The banking market (jigsaw) puzzle : Would coming closer to a stand-alone subsidiary model automatically lead to cross-border re-fragmentation ?

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Introduction

Over the two last decades, banking markets throughout the world have gone through a period of profound changes, marked by the emergence of some large cross-border financial institutions. This trend was even more important in Europe where it was supported by a strong desire to unify fragmented national markets and to reinforce the cohesion between European countries. The integration of financial and banking markets in Europe spearheaded economic integration, and many believed it to be a strong, necessary, and inescapable trend with many positive consequences, both for the financial industry, but also, more generally, for European countries and eventually for European citizens. The perceived advantages included benefits such as increased market liquidity, a reduction in transaction costs, more efficient transfers of funds from countries with excess savings to locations in needs of capital, accelerated transfer of financial technology, or a levelling of the European playing field.

The integration of financial and banking markets was supported, at the highest level, by changes in the legal, regulatory and economic environment : the launch of a common currency in the euro-zone countries, the introduction of the first and second banking directives – which included important breakthroughs such as the single banking licence, the home country control principle and the mutual recognition principle – and the harmonisation of financial laws through the Financial Services Action Plan (FSAP). The ultimate objective of financial market integration was to develop a single market where geographic location or nationality would become irrelevant in financial and banking operations.

However, this objective may not have been fully attained and, as a consequence, market integration in Europe might be less deep-seated than initially believed. Financial market integration proceeded smoothly in the early years of the single market, even though the level of integration varied in the different segments of the financial market (see e.g. Baele et al., 2004). Yet, following the financial crisis, the process might now appear to be reversible. The latest studies on financial market integration (ECB, 2009 and 2010) confirm that integration of financial markets, and in particular of money markets, suffered from the recent crisis. The negative impact might vanish over time, as markets normalise, but it nevertheless led to worries in the financial industry. As a consequence, prominent bankers have recently expressed their concerns on re-fragmentation (see e.g. Ackermann, 2009a and 2009b, Banzinger 2009 and IIF 2009a and 2009b).

The risk of cross-border re-fragmentation can be defined as the risk of segmentation, along national lines, of hitherto integrated financial markets or financial institutions, as a side effect of an adaptive process by market participants or new regulatory developments. This definition contains two main elements. First, it establishes a distinction between the fragmentation of financial markets and the fragmentation of cross-border financial institutions, which are two different concepts. Indeed, as

will be argued in this article, the fact that the operations of a cross-border bank become somewhat less integrated would not necessarily endanger market integration. Similarly, the fact that a banking group is integrated and operates in different jurisdictions does not necessarily mean that these jurisdictions form an integrated market. For instance, a group may determine its liquidity policy at a central level and allow flows between entities operating in different regions that are not really integrated (e.g. Europe and Asia). Secondly, the definition identifies two different sources of fragmentation risk. It may result from changes in financial institutions' behaviour: for instance, banks that have incurred major losses following their expansion on foreign markets may retreat to their home market (see e.g. Hakkarainen, 2009). Alternatively, re-fragmentation may also arise from new developments in the regulatory environment.

The financial industry has in fact identified various sources of re-fragmentation linked to the regulatory framework (see IIF, 2009a), which can be broken down into three different categories. First, the financial industry argues that national authorities' *interventions to resolve the crisis* have planted the seeds of future re-fragmentation. Indeed, national authorities have, in some cases, accompanied their rescue measures with strict conditions or repeated demands forcing rescued institutions to lend to their domestic economy.[1] Similarly, host authorities may have taken measures to protect domestic entities during the crisis and ring-fence their assets. Second, according to the financial industry, the *re-regulation* trend following the crisis, if *uncoordinated*, could become a source of fragmentation risk. Differences in national regulatory frameworks may increase the legal and compliance costs associated with international activities, counter-balancing all the synergies arising from cross-border integration. Yet, although their intensity may vary over time, national discrepancies in regulatory frameworks have always existed and have not, in recent years, stopped the globalisation of financial markets. In addition, several coordination bodies have been set up in the past – including the G20, the Financial Stability Board, the Basel Committee, and, at the European level, the European Institutions – and each of them is currently examining, within the limits of its mandate, how to promote an increased convergence of regulatory frameworks. The third source of re-fragmentation identified by the financial industry relates to the so-called *stand-alone subsidiary model*. As will be explained in the article, the stand-alone subsidiary model refers to a set of measures, partly described in section 1, such as e.g. local liquidity requirements, or limits on intra-group exposures. The designation of the model may, however be misleading, as in many case, these measures do not aim at imposing the corner situation in which subsidiaries are truly stand-alone entities. Rather, their objective is to decrease risks taken locally and at the same time ensure that crises affecting local entities are manageable at a local level, i.e. where crisis management responsibilities lie.[2]

Given that the first category of sources of fragmentation (i.e. crisis resolution measures) is linked to the crisis and is consequently temporary by nature, and given that the second category (i.e. non-coordination of measures taken by national authorities) is not a new development, the rest of the article focuses on the stand-alone subsidiary model. These measures are also the most important ones as they may reflect a durable change in authorities' expectations and, as a consequence, might imply a paradigm shift in the way regulatory frameworks are devised. The objective of this article is to examine whether stand-alone measures could possibly threaten market integration.

The impact of these expected regulatory changes on integration in normal times is not necessarily obvious as many different dimensions interact. Here again, there is a need to distinguish between integration of financial markets and integration of financial institutions. The degree of integration of a banking group is not a binary variable; rather, it evolves along a continuum (see also section 1). Therefore, measures reducing group interdependence do not necessarily imply the "dis-integration" of a group. In fact, there may be just a small move along this continuum, with no impact on market integration. Actually, financial market integration will only be at risk if costs associated with these measures are excessively high and if, in addition, banks cannot reduce the cost associated with these measures by adapting their behaviour in a way that satisfies supervisors.[3] The idea behind the model is, however, that limited private costs in normal times should be compensated by a decrease in the public costs associated with crisis management. Supervisors therefore have to find the delicate balance between measures that decrease the risk for their local financial system and measures that would threaten future integration of banking markets.

(1) See e.g. the French rescue plan that was accompanied with clear wishes as to the financing of households, SMEs and large firms and local authorities (see e.g. Intervention du Président de la République, à l'issue du Conseil des Ministres, Paris, le 13 octobre 2008). Similarly, UK Prime Minister Gordon Brown said, when the second UK rescue plan was launched: "These are comprehensive measures focused on one purpose: increasing the amount of lending that is available to families and to the businesses who are the backbone of our country and who want to invest and create jobs". (See e.g. "U.K. unveils second bank rescue plan", CNNMoney.com – 19 January 2009).

