder interests and societal interests, with the incentive for risk shifting and gambling for resurrection (action G in section 2).

In a business world where debates are robust in general on the potential excesses of 'shareholder value' and the need for ESG, it is strange that supervisory recommendations are not stricter, given that the specificity of banking is that it entails VERY high leverage, as shown in the earlier section.

Indeed, the Basel Committee corporate governance principles for banks (see BCBS, 2015) are: (i) just principles, rather than rules; and (ii) pretty 'generic', namely mainly trying to ensure that the owners of the bank, typically shareholders, are well-protected (next to being 'responsible' of course).

These principles do cover a wide spectrum of issues, paralleling in this sense good practices in general corporate governance codes that aim to protect small shareholders:

BCBS corporate governance principles for banks

1. Board's overall responsibilities.
2. Board qualifications and composition.
3. Board own structure and practices.
4. Senior management.
5. Governance of group structures.
6. Risk management function.
7. Risk identification, monitoring and controlling.
8. Risk communication.
9. Compliance.
10. Internal audit.
11. Compensation.
12. Disclosure and transparency.
13. The role of supervisors.

Except for the last principle, all areas would typically be covered in general corporate governance codes. Let us however focus a bit more closely on three principles that do include a more bank-specific angle:

- **Principle 6:** (i) Banks should have an **effective independent risk management function, under the direction of a chief risk officer (CRO), with sufficient stature, independence, resources and access to the board**; (ii) appointment, dismissal and other changes to the CRO position should be approved by the board or its risk committee.
- **Principle 7:** Banks should use **stress tests and scenario analyses** to better understand their risk exposures under different adverse circumstances.
- **Principle 11:** The remuneration structure should be in line with the business and risk strategy, objectives, values and **long-term interests of the bank**. The board is responsible for the overall oversight of management's implementation of the remuneration system and should regularly monitor and review outcomes to assess whether the bank-wide remuneration system is creating the desired incentives for managing risk, capital and liquidity.

Principle 6 has some 'bite' in that it tries to 'empower' a CRO whose career concerns will lead him or her to 'resist' shareholders' risk-loving tendencies (and Becht et al. (2010) report research showing that the higher the CRO in the bank hierarchy, the more prudent the bank was during the Great Financial Crisis). Principle 7 is an example of the type of requirements discussed in this BCBS (2015) document which, although making obvious sense, will de facto not really prevent a 'tense' relationship between the supervisor and a bank controlled by shareholders in case of worsening solvency. Finally, and most importantly, principle 11 is helpful, by limiting possibilities for top managers to 'take the money and run'. Except that, by allowing for a significant link between managerial compensation and the value of equity, gambling for resurrection is not going to be deterred when the bank situation becomes desperate.

Becht et al. (2010) and Becht (2024) do argue that high bank leverage makes banks 'different', so that traditional corporate governance recommendations cannot be adopted without changes. Becht (2024) recommends: (i) appointing bondholder representatives next to shareholder representatives to banks boards; (ii) having bondholder meetings in addition or in parallel with shareholder meetings; and (iii) linking board and executive remuneration to the risk of debt.

These are in our view important policy conclusions because, as said earlier, at this point, one has reached a 'political equilibrium' leading to a Basel III framework with solvency ratios that are significantly higher than in Basel II but that are not high enough to contain an equity bias after negative shocks.³ Therefore, why not exploring weakening this equity bias by alternative routes like (1) weakening the link between managerial compensation and the value of equity, and (2) increasing the power of bondholders in the governance of the bank ?

Note that the link between governance and risk-taking goes beyond the relationship between top managers, shareholders and bondholders: it also applies within the bank, where there is quite a contrast between the key 'societal missions' of 'boring' deposit-taking institutions (organizing the payment system and lending to households and SME's) and the compensation structure within such institutions, which significantly favors investment banking. Let us illustrate this point with EBA data on 'high earners', namely people who make more than 1 million €. We take here the year 2017, one of the last pre-Brexit years, in order to display the UK too:

³ Of course, one reason for banks to be so reluctant to reduce their leverage is that debt is subsidized relative to equity in our tax system. In a world where authorities complain about bank leverage, shouldn't we think about stopping this debt subsidization for banks, or give bank equity the same tax treatment as debt ?

