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Subsidiaries or Branches: Does One Size Fit All?

Jonathan Fiechter, İnci Ötker-Robe, Anna Ilyina, Michael Hsu, André Santos, and Jay Surti

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Monetary and Capital Markets Department

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EXECUTIVE SUMMARY

Integrated cross-border banking groups may provide important efficiency gains arising from the scale and diversification of their operations, but their failure can also generate spillovers that threaten financial stability in countries in which they operate. Cross-border expansion by banking groups through integrated branch networks appears to be less costly and, in some cases, more efficient than establishing a series of legally independent subsidiaries. In the event of failure of a banking group, however, it appears that a subsidiary structure would generally be less costly to resolve.

A key consideration for policymakers, then, is whether the trade-off between efficiency and financial stability argues for policies that reflect a preference for certain cross-border banking structures. This paper examines the relative advantages and disadvantages of different organizational structures for cross-border banking groups both from the point of view of the financial groups and of the home/host authorities. It concludes that given the diversity of business lines and the varying objectives and stages of financial development of different countries, there is no one obvious structure that is best suited in all cases for cross-border expansion—one size does not fit all when it comes to the choice of organizational structure.

From a banking group's perspective, a range of factors play a role in the choice of branching versus subsidiarization, including banks' business focus and differences in regulatory and tax regimes across jurisdictions. Banks with significant wholesale operations tend to prefer a more centralized branch model that provides the flexibility to manage liquidity and credit risks globally and serve the needs of large clients. The funding costs for the wholesale group are likely to be lower under the branch structure, given the flexibility to move funds to where they are most needed. A subsidiary structure, in contrast, puts constraints on the banking group's ability to transfer funds across borders and hence may be less suitable for wholesale activities. For a global retail bank, however, a more decentralized subsidiary model may work better because of its focus on serving local retail clients and its reliance on local deposits and local deposit guarantees.

From the authorities' perspective, the trade-off between financial stability and efficiency will vary depending on a country's status as home or host to cross-border banking groups. Home authorities might prefer a cross-border bank structure with stricter firewalls across parts of the group (the subsidiary model) when their banks expand into countries with weak economies and a risky business environment. Host authorities might also prefer the subsidiary model, if conditions in their country are conducive to a healthy banking sector, because it allows them to shield the affiliate from the problems of its parent. By contrast, countries with underdeveloped financial systems and weak economies may prefer global banks to enter via full service branches that can provide credit services based on the strength of the parent. The quality of a country's supervision, the adequacy of its information-sharing and supervisory coordination, and the systemic importance of the affiliate for home and host financial systems also play a role in home/host preferences for branch versus subsidiary structures.

From the perspective of financial stability, neither model in all cases reduces the probability of failure or the cost of failure of a banking group. The branch structure may provide an affiliate (or parent) and, hence, the group as a whole with greater ability to withstand adverse shocks that do not threaten the viability of the group, because it enables the banking group to more easily mobilize and re-direct funds from healthy affiliates to other affiliates (or parent) that suffer losses. At the same time, the branch structure also obligates the group to cover fully all losses generated in branches. In contrast, under the subsidiary structure, while there is often an expectation that the parent will support its troubled affiliates, it has no legal obligation to do so. The subsidiary approach may also limit the overall cost of resolution in the event of a failure, because spinning off the relatively healthy parts of the group may be easier when the group is structured as a network of independent subsidiaries rather than a fully integrated branch network. Under either structure, however, reputational risks and confidence effects may limit the ability to limit contagion, with problems in one part of the group quickly threatening the viability of the rest.

The ultimate key to ensuring financial stability lies in the design of compatible international mechanisms that ensure the effective oversight and orderly resolution of banks at both national and global levels. Such a mechanism would reduce financial stability concerns of home and host countries regarding specific legal structures and allow banks to organize themselves in ways that fit their business models best. A combination of national and international arrangements is needed to ensure that cross-border banking groups fully internalize the costs associated with their failure (the first-best solution). These include better risk management by the banking groups; effective oversight, information-sharing, and supervisory coordination mechanisms; and satisfactory cross-border resolution regimes and burden-sharing agreements.