(2) This would also imply, as a corollary, that some groups would no longer be too big to fail, as each legal entity belonging to a group could be dealt with at a local level. Admittedly, however, the failure of some of these entities may still raise financial stability concerns.

(3) For instance, an entity lending funds to its group may be constrained by limits on large intra-group exposures. Instead of transferring funds to another entity that uses them to finance loans, the entity could directly finance part of these loans. As a consequence, the entity's exposure would become more diversified. This would reassure the local supervisor and at the same time render the constraint less binding.

The article is organised as follows. Section 1 describes the stand-alone subsidiary model. Section 2 discusses the link between stand-alone measures and the legal form of incorporation. In fact, measures imposing stand-alone subsidiaries may imply a higher risk of fragmentation if cross-border institutions are no longer able to operate as a group. However, a branch structure may constitute an alternative model to preserve banks' integration. It is therefore crucial, in this context, to understand what drives the choice of a given legal structure. Section 3 tries to assess the impact that the generalised use of the stand-alone subsidiary model would have, both on financial stability and on banking sector efficiency. Section 4 raises the issue of the tension between market integration and the European framework for crisis management, which is still based largely on national powers. It is this tension that creates incentives for national authorities to adopt measured based on territoriality. Therefore, this tension may need to be resolved if the risk of fragmentation is considered real and significant. That is why the section discusses elements of the European framework that, if addressed, could help to reduce these incentives. Finally, section 5 concludes.

1. The stand-alone subsidiary model

Sub-section 1.1. clarifies what exactly is meant by the stand-alone subsidiary model, while sub-section 1.2. provides examples of rules that come under that model.

1.1 Description

The stand alone-subsidiary model, despite its designation, is not really a model. Actually, it refers to a set of rules – which do not necessarily need to be introduced simultaneously – that share the same objectives, i.e. to facilitate crisis resolution by local authorities and make sure that, despite the level of integration of a banking group, the survival of its local entities does not depend entirely on the strength of the group. These measures thus try to ease the tension between the cross-border model of banks on the one hand, and the national allocation of crisis management responsibilities on the other (or as Mervyn King said, the fact is that "banks are global in life but national in death").

In order to facilitate crisis management at a local level, so-called stand-alone measures seek to work along three main lines:

– First they try to reduce the *complexity* of large cross-border financial institutions. This complexity results from the fact that large banking groups often combine different activities with varying risk levels and different stakeholders. The interactions between these activities and their geographic dispersion make crisis management tremendously complicated. In addition, the complexity increases when resources and infrastructure are shared by several entities across borders. The set of rules laid down to reduce complexity may therefore comprise rules to ensure that the subsidiary has the operational capabilities, the expertise, the IT systems and the infrastructure necessary to function autonomously. (1)
– Second, the stand-alone measures try to *strengthen domestic entities* both in normal times and in a crisis. They may comprise limits on risks taken locally, to make sure that the subsidiary's capital and liquidity are sufficient to sustain its local operations. These measures are based on a bottom-up approach, which assumes that strengthening each legal entity helps to increase the resilience of a group as a whole. In addition, measures may include ways to protect the assets of the subsidiary in times of crisis (ring-fencing).
– Third, they attempt to *decrease the interdependence* between an entity and its group. This may imply limiting the exposure of an entity towards its group (i.e. flows to the group), but also limiting its dependence on the group (i.e. flows from the group).

Do these measures reduce the integration of banking groups? Actually, the level of operational integration of a group could be presented along a continuum. For instance, some groups already operate with quasi stand-alone subsidiaries while others are much more integrated. Several models exist along this continuum, which can be stylised as follows (2):

– a low level of integration where the group entities only share *best practices* in terms of governance and *banking technology*. The entities could be disconnected with, in most cases, limited difficulties.
– a moderate level of integration where the group's entities share *infrastructure,* such as IT infrastructure, or *resources,* such as legal or human resources departments. In this case, separating the entities requires the negotiation of service level agreements to ensure that the provision of the services is not discontinued, at least in a transitional phase.
– a medium level of integration where the *brand* is also shared. Separation is less easily arranged because it requires a rebranding of some of the entities.
– a high level of integration where in addition, *key functions* such as liquidity and risk management are centralised. In addition, internal markets, based on

(1) Note that this does not necessarily imply duplication of these functions, as other arrangements such as service level agreements can achieve the same objective.

(2) While the presentation along a continuum may seem to suggest that integration is linear, it is not so. Indeed, several elements of a bank's management could be integrated. The stylised models, each of them based on a single dimension, are thus presented for illustrative purposes only.

the assumption that assets are fungible, may help to re-allocate resources within the group to the different legal entities. In this model, disconnection is complex, as individual entities may not be able to operate on a stand-alone basis.

As explained below, even though they may imply a move along this continuum, depending on the nature of rules introduced, supervisory measures imposing a stand-alone subsidiary model do not aim to make it impossible to adopt one of these models.

1.2 Examples

There are various ways of facilitating crisis management. First, authorities may try to identify, in advance, issues that are likely to complicate crisis management. This is the objective of living wills (see also Box 1), in which large and complex banks are asked to determine how they could easily be dismantled in reaction to a crisis. Reducing the complexity of a banking group will often require changes in its organisational structure or the introduction of some firewalls.

Alternatively, supervisory authorities may also impose general limits on local risks and intra-group dependence. Such measures may include local liquidity rules, for instance. The Consultative Document released by the Basel Committee on Banking Supervision (BCBS, 2009) proposes to introduce two binding liquidity ratios, which would be applied on a consolidated basis, though the document does not exclude the possibility of their local application to a subset of legal entities. The industry, together with some policy makers (see e.g. Strauss Kahn, 2010), argues that local requirements do induce a risk of fragmentation because they create trapped pools of liquidity (i.e. liquidity pools that cannot be easily redeployed within the group). This would therefore hamper the central management of liquidity and would complicate intra-group cross-border flows. However, it should also be noted that once local requirements are met, liquidity can still flow freely within the group and that, consequently, these rules do not impede the reallocation of excess liquidity within a group.

Another example of a regulatory development whose objective would be to reduce internal dependence is linked to the limits that supervisory authorities may want to impose on intra-group exposures. The amended Capital Requirements Directive provides for revision of the large exposures regime, including large intra-group exposures, where national discretion remains possible. Too strict limits on these exposures may make the reallocation of funds within a group more difficult. Similarly, potential capital surcharges for systemic risk, if applied to local legal entities rather than on a consolidated basis, could also induce an increase in costs that may eventually reduce the benefits of cross-border operations (see e.g. IMF, 2010). Yet if these measures impose excessive constraints on a bank's cross-border operations, the bank can still change its legal form of incorporation from a subsidiary model to a branch model (even though there may be some constraints on the legal form – see also section 2). Yet, such a move by the financial industry would also imply a transfer of crisis management responsibilities, from host authorities to home authorities. In certain cases, this transfer may be detrimental for the host country, for instance, if the home country has not the capacity to support the activities of the branch in case of problems (see e.g. Icelandic case).