European Banking Authority High Earners in 2017

	Belgium	Germany	France	UK
Total number of High Earners	22	390	233	3.567
Average Comp. (Mill.€)	1.4	1.6	1.7	2.0
% Investment Banking	23	27	61	58
% Retail Banking	14	5	3	3
% Asset Management	5	5	11	12
% Other business areas	58	63	25	27

‘Other business areas’ includes the top management of the bank, so the German structure, with 63% of high earners in that category, does not look a priori surprising. But note that, even in Germany, high earners in investment banking are more than five times as numerous than in retail banking. And the French shows the dramatic importance of investment banking in terms of high earners in our ‘universal banks’. The same is true in the UK, where moreover the ‘City of London effect’ has a very big impact on the absolute number of high earners in comparison to continental Europe.

Note that this data is available because the European Parliament had initiated a legal rule capping the variable remuneration of bank employees to 100% of their fixed remuneration. This rule, which the UK eliminated after Brexit, is a potentially interesting way to influence managerial incentives. It would be interesting to take stock of its potential role, if any, in allowing the Eurozone to have avoided the turbulences the US and Switzerland in 2023, and also to investigate how it could be improved in order to foster ‘safe and sound’ banking.

Note also that, while the UK has dropped this EU variable remuneration cap, it did introduce, following the Vickers Report, the idea of protecting retail banking activities from risks emanating from investment banking ones. Again, it would be interesting to take stock of this ‘ring-fencing’ experience and its role, if any, in allowing the UK to have avoided the turbulences the US and Switzerland in 2023. There could be potential lessons to be learned by the EU there, since its Liikanen Report, which had similarities with the Vickers Report, was blocked by our universal banks.

After having discussed how to limit the equity bias, through the capital structure and the intensity of influence of shareholders, let us turn to what (not) to do in case prevention has failed and resolution is needed.

5. Resolution and bail-in: Beware the cost of ‘disorderly resolution’

The first thing to keep in mind when talking about resolution is that bail-in is potentially VERY costly if it leads to financial instability. Let us keep in mind that the Lehman episode in September 2008 was an example of bail-in ! Indeed, the authorities ‘just’ decided to apply the law, that is, not to bail out a financial institution which was not FDIC-insured, since it was ‘only’ an investment bank. Interestingly, after this episode, the two remaining large US investment banks, Goldman Sachs and Morgan Stanley (Bear Stearns and Merrill Lynch had already been acquired by FDIC-

insured commercial banks) asked to become FDIC-insured, even if that meant much stricter regulation. Interestingly, Lehman-style bail-in has not been tried in the US on significant financial institutions since September 2008 ...

This has been wise, especially since well-designed bailouts are not very costly: banking crises are of course very costly in terms of GDP loss, but the *net* cost of bailouts is only a small fraction of that. Indeed, let us start from a table taken from Dewatripont (2014a) and based on data from Laeven and Valencia (2012):

Crisis	(Gross) fiscal cost of bailouts	Increase in debt	Output loss
Japan (1997)	14.0	42	45
Sweden (1991)	3.6	36	31
USA (1988)	3.7	11	0
USA (2007)	4.5	24	31
Euro area (2008)	3.9	20	23

The year in parentheses is the year when bailouts started, not the year the crisis began (for example, in the S&L case of the 1980s, it took several years before bailouts took place). All numbers are percentages of GDP. The first column shows in all five cases the *gross* total funds committed by 2011. The next two columns show the increase in debt-to-GDP ratios 3 years later and the cumulative output losses relative to trend over these 3 years.

While we have to be cautious since we are looking here only at a couple of crisis episodes, this Table is nonetheless striking and immediately leads to several comments. First, while there are of course many determinants of the evolution of GDP and public debt, it is clear that banking crises typically lead to big drops of GDP and therefore big increases in debt-to-GDP ratios (one exception was the S&L crisis, which hurt disproportionately such small institutions). Second, it is striking that the *gross* fiscal cost of bailouts is only a fraction of the rise in debt-to-GDP ratios. And in fact, in some cases, namely in Sweden and in the 2007-2009 US crisis, the bailout expenses have been almost fully reimbursed, thus meaning a *net* cost of zero ! This was not the case in the Japanese crisis or the US S&L crisis, due to procrastination by the authorities which proved very costly.⁴

Of course, it is not because the Lehman bail-in was very costly – due to its consequences in terms of financial instability – that bail-in should be banned and bailouts are a good idea : as we already said, these certainly do have negative consequences in terms of ex-ante incentives, and bail-in can be done better than in the case of Lehman. The next section will stress in particular the need to target bail-in on money which is ‘stuck’ in the bank, so as to minimize the risk of financial instability.