Box 1 – Reducing complexity through recovery and resolution plans (living wills)

Several international bodies, including the Basel Committee on Banking Supervision (2010) and the Financial Stability Forum (2009), have recommended improving crisis preparation through the design of ex-ante plans. Similarly, in its communication on *an EU Framework for Cross-Border Crisis Management in the Banking Sector*, the European Commission seems to assume that firm-specific contingency and resolution plans constitute one of the elements that can contribute to improvements in the framework for early intervention.

As explained by the FSA (2009), recovery and resolution plans are plans produced by financial institutions. They comprise two different elements:

– *A recovery plan* is a contingency plan drafted by the bank which explains what it intends to do in order to respond to and recover from severe stress. The main assumption of the plan is that authorities do not intervene. The plan needs to credibly explain how the bank, in a severe stress situation, can restore its liquidity and capital position. This may imply restructuring the assets and liabilities of the firm in a drastic way and revising its strategy, including through disposals, an increase in capital, the exit from certain activities, the offloading of risks, etc.
– A *resolution plan*: The resolution plan assumes, on the other hand, that authorities have to intervene to ensure an orderly resolution. The resolution plan, since it is drafted by the bank, does not explain how authorities should resolve the crisis situation but rather how the firm can contribute to the orderly resolution. The bank needs to identify the obstacles to an orderly resolution. For instance, it needs to explain how it intends to unplug itself from key systems and major infrastructures. Practical details, such as provision of information to authorities, also need to be addressed in the resolution plan.

As explained by Huertas (2010), recovery plans contribute towards decreasing the probability of failure of a given institution, while resolution plans help to reduce the cost to society should such failure occur. However, it is important to note that these plans do not specify a path for crisis resolution, as the choice of the recovery or resolution tool depends on the circumstances of the particular crisis.

2. The branch model as an integrated alternative for banks

Sub-section 2.1 describes the different legal forms that banks could use. Sub-section 2.2. discusses the link between crisis management and the choice of a particular legal structure. It then discusses some additional conditions that need to be fulfilled for fragmentation to develop.

2.1 Differences between branches and subsidiaries

The corporate structure determines the extent to which operations are legally considered as forming a single entity or separate legal entities. In the EU, two models are widely used by banks to give a legal form to their foreign activities, namely the subsidiary and the branch.[1] The subsidiary is a separate legal entity with a legal personality. It is supervised by the member state in which it is incorporated and needs to comply with the regulatory framework of that country. The subsidiary is, therefore, subject to potentially specific prudential requirements of that country, including rules on capital and liquidity requirements, if any. In addition, the authorisation of the licensing or supervisory authority of the host country is necessary before a subsidiary can be set up.

The branch, on the other hand, is not legally distinct from its parent company with which it forms a single entity. For instance, the branch has no separate balance sheet, and the capital held to meet requirements arising from assets booked by the branch may be located in the home country. As a consequence, the home country principle applies and the branch is therefore supervised, with the exception of liquidity, by the authorities in the home member state. Branching within the European Union is facilitated by the fact that host authorities, which are notified prior to the opening of a branch, do not have the right to refuse the establishment of the branch if it has been authorised by the home authority.[2]

A distinction needs to be made between the legal structure and the integration of operations (see section 1.1). Indeed, the legal organisation does not necessarily match the structure of the business. For instance, even though a subsidiary is legally distinct from its parent company, its operations may very well be closely integrated into those of the group. When the operations of a subsidiary are highly integrated in those of the group, for instance because key functions are managed centrally, the subsidiary, despite being a legally distinct entity, may no longer be viable on a stand-alone basis. This structure is called a *quasi branch*. The problem of quasi branches is that they are supervised by the host authority, who also manages their crises, even though key functions are centralised in the home country, i.e. outside the jurisdiction of the host authority.

(1) Please note that if EU credit institutions duly notify the host authority, their single passport also enables them to provide banking services directly in another country, without having a permanent presence in that country.
(2) For completeness, it should be noted that another legal form of incorporation, very similar to a branch structure, was introduced in 2004, but with no application in the banking sector so far, namely the European Company Statute (Societas Europeae).

2.2 The relationship between crisis management, the legal structure and risk of re-fragmentation

Some banks tend to say that the choice of the legal structure, be it a branch, a quasi branch or a stand-alone subsidiary, is neutral from a financial stability point of view. They argue that it will be very difficult for a group to let a subsidiary fail without having to face disastrous knock-on effects on the rest of the group. Indeed, to preserve its reputation, the bank is obliged to stand behind its affiliates, whatever their legal form. [1] Similarly, market participants argue that the legal form is not relevant for them because, when a group is in difficulty, access to the market is shut for the group as a whole, including all its subsidiaries and branches. The fact that creditors, in a crisis, do not care about the legal substance of the entity of the bank they face implies that they do not believe in the effectiveness of existing firewalls.

To conclude that the legal structure is not relevant for financial stability is, however, incorrect. Indeed, in a crisis situation, the legal form, as well as the structure of operations, remains important for several reasons. First, the legal structure determines the powers of the home and host authorities both in normal times and in a crisis. For instance, a credit institution and its branches are wound up as a single entity, and the procedure is initiated by the home country. A subsidiary, on the other hand, is wound up by the host authority. The argument that, because of the risk to reputation, the probability of default of the different entities within a group does not depend on the legal form of incorporation may be true. However, in case of failure, the loss-given-default of each of these entities will be eventually determined by the legal structure of the group. In addition, the legal structure also plays a role for insured creditors, as the deposit insurance scheme (and the associated conditions of indemnification – including legal time limits for the reimbursement of insured deposits) may be different if the bank is incorporated as a subsidiary or as a branch. Finally, the subsidiary has its own supervisory board and board of directors. These bodies have to defend the interest of the subsidiary and have to oppose any transfer that would be detrimental to the subsidiary. All these points demonstrate that the decision whether to establish a subsidiary or a branch is not neutral.

Even though this choice is not neutral, authorities cannot force a bank to choose a particular structure. Indeed, the freedom of establishment of a bank headquartered in one of the European member states, entitling it to set up an establishment in another member state, is guaranteed by Article 49 of the Treaty and by Article 23 of the Capital Requirements Directive. As a consequence, any restriction whereby a host authority would limit the choice of the legal structure of foreign establishment would be considered illegal. However, in order to improve the alignment of supervisory responsibilities with crisis management responsibilities, and to provide better protection for domestic depositors, some national authorities may nevertheless contemplate introducing measures that would reduce the dependence of subsidiaries upon their parent company. In other words, some national authorities may evaluate whether a stricter implementation of the stand-alone subsidiary model and the subsequent weakening of the quasi-branch model would be possible in normal times and beneficial in times of crisis.