Before doing that, let us however come back to why the Lehman bail-in led to such financial instability. Of course, the problem of financial instability does not come from the claimholders of the problem bank when it is closed: by then, their money is stuck in the bank !

For simplicity, one can distinguish between three types of withdrawals :

1. Withdrawals at the problem bank by claimholders who fear bail-in and have the ability to leave.

⁴ See the references cited in Dewatripont (2014a).

2. Withdrawals at other banks by claimholders who fear their own institutions will suffer because the bank that has been closed will not be able to honor its liabilities towards their institution.
3. Withdrawals at other banks by claimholders who fear their own institutions will suffer due to the signal the closure of the problem bank has sent.

Problem 1 is a ‘pre-bail-in’ problem, and has for example plagued Silicon Valley Bank with an atypical intensity given its business model and the ‘accelerating impact’ of new technologies. Such gradual runs, by less-than-fully insured depositors, have been observed at several banks where trouble had gradually built up, and can lead to the closure of the bank since massive withdrawals can very naturally lead to insolvency, as described in the rational bank run model Diamond and Dybvig (1983).

Problem 2 concerns the ‘mechanical contagion’ channel where large enough and interconnected enough banks can, if they run into solvency problems, lead other banks to become insolvent too. This is a big part of the Too-Big-To-Fail problem which justifies for example G-SIB surcharges.

Note however that mechanical contagion is not the only source of contagion : Problem 3 was at the heart of the post-Lehman panic too, since its failure signaled not only that more ‘well-respected banks’ were in trouble (but this was not really new, after the absorption of a ‘similar’ investment bank, Bear Stearns, had to be acquired by JP Morgan) but also, and much more importantly, that the public authorities of the US had decided to apply the law as is, which meant forcing losses on uninsured depositors for the first time in years. This led many depositors, in many countries, to exit their bank, following a ‘better safe than sorry’ strategy, which was perfectly rational given the impact of significant withdrawals on solvency. Problem 3 can thus be described as one of ‘informational contagion’, and can arise even from the bail-in of depositors of small banks, if this is interpreted as a signal about the ‘system’ as a whole. The well-known opacity of bank balance sheets and of the interlinkages between banks can naturally create informational contagion in a system where depositors fear potential losses (see for example Aghion et al. (2000), who show that, in such a banking system, the existence of an interbank market can reduce the probability of an individual bank failure – since banks can insure one another against less than perfectly-correlated liquidity shocks – but simultaneously increase systemic failure because the interconnectedness it creates means that an individual failure may be the signal than banks as a whole have been unable to help this failing bank, due to aggregate liquidity shortages.

The lesson we can draw from historical experience is therefore that it is very dangerous to try and rely on short-term bank liabilities to ‘discipline’ banks, due to this informational contagion channel, which can be very noisy and unpredictable. Bail-in is of course not per se a bad idea, even in comparison to a well-designed bailout, but it has to target liabilities that are ‘stuck’ in the bank, and which can only be sold on a secondary market by owners who want to get rid of them.

6. The complex road to ‘orderly resolution’ in the EU and the Banking Union

Bail-in in the FSB and the EU

After the flurry of bailouts that followed the disastrous Lehman bail-in, the idea of orderly resolution through well-designed bail-in was a very natural one. But, interestingly, this idea was not prominent at the beginning of the Basel III negotiations: at that time, since only shareholders

had absorbed losses during the Great Financial Crisis (except at Lehman of course, and in bankrupt Iceland), the initial idea of the Basel III reforms was to raise not only the quantity but also the ‘quality’ of capital, namely ‘core equity tier 1’.

It is only when it became politically clear that Basel III capital ratios could not be raised ‘sufficiently’ that the idea of ‘total loss absorbency capacity’ (TLAC) was introduced by the FSB. This is the view that more bail-inable long-term liabilities should be added to equity as an additional layer of loss absorbency, an idea that had been present in Basel I and II (e.g. ‘tier-2 capital’, that was then deemphasized early on in Basel III and then subsequently reintroduced by the FSB.

As is usual with solvency rules, the TLAC rule promoted by the FSB, which applies only to global systemically important banks (G-SIBs), is meant to apply after a transition period which allows banks to gradually accumulate the target level of funds. Moreover, the rule is similar to earlier ones in that it only imposes a new solvency ratio, it is not an explicit restriction on bailouts.

In the EU, political authorities decided to be more ‘radical’ : its Banking Recovery and Resolution Directive (BRRD) made bailouts *illegal* from January 1, 2016, on unless resolution authorities had bailed-in at least 8% of the balance sheet of the bank, with the 8% being an unweighted proportion of this balance sheet (i.e. much higher than the 3% leverage ratio, and even than the TLAC ratio which the FSB restricts to G-SIBs).