This option, however, can only be considered as a default option that authorities may nevertheless be forced to choose if a more integrated regulatory, supervisory and crisis management framework cannot be achieved at the European level (see also section 4). Determining the extent to which the generalised use of the stand-alone model could lead to market re-fragmentation is not trivial. Since credit institutions can still, in theory, continue to expand by establishing branches abroad, i.e. remain integrated, it is not clear why cross-border re-fragmentation would necessarily occur. It seems that at least one of two alternative conditions needs to be fulfilled for the generalised use of the stand-alone subsidiary model to lead to a large-scale re-fragmentation of banking markets. First, given that the branch model is an integrated alternative to the stand-alone subsidiary model, there should be some restrictions preventing banks from converting their subsidiaries into branches. That is not legally possible, but as explained in Box 2, this choice may be constrained by other factors. Alternatively, banking market re-fragmentation could also occur if authorities tried to alter the nature of the branch model, imposing some restrictions on branches, in addition to those applicable to stand-alone subsidiaries, so as to make them viable on a stand-alone basis.

(1) However, there is one exception, namely when a crisis is clearly country-related and does not result from mismanagement by the bank. Tschoegl (2005) discusses the cases of Crédit Agricole, Scotiabank and MBK Mercobank during the Argentinean crisis. In each of these three cases, the foreign parent company refused to recapitalise its failed subsidiary located in Argentina, and requested the intervention of the Argentinean government. Note that Scotiabank, nevertheless, did reimburse 20 p.c. of the value of the marketable security issued by its subsidiary, probably in an attempt to salvage its reputation.

Box 2 – Factors driving the choice of the legal structure

In Europe, the Treaty guarantees banking groups the freedom to choose their legal form of incorporation. However, as noticed by Dermine (2006) and the ECB (2010), the subsidiary model seems to dominate cross-border expansion. The choice of the legal form of incorporation is influenced by a broad range of considerations. Actually, given the diversity of these factors, it may be best for a banking group to opt for a branch in some circumstances and a subsidiary in others. Most groups therefore usually comprise both branches and subsidiaries. The factors influencing the choice of a legal structure include:

– *Historical factors*: History plays a major role in the choice of legal structure. There is some inertia in the legal structure, as converting a branch into a subsidiary and vice-versa may become difficult once a given size or complexity is reached. Therefore, it may be easier and cheaper for banks that have expanded across borders through mergers and acquisitions to keep a subsidiary structure.

– *Tax optimisation*: Tax optimisation seems to be a major factor influencing the choice of the legal structure (see e.g. Cerutti et al., 2007). The tax regime applied to subsidiaries differs from the one applied to branches. Some common principles generally apply to the differences in tax treatment of both branches and subsidiaries across Europe, even though some may be country-specific. One of these principles is that, in most cases, losses made by a branch can be offset immediately against the parent company's profits (whereas subsidiaries' losses usually cannot). Generally branches are not subject to dividend withholding taxes, as they do not pay any dividend. Since they form separate legal entities, subsidiaries can keep their profits in the host country, and they are therefore not automatically taxed in the home country. They are taxed in the host country, keeping in mind that, if a subsidiary wants to repatriate profits, it can benefit from the advantages offered under the potential double taxation relief treaties concluded between the host and the home countries.

  Another example of differences in branches and subsidiaries' taxation concerns internal transfer pricing. Since a branch and its parent company are considered as a single entity, there is no need, for tax purposes, to establish internal transfer pricing for transfers of assets (such as liquidity reallocation) or for the provision of shared services. As a consequence, payments made by the branch to its foreign parent company are not usually tax deductible. The price of internal transfers between different subsidiaries, on the other hand, will affect the allocation of profits within the different legal entities of the group and, eventually, the final amount of taxes paid in each of the different locations in which the group is present.

– *Business model*: The business model, and the overall strategy of the group, may require opting for a certain legal structure. For instance, fully decentralised banks usually prefer to operate with subsidiaries, rather than with branches. On the other hand, a branch model may be the preferred choice when the group is run in an integrated way.

– *Limited liability, ring-fencing and internal firewalls*: Banks may prefer to lodge some of their activities (such as asset management) in legally independent entities that are shielded from group problems. The legal structure acts as an internal firewall so as to ensure that some specific activities are not liable for the other activities of the group, as they would be under a branch structure.

– *Preference of the host country authorities*: The host authority may in some cases prefer a given form of legal incorporation. For instance, the host authority may prefer to see a large retail bank incorporated as a subsidiary, in which the local legal entity is subject to minimum capital and liquidity buffer requirements. In such cases, even if the host authority has neither the formal power to impose a certain legal structure, nor the legal authority to do so, it may indicate its preference to the bank, which may then decide to follow the opinion of the supervisor.

– *Features and costs of deposit guarantee schemes*: The deposit guarantee scheme that will have to intervene in case of failure, and to which the bank will have to contribute if funded ex ante, is determined by the form of incorporation. The home country is normally responsible for deposit insurance coverage of branches. A foreign branch may, nevertheless, purchase top-up deposit insurance coverage when the coverage offered in the host country exceeds that in the home country. As far as subsidiaries are concerned, it is the host country that is responsible for deposit insurance coverage. Moving from a subsidiary model to a branch model would imply a change of deposit insurance scheme. This may have an impact on the bank if the terms and conditions of home and host deposit guarantee schemes differ, or if the initial scheme to which the bank contributed was financed ex ante. Indeed, in the latter case the bank may lose the capital already accumulated in the scheme. In addition, as argued by Calzolari and Loranth (2010), the choice of legal form – given that it influences the loss distribution between the different deposit guarantee schemes – may also indirectly influence the incentives of supervisory authorities to control the firm, as well as their potential resolution strategy. These differences are taken into account by banks when they have to choose their preferred form of cross-border expansion.

– *Risk understanding*: A branch model (compared to a stand-alone subsidiary model), may allow a better understanding of the risks taken at the group level, by the group board and management. On the other hand operating with stand-alone subsidiaries may make it easier to manage 'soft' information locally.

– *Option to sell the legal entity*: A subsidiary may be easier to sell than a branch as it is more easily removed from the group. Therefore, if a bank wants to keep open the option of selling some of its activities, it may prefer to adopt a subsidiary model.

3. Would coming closer to the stand-alone subsidiary model be safer and more efficient than keeping a quasi branch model ?

The objective of this section is first to assess the extent to which coming closer to the stand-alone subsidiary model would be beneficial from a financial stability point of view (sub-section 3.1) and, second, to evaluate the impact of such modifications on the efficiency of the banking industry (sub-section 3.2).