Unfortunately, the BRRD created a significant problem of sequencing: it imposed this bail-in threshold before allowing banks to build up enough long-term bail-inable claims (MREL claims, in EU jargon⁵), thereby creating risks for financial stability. This risk has in fact been recognized by prudential authorities, which is why ... the 8% rule has never been implemented : loopholes have been found to avoid bailing-in short-term claims and instead allow for bailouts even though 8% of balance sheet of problem banks had not previously been bailed-in (see examples discussed in Dewatripont et al., 2021b).

Many observers recognize that, if Europe wants to enforce the 8% rule without creating financial instability, banks must have sufficient long-term funds subordinated to the other bank liabilities (e.g. equity and contingent and non-contingent subordinated long-term debt). A 2019 BRRD revision made some progress in this direction by introducing two important innovations: (1) stricter subordinated MREL requirements for banks whose balance sheets are larger than €100 billion (with a transition until 2024), and (2) the ability for national resolution authorities to go below that €100 billion number.

These points are useful but insufficient. Including specific senior claims in MREL does not protect other senior unsecured claimholders, because bail-in should in principle be proportionally applied to all claims in a given priority class. Therefore, Dewatripont et al. (2021b) stress that one should go further : *MREL should only consist of claims subordinated to non-MREL claims for all banks equal to at least 8% of their balance sheet, and that the 8% rule can apply only when this is done*. Only this will prevent potential panics, because the ‘no bailout before 8% bail-in even under extreme stress’ rule which is written in the BRRD is probably more credible/rigid in the euro area context than in a ‘normal country’, because of the higher aversion to bailouts in this jurisdiction composed of different Member States.

Another reason why the 2019 BRRD revision is insufficient is that it allows, but does not impose, national resolution authorities to accelerate MREL requirements for banks with less than €100

⁵ MREL stands for Minimum Requirement of own funds and Eligible Liabilities.

billion balance sheets. This means that the 8% rule remains inapplicable in large countries with many small banks, like Germany and Italy, and in small countries where banks are generally of small size.

And then there is the cost of the transition : raising subordinated funding to 8% of the balance sheet would be very costly for some banks, especially smaller ones that may have a hard time raising subordinated debt in a way that would not be too costly. Even the new BRRD, which only goes part of the way, implies a significant capital raising exercise (which explains the long transition period).

Political reality means that the 8% rule is ‘sacred’ and is partly motivated by an aversion to turning the banking union into a transfer union, with the aggravating circumstance that bank bailouts are (understandably) not the most popular use of public money. The paradoxical result, however, is that in practice, because of the sequencing problem, it has got in the way of bank resolution and bail-ins since the introduction of the BRRD. As recommended by Dewatripont et al. (2021b), it would be much better to agree on a path towards 8%, say with a lower amount x_t % at year t , and to replace the 8% rule by an x_t % rule, possibly requiring that bailouts that do not satisfy the 8% rule have to be covered by national rather than European money, to make it politically acceptable.

Interestingly, there is a 2023 proposal by the European Commission that introduces a degree of ‘bailout flexibility’ which could facilitate this transition, a proposal we now turn to.

Evaluation of the Crisis Management and Deposit Insurance (CMDI) proposal of the European Commission⁶

This proposal tries to come to terms with the reality that the EU framework (the BRRD) has not been used in resolution since it could be hitting depositors and destabilize the entire banking sector. The CMDI therefore rightly proposes to ease, under certain conditions, the use of deposit guarantee scheme (DGS) money in order to protect deposits while resolving troubled banks. Note that the CMDI refers to *national* DGS schemes since the Commission (realistically) feels the time is not yet ripe for moving to a European Deposit Insurance System (EDIS) in the euro area, a desirable endpoint to complete the Banking Union.

The innovations in the CMDI proposal are that it (1) recognizes that small and medium-sized banks may not have a sufficient amounts of bail-inable own funds and subordinated securities to meet the 8% requirement of the BRRD without hitting deposits; and (2) allows national DGSs to cover the gap between the two in resolution. The CMDI would permit easier access to DGS money and protection of deposits by : (i) eliminating the ‘super seniority’ of the insured deposits (and the DGS) over other deposits; and (ii) introducing generalized depositor protection, which means that senior bonds, and not only junior ones, can be bailed-in without having to touch deposits (a feature already in place in some EU countries). Note, however, that the CMDI proposal *de facto* means that national DGSs would become *junior in resolution* to deposits since they would intervene to protect them, a big change in comparison to their current super seniority status.