3.1 Impact on systemic risk

The adoption of measures implementing the stand-alone subsidiary model would have an impact on systemic risk on both a local and a global scale. In this section, we evaluate the impact of the stand-alone subsidiary model on banks that would previously have been organised with quasi branches. We assume that they keep their legal structure unchanged and do not opt for a pure branch model.

Authorities that choose to implement the stand-alone subsidiary model do so to decrease risks at the local level. However, the global systemic risk is not the sum of local risks, so that it is not obvious that the stand-alone subsidiary model would also lead to a decrease in global systemic risk. Actually, the examination of the impact of these rules on systemic risk – in terms of prudential control, crisis resolution, contagion and risk management (and in particular liquidity risk management) – may lead to a mixed assessment, with undisputed positive consequences at national level, but also some potentially negative unintended side-effects.

For example, in terms of *supervision*, national authorities may be better able to supervise stand-alone entities established in their jurisdiction. Indeed, since these entities do not depend on their parent company, local supervisors do not need to rely on the supervision of the parent company by the home supervisor. On the other hand, the home supervisor may find it more complicated to supervise large, complex financial institutions in fragmented markets, and may encounter significant difficulties in forming an integrated view of the risk taken by the entire group. For instance, it may be especially difficult to evaluate and recognise cross-border diversification gains in a group composed of stand-alone subsidiaries.

The *resolution* of a crisis affecting a group composed of a constellation of stand-alone subsidiaries may, to a certain extent, be easier. First, it clarifies the respective

responsibilities of home and host authorities, since co-operation between national authorities is not necessarily required to solve the crisis. Each national authority is therefore strictly responsible for the entities located in its jurisdiction. Authorities are able to fall back on legal entities that are, or at least may be, viable on a stand-alone or national basis. In addition, it permits better tailoring of the approach to crisis resolution, even in a non-cooperative framework, as it does not require rescuing the whole of a large cross-border banking group if that is not necessary. Indeed, in such a model, it is probably much easier to make a distinction between systemic entities that need to be rescued and the rest of the group.

National entities may also benefit from being self-sufficient if that limits the potential for *intra-group contagion* due to reputation risk. One condition that needs to be fulfilled to reduce the potential for *intra-group contagion* is that the market must be perfectly informed about the group structure and convinced that the various firewalls put in place to protect the subsidiary will be effective. If wholesale lenders have the slightest doubt about these firewalls, they may no longer be effective and, as a consequence, reputation risk would continue to be a major source of contagion. (1)

Even though the model may potentially have a positive effect on local entities in terms of decreased intra-group contagion, it may also, to some extent, affect their capacity to *manage risk* as a group. First, depending on the nature of the stand-alone measures taken, the parent bank may experience more difficulties in implementing a risk management system at the group level, as a consequence of the fragmentation of risk management systems within the group. Second, the stand-alone model might have an impact not only on risk measurement, but also on the capacity to address certain types of risk at the group level, and in particular the liquidity risk.

Indeed, some banks use internal markets for liquidity, in which liquidity management is centralised, as insurance against liquidity shocks. (2) Liquidity shocks arise from the fact that banks need to pay out cash to customers on demand. Where actual liquidity needs deviate from banks' expectations, that implies that some entities within a group may, ex-post, hold excess liquidity or need to obtain liquidity. Internal markets for liquidity and capital are then used within a group for risk sharing purposes, i.e. to manage local entities' idiosyncratic liquidity shocks (see also Box 2 for evidence on Belgium). (3)

The stand-alone subsidiary model may impose some constraints on internal markets for liquidity. If these constraints are too severe, they may hinder a group's ability to marshal resources within the group. However, even though internal markets for liquidity might be constrained by new regulatory developments it should be noted that liquidity can still be redistributed externally, through interbank markets. Yet while internal capital markets have, essentially, a cross-border dimension, this may be less the case for interbank markets. Indeed, a large proportion of interbank transactions in the EU (approximately 70 p.c. – according to the ECB, 2009) are currently effected nationally (i.e. between 2 banks coming from the same country). In mid-June 2008, cross-border interbank deposits represented slightly more than 30 p.c. of interbank deposits, and the percentage of interbank cross-border loans was broadly similar. (4) Consequently, since the cross-border dimension is much more present in internal markets, it could be that interbank markets, in their present form, may be unable to perform perfectly the role currently played by internal markets in insuring against regional liquidity shocks.

Besides, an externalisation of internal capital markets may have some additional consequences. These consequences will differ according to whether an entity is a net lender or a net borrower in the group. If they want to preserve their franchise, net borrowers will have to attract funds on external markets to replace funds previously obtained from the group. However, compared to internal markets, which are centrally managed, external markets may suffer from asymmetric information. The informational advantage which a group enjoys, enabling it to reallocate liquidity in the best possible way, is lost when transactions are executed with an external counterpart. Given this asymmetry of information, there is a risk that, as we saw during the crisis, if counterparts become excessively risk averse, the interbank market freezes and no longer plays its role in liquidity reallocation. Internal markets, because they are not subject to this information gap, would most likely continue to function in identical circumstances.

In addition, a net borrowing entity may face a higher cost of funding on external markets, not only because of information asymmetry, but for at least two additional reasons.

(1) Note that creditors convinced of the efficiency of internal firewalls may nevertheless also decide to run if they fear that other creditors are likely to run because they have reservations about these firewalls.

(2) Liquidity centralisation is, however, not a "universal model", as some large cross-border banks already prefer to operate with a decentralised structure. The extent to which centralisation is the preferred option depends on a range of factors including currency convertibility, the bank's business model, history, size, funding model, cost to transfer funds, available infrastructure, etc. (see also BCBS, 2006)

(3) In addition, thanks to their cross-border dimension, internal markets may also help banks to cope with regional crises. de Haas and van Lelyveld (2010) find evidence of the existence of cross-border internal capital markets. They argue that local subsidiaries, because they profit from parental support, do expand faster and, compared to domestic banks, do not restrain their credit supply when facing a local financial crisis.

(4) Previous studies (see e.g. Manna 2004) have shown that this percentage varies significantly across countries. Interbank markets are still largely national in large countries and more open in smaller countries.

First, if subsidiaries have to become truly self-sufficient and independent from their parent company, group support (and also state support when the group is considered to be too big to fail) may be less likely. As a consequence, their support rating may decrease, with an immediate impact on the cost of funds.[1] Second, in the past, internal markets may have failed to correctly price liquidity. Cross-subsidisation between activities may have helped to develop parts of financial groups that would not have been sustainable otherwise, but this may also have led to excessive liquidity risk taking. So, on the one hand, a higher cost of funding may affect the capacity of some entities to generate profits, and may threaten their business model. However, on the other hand, given the more realistic pricing structure of external markets, the externalisation of funding may also lead to more effective discipline.