Facilitating access to DGS money in order to resolve a bank in trouble without hitting depositors is a very good idea. At the same time, using public money for banks in trouble is never popular, so that safeguards are therefore needed to avoid a political backlash. This leads to the following considerations:

⁶ This subsection is taken from Dewatripont et al. (2023b).

- It is ‘politically astute’ of the Commission to say in the CMDI proposal that deposit-guarantee and resolution funds will be paid for by the banking industry rather than by ‘individual taxpayers’. In reality, as tax-incidence reasoning indicates, this is only partly true: individual depositors/taxpayers will be impacted to some extent since banks will adjust their behavior, for instance by paying lower interest rates on deposits. Moreover, one should not forget that moral hazard is not reduced by industry-funded bailouts, but only by bail-ins.
- What is needed, therefore, in order to reduce crisis events due to moral hazard (and also to avoid both a political backlash and opposition by large banks, which fear having to pay for smaller ones) is to continue beefing up long-term subordinated loss-absorbency for all banks, small and large. *Enhanced loss-absorbency* is thus a *complement to* and not a *substitute for* the crisis-time flexibility introduced by the CMDI. Both flexibility and enhanced loss-absorbency capacity are needed in order to credibly claim, as the Commission does, that CMDI “will improve cost-efficiency, support the real economy and its competitiveness”.
- Another way to increase crisis prevention is *enhanced supervision*. In this respect, recent evidence of ‘click banking’ leading to higher deposit volatility in times of increasing interest rates suggests more demanding stress tests and higher outflow rates in the computation of the Basel liquidity coverage ratio.
- This being said, since it is impossible to make sure that deposit guarantee and resolution funds will not be used, it is important that those deemed responsible for the problems are seen to be ‘punished’. Next to the bail-in of creditors and shareholders, *holding management accountable* in front of courts in cases of misbehavior would be helpful in this respect.
- The CMDI proposal insists on exit of the problem bank from the market as a condition for access to DGS money. This is also a useful disciplinary mechanism. One should, however, avoid ‘unintended consequences’ in terms of unnecessarily ‘tying the hands’ of public authorities in their resolution strategy. Indeed, history is full of examples where taxpayers have benefited from the state temporarily nationalizing troubled banks rather than being forced to find a buyer at very short notice, especially in crisis times where multiple banks may be in trouble. Allowing for the option of temporary ownership by a member state is also natural in a setting where DGS money is still national. Asking for the state to exit ‘within X years’ could, however, help protect taxpayer interests. One could benefit here from the expertise that DG Competition has acquired since the Great Financial Crisis as a watchdog ensuring that state aid is kept to a minimum and unfair advantage is not obtained by the acquiring bank (Dewatripont et al. 2010).

Conclusion: who should be protected, who should be bailed-in, who should be resolved ?

If we agree that financial instability should be avoided, does this mean all deposits, including large ones, should be insured ? Or does this create excessive moral hazard ?

In our view, the key is to avoid externalities : protection should be priced fairly. In a sense, this is what is done with the 100% weight for the Liquidity Coverage Ratio for ‘wholesale deposits’ in Basel III : it reflects the fact that these funds are ‘de facto protected’ since they will be gone by the time the bank fails, and this is properly priced because the bank is forced to back them by liquid assets. And the bank will take this into account when deciding which interest rate to offer such deposits.

The problem comes when the LCR outflow rate is less than 100% but the liabilities would be protected when the bank fails. Another way to price this externality is to impose a deposit

insurance premium to the bank, which is better than pretending the deposits are uninsured but bailing them out ex post nonetheless.

Of course, it is also possible to limit this externality by increasing the buffer of equity and liabilities subordinated to these protected deposits, so as to reduce the probability a bailout will be needed. And the ideas mentioned in our governance section can further limit this risk.

If, despite all these crisis prevention measures, an accident happens, what is the best course of action ? The recent Crédit Suisse case is an interesting one : yes, there was some amount of ‘procrastination’ by the authorities. But it is fair to say that : (i) we can thank the Swiss authorities to have been able to deal with this G-SIB without creating financial instability ; and (ii) the cost for the Swiss taxpayer has been limited thanks to a successful bail-in of ‘additional tier-1’, an operation which has been a prudential success even though it has raised eyebrows in its failure to strictly respect the ‘hierarchy of claims’ (since shareholders have not been wiped out fully).