The effect on entities that were previously net lenders on internal markets may be different. In this case, the intra-group exposure is replaced by an external risk. The presumably lower concentration of counterparty risk – in an internal model, risks are very much concentrated on other group entities – should be beneficial, but may also creates new channels for contagion or additional exposures.

Stand-alone measures, if not correctly devised, may, therefore lead to a paradoxical result in which each national entity is individually more robust but, at the same time, group risk diversification becomes less effective since the group as a whole no longer acts as a source of strength.

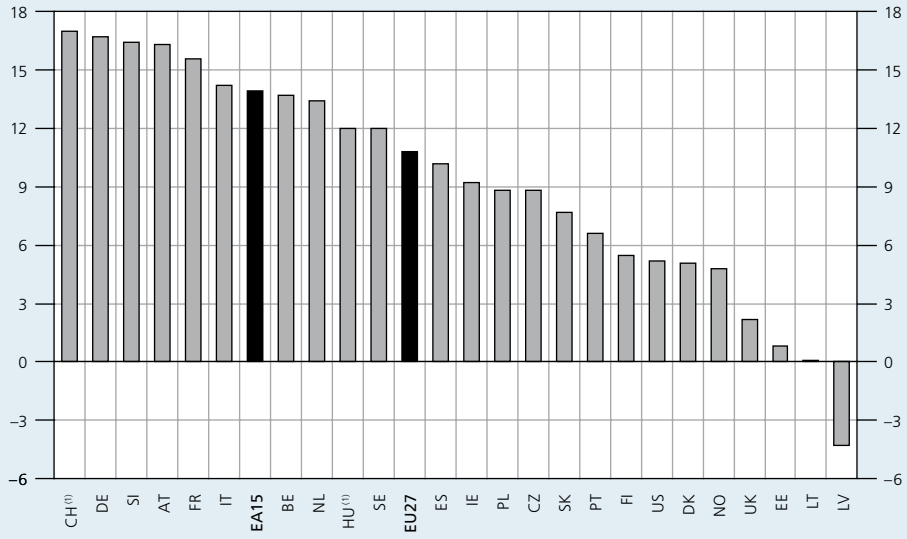
(1) This will also allow to determine the extent to which these measure are credible for markets.

Box 3 – Do Belgian banks operate internal markets? Evidence from intra-group flows

The gross households saving rate in Belgium, as in some other countries, is relatively high (see e.g. Chart 1). In a bank intermediated system, these savings often constitute a significant source of liquidity for banks. Belgian banks, which benefit from substantial sources of retail funding, recycle them either to finance activities in Belgium, or to fund assets originated in Belgium or in foreign countries, or – as Belgium is a small open economy – to support

CHART 1 GROSS HOUSEHOLD SAVING RATE IN 2007

(gross saving divided by gross disposable income – Source: Eurostat (2009))



(1) 2006 Data

foreign activities. As a consequence, the international recycling of these funds often takes the form of cross-border interbank exposures when funds are lent to another bank in a foreign country, or of intra-group cross-border exposures when they benefit an affiliated company within the group.

Two different models coexist in Belgium to recycle savings within a group across borders:
- Liquidity can be recycled via *a parent company* incorporated in Belgium: Belgium is the home country of some large groups that have expanded across borders. The generally cash rich headquarters may recycle part of the excess savings raised in Belgium to finance their foreign subsidiaries.
- Liquidity can be recycled via *Belgian subsidiaries* of foreign banks: some foreign groups benefit from excess savings that were originally raised by their Belgian subsidiaries. The transfers of these excess funds, from the subsidiary to the parent company, may create significant intra-group exposures.

Table 1 summarises data relating to the 7 largest Belgian banks (it includes both Belgian groups and Belgian subsidiaries of foreign groups). These statistics are calculated with figures reported on a territorial basis.[1] They confirm that customer deposits constitute an important source of funding for Belgian banks, as retail deposits represent on average a little bit less than two-thirds of their liabilities. Interbank loans and interbank deposits are fairly similar in terms of their (weighted) average level. Yet, interbank loans in large banks located in Belgium are mostly granted to foreign counterparts, while interbank deposits are more domestic in nature (not shown in the table). In addition, their composition may be different. Indeed, on a territorial basis, we observe that intra-group loans constitute a large part of the total interbank loans (more than half of interbank loans are granted to affiliated companies). On the other hand, deposits from related institutions represent less than one quarter of their interbank deposits. This seems to confirm that Belgian banks contribute towards financing their foreign affiliates.

DESCRIPTIVE STATISTICS ON 7 LARGE BELGIAN BANKS

(December 2009, territorial basis; percentages)

	Min.	Max.	Average	Weighted average
Cross-border intra-group loans as a p.c. of total interbank loans	1.1	97.4	46.2	50.2
Interbank loans as a p.c. of total assets	12.3	97.7	36.8	28.1
Cross-border intra-group deposits as a p.c. of total interbank deposits	5.5	63.4	23.6	23.7
Interbank deposits as a p.c. of total liabilities	6.3	39.1	22.3	28.6
Customer deposits as a p.c. of total liabilities	46.9	90.3	63.3	51.6

Source: NBB.

(1) Foreign subsidiaries of Belgian banks are thus not consolidated in these figures. The figures are reported by the Belgian entity and concern entities located in Belgium.

3.2 Impact on efficiency

The generalised use of the stand-alone subsidiary model could potentially have an impact on the efficiency of the banking industry, and compromise the extent to which cross-border banks could reap efficiency gains resulting from economies of scale[1] and scope (see, *a contrario*, an example of the impact of a de-fragmentation of markets on banks' efficiency in Box 3). Indeed, there is the risk that a strict and comprehensive application of the stand-alone subsidiary model throughout Europe may lead to the

(1) Please note that most empirical studies nevertheless fail to find significant evidence of scale economies in banks. This may be due to the absence of economies of scale or to measurement errors.

development of small entities, focused essentially on their domestic market, that would no longer be able to compete with larger banks, e.g. because they do not reach the necessary size to be competitive on global markets.[1]

For instance, in fragmented markets, banks operating internal liquidity markets and centralising liquidity management may see a decline in the efficiency gains arising from liquidity centralisation. The stand-alone model would entail decentralising treasury management and establishing local desks. That may increase the costs of local operations, as it would imply global increases in staff hired to manage liquidity and the establishment of funding programmes covering all major markets and instruments at a local level. This would also necessitate establishing new local credit lines with financial counterparts and investors, to replace the single credit line with the parent company prevailing in a centralised model. In addition, the capacity to reach a benchmark size in different markets could be severely impaired. However, the adoption of a decentralised model is not, *per se*, inefficient, as several banks do currently operate with a decentralised structure. This form of organisation may, however, prove to be more disadvantageous for certain types of banks.