Beyond this, the absorption of Crédit Suisse by its domestic rival UBS does generate competition concerns for Swiss consumers, given the very high combined market of these two banks. But one can say that Switzerland has been ‘prudentially very lucky’ to have had another domestic G-SIB, UBS, that was able to take over Crédit Suisse. In the Banking Union, three countries have a single G-SIB : what if one of them needed a rescue ? The Eurozone is definitely not yet a ‘single banking market’. The road is still long, and it was striking for example that, some years ago, when there were noises about Commerzbank needing a buyer, the Dutch G-SIB ING considered an acquisition and felt useful to say that it might in this case move its headquarter to Germany ... One lesson of the Crédit Suisse case is that moving faster to a ‘true and complete’ Banking Union is really needed. This would involve more cross-border banking, an issue we now turn to.

7. Excess capacity in banking and the issue of cross-border banks

Given the limits of crisis prevention and of resolution, we are bound to find ourselves once in a while with the task of ‘cleaning up’ excess capacity in banking.

This is not something banking supervisors are ‘naturally’ inclined to : a typical advice to weak banks is to ask them for (possibly progressive) recapitalization, possibly even with ‘constraints on deleveraging’, i.e. on size reduction, in order to avoid a ‘credit crunch’. It is as if one was explicitly asking a car manufacturer in financial distress to avoid reducing sales ...

This leads to excessively slow removal of excess capacity at the banking sector level, with a potential vicious circle, since it is more difficult for a supervisor to be tough with weak banks.

Does this mean we should plead for (publicly-funded) economy-wide bad bank systems ? From an ex-post point of view yes – at times we need to ‘bite the bullet’, – but of course the expectation of a public bailout does create moral hazard, so what was said before about the various avenues to limit public bailouts applies.

The question we want to address here is : to what extent are cross-border mergers part of the solution here, despite the well-known additional difficulty linked to cross-border resolution ? On the one hand, a natural answer is : only to a limited extent. Indeed, reducing excess capacity through domestic mergers is a better way to take advantage of synergies, e.g. through branch closures. On the other hand, in the specific context of the Banking Union, it has been argued that cross-border mergers can be very useful to better share macroeconomic risks, as we now discuss.

7.1. Cross-border banks as a potential solution to macroprudential challenges

For years, the ‘official view’ in Frankfurt (both at SSM and ECB levels) has been in favor of more cross-border mergers in the Euro area : this has been detailed for example in ECB (2017). And it has been argued even before the start of the Banking Union by academics, see for example Allen et al. (2011).

It is true that cross-border M&As in the Banking Union have been modest – for example, 9% of deals in 2016, 15% in 2011-2015 – in comparison with the US – with cross-state deals between 31 and 52% in 2000-2015 (versus between 5 and 19% in Banking Union over that period).

As a result, domestic credit institutions in the 5 biggest countries (by banking assets) in the Banking Union (Germany, France, Italy, Spain and the Netherlands) each amount to more than 90% of domestic assets of their home countries. Note here that Belgium is interesting exception: this 6th country by size of banking assets is one where this number is only around 50% (since two of its four biggest banks are subsidiaries of foreign banking groups : BNP Paribas Fortis and ING Belgium. This is by the way why Belgium is typically called a ‘host country’ (despite being the ‘home’ of KBC, which has subsidiaries in Ireland and Central and East European countries), like a number of other smaller EU Member States, while the above five bigger countries are called ‘home countries’.

The ECB (2017) report details the following advantages of cross-border banks : (i) better monetary policy transmission; (ii) better risk-sharing; (iii) lower home-sovereign bias; (iv) potential faster resolution of the NPL problem (which will typically be imperfectly correlated across national markets); and (v) fewer competition problems.

At the same time, the report does not deny potential costs of cross-border mergers, but offers ways to limit them : (i) the heightened Too-Big-To-Fail problem , seen as mitigated by the Basel III reforms and the creation of the Banking Union; (ii) the fact that cross-border mergers alone could lead to excessively slow cost-cutting, addressed by the argument that cross-border mergers are not a substitute but a complement to domestic mergers, which are needed too; and (iii) the contagion risk generated by cross-border mergers, which could be tackled by proper macro-prudential policy.

Finally, the report argues in favor of measures that would help make cross-border banks more resilient but also more resolvable, especially through: (i) ‘completing’ the Banking Union (including tackling the Options and National Discretions problem, introducing EDIS, etc); (ii) harmonizing insolvency regimes, consumer protection, taxes, etc.

7.2. Cross-border banks as a potential solution to macroprudential challenges: a brief assessment

Advantages of cross-border banks

The advantages listed in the ECB report are indeed all relevant, and there is no need to spend time challenging them.

Let us simply stress that one could in fact go even further on the advantages of cross-border banks on the home-bias question. The home sovereign bias is indeed a problem. And the hope

that Basel will end up addressing this ‘original sin’ (namely, the deal struck by Governments and banks : ‘let us induce banks to buy sovereign debt by pretending it is risk-free so that they do not need to back them by *any* capital’) is most probably politically unrealistic (see for example the nature of the debate in BCBS 2017b and the lack of progress thereafter).

It is therefore also politically unrealistic to expect the Eurozone to unilaterally introduce positive sovereign credit risk weights (which Basel – which only sets minimum requirements – would allow them to do), even if sovereign risk is a bigger threat in an area with ‘one money but many countries’. This being said, it is maybe not impossible to envisage the Banking Union to unilaterally introduce positive *concentration* risk weights for national sovereign holdings.

Note however that the home sovereign bias not the only problem that can threaten bank stability: the home economy bias can be problematic too. Indeed, if a sovereign risks defaulting, the home economy will be rattled too, which makes it rational for the sovereign home bias to rise in times of sovereign stress: domestic banks then rationally expect that potential losses on their own sovereign in case it defaults will not ‘matter’ since they will be bankrupt anyway because of the very bad macroeconomic situation of their home country.

Interestingly, cross-border banking can address both home biases through its cross-country diversification. A potentially interesting policy avenue could therefore be to introduce concentration risk charges only at consolidated group level, not at subsidiary level. This would make cross-border mergers more attractive.

Costs of cross-border banks

The costs listed in the ECB report are all relevant too, and here one could also go further, especially for the Too-Big-To-Fail problem.

Too-Big-To-Fail is a potential problem indeed, especially since today the Banking Union already has 7 G-SIBs. Moreover, we know that Basel III is not very demanding in terms of G-SIB surcharges: maximum 1.5% of risk-weighted-assets at this point for Eurozone banks, i.e. less than 30% of the sum required capital and the additional capital conservation buffer. All this while the output floor for IRB banks is meant to rise towards 72.5% only in 2027 ... Clearly, this more than offsets current G-SIB surcharges. And the (accounting) leverage ratio culminates at 4% for Eurozone G-SIBs (and we have seen that the ‘market leverage ratio’ even goes as low as 1.2% for Société Générale ...).

We can thus conclude that there is no significant prudential penalty for size, and that capital buffers do remain limited. This pleads for caution towards bank mergers, and especially when takeover battles are concerned. Indeed, academic evidence shows that, on average across all sectors of the economy, around 100% of the efficiency gains of mergers arising from takeover battles are obtained by ... the shareholders of the target. To use the expression of auction theorists, the ‘winner’s curse’ in such cases is not rare.

A costly example of this was the 2007 hostile takeover saga of ABN-AMRO by the Fortis/Royal Bank of Scotland/Santander trio, at a time where ABN-AMRO was engaged in friendly merger talks with Barclays. Of course, this takeover battle, which ended in tears for Fortis and RBS after the fall of Lehman, happened just at the ‘wrong time’ (i.e. at the peak of the stock market), and with clear excessive optimism by the bidders, but such problems can never be ruled out. In fact, notwithstanding the fact that more capital is always helpful, and so is more liquidity,⁷ it is not that

⁷ In the above case, the short-term whole-sale financing of the merger was a key problem (expand ?).

obvious that Basel III or the Banking Union would have prevented this episode : European authorities were very positive at the time about the creation of European banking ‘champions’, even in cases that ended up in even worse disaster, like the creation in the late 1990s of the Belgian-French Dexia group.

Finally, next to the Too-Big-To-Fail problem, one should not neglect the fact that policy distortions between Member States can create ‘artificial’ incentives to merge across borders. An example of such a distortion concerns taxes: Belgium subsidizes savings deposits while France and Netherlands subsidize life insurance products, a fact which has led BNP Paribas and ING to look for a retail deposit base in Belgium. Unsurprisingly, this has in turn led Belgian authorities to worry about financial stability. We now turn to this issue which is quite relevant in a world where big banks are not that capitalized and where the market is not yet ‘truly European’.