Secondly, fragmented markets may also result in the constitution of excess capital. Banks target a certain level of economic capital that, given their risk appetite, will be necessary to cover the risks they take. This level of economic capital may exceed the level of their regulatory capital requirements, in which case, the latter are said to be non-binding.[2] The stand-alone subsidiary model, depending on the extent to which it recognises cross-border diversification effects, may lead to higher individual capital requirements, and the sum of these individual capital requirements may exceed the desired level of economic capital. In addition, the private sector has argued that specific national or regional regulatory requirements may result in excess capital and limit the efficient hedging of risks.

Finally, the development of financial infrastructures may also crucially depend on cross-border scale economies. However, fragmented markets limit the extent to which these economies of scale can be exploited across borders, implying potentially higher costs for the development of cross-border infrastructures.

(1) An additional problem may be that, all other things being equal, a locally active stand-alone bank focusing on a large domestic market will be larger than a stand-alone bank centred on a small economy. This might introduce a distortion in the level playing field, especially between banks active in large and small economies. Indeed, imagine that a large bank finances two foreign subsidiaries, one located in a large country and another in a small economy, each enjoying a market share of 10 p.c. of their local market. If these two entities have to become viable on a stand-alone basis, they will have to replace funding from the parent by external funding. The entity located in the small economy may find it harder to compete with larger banks on wholesale markets because it does not reach the benchmark size necessary to raise funds on a wholesale market. The subsidiary located in the large country, because it is larger, may not suffer from the same problem.

(2) Note, however, that although the imposition of regulatory capital requirements sets a minimum level of capital for all banks, observation of a capital buffer does not necessarily imply that these regulatory requirements are not binding. Even in the presence of binding capital requirements, banks may hold capital buffers for several reasons (see e.g. Milne and Whalley, 2001 or Peura and Keppo, 2006).

Box 4 – Case study: the impact of deregulation of interstate branching restriction in the U.S. banking system

Interstate banking and branching restrictions in the U.S. constitute a good example of legal restrictions that impose a cross-border fragmentation of banking markets. These restrictions, that have their origins in the National Bank Act of 1864 and the McFadden Act of 1927,[1] as well as in individual state laws, were initially conceived in an environment in which long distance communications were difficult. As a consequence, potential synergies arising from interstate banking were, at that time, rather limited, while the supervision of banks operating across several states would have been more difficult. These restrictions were also justified by a desire to avoid the failure of a large bank made up of a significant number of branches (see e.g. Sprague 1903).

Interstate branching restrictions were, however, only lifted in 1994,[2] through the enactment of the Riegle-Neal Interstate Banking and Branching Efficiency Act. The cross-border de-fragmentation of the U.S. banking system had an impact not only on the financial industry, but also on the real economy, in various ways.

(1) See e.g. Kane (1996) for an overview of interstate branching restrictions in the U.S over time.

(2) Note that some restrictions had already been removed before many states adopted the Riegle-Neal Act which relaxed branching restrictions between 1988 and 1993. These reforms at state level, however, were not entirely successful in promoting interstate expansion, as it appeared that only a few banks used them to enter new states, and those that did so, expanded locally, entering geographically close markets rather than distant ones (see e.g. McLaughlin, 1995).

a) impact on the banking landscape

First, as Johnson and Rice (2007) notice, banks took full advantage of this wave of deregulation. In 1994, the U.S. had 62 out-of-state branches, while in 2004 there were more than 24,000. This number was achieved by the consolidation of subsidiaries into branches and by the creation of more than 6,000 new out-of-state branches (i.e. approximately 40 p.c. of the total branches created in the same period). This also contributed to the development of "mega banks". DePrince (2005) estimated that the assets of these mega banks grew, on average, from $ 111 billion in 1993 to $ 294 billion in 2003. Admittedly, the growth of these mega banks has been driven by a large number of factors and is, of course, not entirely attributable to the deregulation of interstate branching, especially as a similar movement was also observable in other parts of the world, but the maintenance of these restrictions after 1994 would have constrained the growth of these banks and would probably have hampered this trend. In that sense this Act may have been a necessary condition to support the growth of these banks.

In parallel with the development of mega banks, the market share of small banks decreased. This resulted in an increase in concentration at the national level. According to DePrince (2005), the top five banks accounted for 20 p.c. of total assets in 1993 against 35 p.c. in 2003. Interestingly enough, Strahan (2002), does not notice any increase in local market concentration. He explains this by the fact that interstate branching restrictions did not affect the number of banks operating on intrastate local markets. Therefore, once restrictions were removed, banks expanded through mergers and acquisitions, creating larger banks at the national level, but without any impact on the number of banks operating locally.

b) impact on efficiency and profitability

The total wealth effect associated with the passage of the Riegle-Niel Act was estimated by Brook et al. (1998) at around $ 85 billion. In order to arrive at this assessment, they use a sample of publicly traded banks for which they measure stock returns during the passage of the legislation. They find large abnormal positive gains that were partly attributable to take-over discipline, as these positive stock returns were bigger for poorly performing banks or banks with low insider ownership. These stock movements were also probably driven by expectations with regards to increases in profitability and efficiency. According to Jayaratne and Strahan (1998), the banking industry became significantly more efficient after the removal of interstate branching restrictions.[1] This increased efficiency may result from decreases in overhead costs, increased ability to diversify risks geographically, or from the fact that banks were able to operate on a larger scale. This increased efficiency, may also have resulted from a reshuffling of assets towards more competitive banks, which were suddenly granted the opportunity to acquire market shares in less efficient states. Indeed, Strahan (2002) finds a positive correlation between profit rate and asset growth after restrictions were lifted, but this correlation was non-existent when interstate branching was still prohibited.

The impact on profitability is, however, not homogeneous. Nippani and Washer (2005) find that small banks and large banks saw their returns on assets start to diverge after 1994. While before 1994, small and large banks showed similar rates of return on their assets, with small banks sometimes outperforming large banks, this was no longer the case after 1994, a period in which the rate of return on assets of small banks became significantly lower than the rate achieved by large banks.

c) real impact

Finally, these changes may also have had a real impact. Strahan (2002) finds acceleration in economic growth of individual states (by about 0.56 percentage points), following the branching deregulation. He explains this partly by the fact that access to financing was made easier for new businesses. In addition, the stability of

(1) Not all efficiency gains realised after 1994 can be attributed to the Riegle-Niel Act. According to Nippani and Green (2002), even though banks' profitability and efficiency increased after the Act was passed, most of these changes can be explained by other macro-economic factors. Zou et al. (2007), on the other hand, recognise the impact of macro-economic factors, but still find that the deregulation process also played a significant role in improved performance.

macro-economic indicators improved as local economies were found to become less sensitive to the performance of their banking system. The fact that banks were able to smooth capital shocks over several entities located in different states after the reform, thanks to internal cross-border capital markets, seems to have been a significant factor contributing to macro-economic stability.