Addressing home-host issues in the Banking Union

In principle, the creation of the Banking Union and the establishment of the Single Resolution Board (SRB) should have solved the coordination problems between national authorities that typically plague cross-border resolution, especially when the single-point of entry (SPE) resolution strategy is chosen, which is the case for most banking groups in the banking union countries.

In reality, ‘host’ countries in the banking union continue to ring-fence foreign subsidiaries operating within their jurisdiction, which “defeats the purpose of the Banking Union” (Philippon and Salord, 2017). This situation reflects a lack of trust in the system. In particular, small countries which host important subsidiaries of foreign banks headquartered in larger euro area countries fear ‘unfair’ treatment in case of resolution (e.g. Dewatripont et al. 2021b). These host countries therefore insist on keeping their Options and National Discretions (ONDs) on liquidity and intra-group exposures, to the chagrin of home countries and European authorities. Of course, one should not a priori doubt the Single Resolution Board’s aim to try and ensure fairness between countries. But the devil will be in the details (see Dewatripont et al., 2021a).

As discussed by Dewatripont et al. (2021b), it would be best to improve the rules of the game to constrain discretion and (perceived or actual) current potential bias by *adopting a fully euro area-wide approach to resolution of cross-border banks*. To do this, the simplest solution is to have resolution focused on burden-sharing at the holding level by adopting a *structural subordination approach*, which would separate business functions in operating subsidiaries from the pure financing functions of holding companies. Under the dominant SPE strategy, losses in subsidiaries are first transferred up to the holding company. If it fails or risks failing as a result, the group has to be resolved, and the holding company is bailed-in using appropriately calibrated pre-existing eligible liabilities (MREL). This would reassure host countries (which would then have to drop their ONDs), because losses would occur ‘at the top’, in the home country, and the group would stay together.

This solution is also the economically efficient thing to do: to avoid moral hazard, the decision-maker should be the residual claimant. This principle is consistent with the whole idea of prudential regulation, solvency ratios and no bailouts. And it is moreover consistent with ideas developed at the FSB by the architects of the FSB resolution principles (see Tucker 2018, who recommends structural subordination).

9. Conclusion

This paper has taken a broad view of resolution in the Banking Union, embedding it in the general regulatory and supervisory frameworks. This has allowed us to draw a number of policy conclusions, which we summarize here :

1. While the Basel framework is definitely not perfect, it is not inconsistent with the principles that underlie the optimal governance of nonfinancial firms, in that it can be seen as trying to ‘represent’ the debtholders of nonfinancial companies who are less expert in banks since they are (retail or wholesale) depositors.
2. Of course, ‘consistency’ is not enough, since the devil is in the details, in terms of calibration and also credibility of disciplining mechanisms when things go wrong.
3. A first area of improvement concerns the desirability of **stronger automatic stabilizers** (capital insurance ? Deposit insurance premia indexed on the business cycle ?) to protect banks against macroeconomic shocks for which they are not responsible.
4. Concerning the general level of solvency, given the limited political appetite for much higher core equity ratios, **beefing up other components of total loss absorbency**, building on the Crédit Suisse experience (and its successful bail-in of its AT1 claims) is promising. This should be taken advantage of in the Banking Union, where solvency is too modest (and where core equity should nonetheless also be strengthened for large banks).
5. Another potential avenue, which has been very rarely emphasized until now, would be to work on the **internal governance of banks**: limiting the equity component of managerial remuneration in favor of a debt component, and giving more power to bondholders relative to equityholders within banks.
6. Coming to resolution, financial instability is much more costly than well-designed bailouts. Of course, well-designed bail-ins – which have to be restricted to claimholders whose money cannot be directly taken out of the bank – are even better, but fully closing the door to bailouts, as originally planned by the BRRD, is a very dangerous idea. In this sense, the **CMDI proposal** by the EU Commission is **very much welcome**. It is of course only a complement to the strengthening of banks’ total loss absorbency.
- Finally, promoting **cross-border mergers in the Banking Union** can have multiple potential advantages as far as financial stability is concerned (especially to address fragility with respect to domestic shocks) and of course in terms of the efficiency/competition tradeoff. One should however simultaneously address their potential costs, in two respects: (i) in a Banking Union where the capitalization of some large banks remains very modest, one should be very alert to the Too-Big-To-Fail problem, especially in the case of takeover battles, where irrational exuberance can end up in tears; (ii) serious difficulties can arise, in both normal times and in resolution, between home countries and host-countries if the structure of the banking group leads to (sometimes rational) mutual worries; the way to address this problem is to go for structural subordination of a sufficient amount of claims at group level, a solution which would also foster societal efficiency.

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