However, these studies reflect a pre-crisis positive view on the benefits of restriction lifting, and are currently being questioned and criticised as they may excessively disregard the public benefits of restrictions. For instance, Haldane (2010) argues that the efficiency gains may have been realised at the expense of increased systemic risks and the resurgence of the too-big-to-fail problem.

4. Tension between integration of financial markets and national crisis management responsibilities : how to reduce authorities' incentives to adopt stand-alone subsidiary measures ?

National authorities' incentives to adopt a stand-alone subsidiary regime result from a tension between, on the one hand, the cross-border nature of large financial institutions and the integration of financial markets and, on the other hand, the regulatory and supervisory framework, together with crisis management responsibilities which are still mainly national. This tension may be sustainable in a transitional phase, but is probably insupportable in the long run. A political choice may need to be made to reconcile the geographical scope of the financial industry with the geographical scope of the prudential control framework.

In the absence of supranational coordination, national authorities can only resolve this tension by imposing safeguards on the cross-border expansion of financial groups, e.g. through measures to ensure that subsidiaries established in their jurisdiction are viable on a stand-alone basis. This would be a second-best solution. Depending on the nature of the measures taken, the costs could remain limited or avoided, in a dynamic approach, through limited changes in banks' behaviour. However, if measures are more radical, they could become more expensive for the financial sector and potentially lead to a re-fragmentation of financial markets.

Alternatively, if authorities want to avoid the threat of a re-fragmentation of European financial markets, they may have to consider the adoption of a more European approach, which may appear to be very demanding and difficult. Fonteyne et al. (2010) present a comprehensive framework for more European integration, comprising the development of a European Resolution Authority, a pre-funded European Deposit Insurance and Resolution Fund, and a specific bankruptcy regime for cross-border banks (28th regime). This framework is consistent but probably more realistic only in the long term, and this comprehensive approach may not need to be fully implemented to avoid the risk of re-fragmentation. In the short term, to avoid the risk of re-fragmentation, authorities in Europe should concentrate on four very challenging dimensions.

The first one relates to the consistent application of the regulatory framework, in order to avoid regulatory cross-border arbitrage. This not only helps to minimise distortions in the level playing field, but is also a prerequisite for further development of market integration. The development of a single rule book, with clear limits on national options, would constitute an essential tool contributing to the harmonisation of the regulatory framework. European authorities have already agreed on the need to develop such a rule book, and this task will be entrusted to the newly established European Supervisory Authorities.

Second, the supervisory framework may need to be adapted to take account of the cross-border nature of financial institutions. Prudential supervision is still mainly national. Efforts have been undertaken to give a more European reach to prudential supervision, with the forthcoming creation of the European Systemic Risk Board (ESRB) and the European Supervisory Authorities (ESA). The ESRB will be responsible for the macro-prudential oversight of the European financial system. It will have to detect sources of systemic risk and contribute to their prevention. Besides the ESRB, three new ESAs will be created, namely a European Banking Authority, a European Securities and Markets Authority and a European Insurance and Occupational Pensions Authority. The objective of these three authorities will be to enhance

the quality and the consistency of national supervisory practices, to ensure that cross-border financial groups are adequately supervised, and to develop a European single rule book. A co-operative solution of that kind will probably be sufficient at this stage if other features of the framework, including crisis management, are correctly addressed.

Third, as long as crisis management remains a domestic responsibility, authorities will have incentives to ring-fence assets in order to protect domestic depositors and domestic taxpayers. Authorities' expectations regarding crisis management will, of course, influence how they behave in normal times, what they will tolerate and what they will not. Solving potential conflicts of interests between national authorities in times of crisis does not necessarily require setting up a European agency in charge of crisis management (resolution authority) and creating a European taxpayer (resolution fund), even if this may be desirable for other reasons. However, if they are not created, they need at least to be replaced by intermediate solutions, involving e.g. credible, fair, and binding burden sharing that would contribute to the alignment of interests. These intermediate solutions may also be very difficult to find.

Finally, gaps in the European Union's insolvency law may need to be addressed. For instance, the group concept is not recognised in insolvency law. When a group is bankrupted, each of its subsidiaries is subject to a separate insolvency proceeding. The group cannot be restructured as a group since transfers of assets, collateral, liquidity or capital between multiple group entities cannot be enforced. Recognising the group dimension is, however, extremely challenging from the legal angle, but may be necessary to avoid falling back on national legal entities in a crisis.

The European authorities have started to work on all these different dimensions. For instance, the European Commission communication (see European Commission, 2009), raises these various issues. Addressing them would make a significant contribution towards reinforcing the crisis management framework in a way that could reduce the incentives for authorities to resort to stand-alone subsidiary measures.

Concluding remarks

Because they have to bear the cost associated with the management and resolution of a banking crisis, national authorities in Europe naturally have incentives to ring-fence the assets of banks established in their own country. Some years ago, this behaviour was expected to materialise only in a crisis situation (see e.g. Nguyen and Praet, 2006). Since the crisis, authorities have realised that they may also need to protect domestic interests in normal times, e.g. through stand-alone measures.

National authorities' incentives to adopt a stand-alone subsidiary regime result from the tension between the cross-border dimension of large financial institutions and the domestic nature of crisis management responsibilities. One way to resolve this tension is to further strengthen the European framework for bank supervision and crisis management. However, achieving the necessary changes will be extremely challenging.

Yet in the absence of substantial improvements in the European framework, national authorities may not have any other way of resolving this tension, except by imposing limits on the cross-border expansion of banks. The financial sector has expressed its concerns about the risk of cross-border re-fragmentation of banking markets that this model could imply. However, it is not obvious that this model would automatically lead to large-scale re-fragmentation. First, a distinction needs to be made between the integration of financial institutions and the re-fragmentation of financial markets. The fact that financial institutions would be slightly less integrated would not necessarily put European integration at risk. Second, the cost of these measures may eventually remain limited. In addition, in many instances, banks can adapt their behaviour and operations in ways that simultaneously limit the cost associated with these measures and satisfy the supervisor. Finally, banks still have the option of operating via branches. Re-fragmentation will only happen if banks face additional restrictions on the choice of their legal structure or if branches have to become self-sufficient themselves.

Yet, introducing stand-alone measures remains a subtle exercise, that requires authorities currently contemplating the adoption of such measures to consult all stakeholders to find the delicate balance between, on the one hand, measures that would contribute towards strengthening the national financial sector and limiting the cost of crisis management to the domestic taxpayer, and, on the other hand, measures that would impose excessive constraints on the financial industry and limit the benefits of market integration.

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