In the absence of effective international cooperation in these areas, resolution of institutions, in the event of a failure within a banking group, may be less costly and less destabilizing if these entities are organized as subsidiaries. Moreover, healthy subsidiaries that operate independently of the parent may, in principle, be better able to survive the failure of the parent or other affiliates. In the event of a restructuring of a banking group, healthy subsidiaries can be spun off from the parent and operate on a stand-alone basis, sold, or placed into conservatorship by host country authorities.

Still, this should not provide a justification for abandoning the efforts to achieve the first-best solution. Policymakers should take advantage of the broad consensus among regulators and market participants that working toward effective, harmonized cross-border resolution regimes and burden-sharing mechanisms remains a key priority. Close supervisory coordination and information-sharing between home and host authorities, and equitable treatment of all creditors regardless of their jurisdiction, should accompany the ongoing efforts to establish effective cross-border resolution regimes.

I. INTRODUCTION

The activities of cross-border banking groups can generate trade-offs between efficiency and financial stability. These groups can lower intermediation costs and improve access to credit by households and firms, facilitate a more efficient allocation of global savings, assist in the development of local capital markets, and make possible the transfer of risk management, payments, and information technology. At the same time, these groups are highly interconnected internationally and may expose individual countries to the risk that shocks in other countries will spill over into their domestic financial systems.

The policy implications of these trade-offs are intimately related to those that surround the debate on the treatment of systemically important financial institutions (SIFIs) viewed as too-important-to-fail (TITF). The growing complexity and interconnectedness of financial institutions, coupled with the lack of effective cross-border resolution regimes, have undermined market discipline, contributed to excessive risk taking, and compromised the ability of home and host authorities to cope with the failure of TITF institutions. A number of policy options have been proposed to address this problem, including steps to discourage size and interconnectedness, improve the capital and liquidity buffers held by such institutions, and enhance their resolvability. These options also include recovery and resolution plans (*living wills*) that would require simpler legal and financial structures of banking and other financial holding companies.

A key consideration in deciding whether to establish a policy preference for organizing cross-border banking groups as branches or subsidiaries is the balance between efficiency and financial stability. From the perspective of policymakers, different organizational structures have important stability implications, notwithstanding the "efficiency arguments" that may favor branches. Home authorities are typically responsible for the supervision of foreign branches of their domestic banking groups, while host countries have the lead responsibility for supervising foreign subsidiaries of such banking groups. This division of responsibility can at times raise important burden-sharing issues in countries that are host to branches of a failing foreign bank. A notable example was the recent failure of Icelandic banks, which left the Icelandic authorities with the obligation, but not the fiscal capacity, to protect the insured depositors of overseas branches of the Icelandic banks (see e.g., IMF, 2010a).

In a stylized world, a range of bank structures exists with varying degrees of centralization of decision-making and restrictions on intra-group capital flows. At one end of the spectrum is a centralized model where the bank operates through a branch structure and capital and liquidity flow freely across business units and across borders, typically under the supervision of the authority where the entity is headquartered. At the other extreme, a bank operates via separately capitalized foreign subsidiaries that are locally incorporated in the countries in which they operate, are subject to local capital and liquidity requirements, have a high degree of control over their local operations, and are supervised by the host authority.

In practice, most cross-border banking groups have fairly complex organizational structures. They run operations through a hybrid structure that includes both branches and subsidiaries in different jurisdictions. Banks choose between these structures in response to a range of factors, including their business models (e.g., wholesale vs. retail operations) and in

response to cross-country differences in regulatory and tax regimes.[2] While global banks may prefer to expand their retail operations overseas via subsidiaries, for example, they may run wholesale operations via overseas branches. Similarly, global investment/universal banks may prefer to operate internationally through branches to retain flexibility to manage liquidity globally and to provide services to large corporate clients. At the same time, they may also have subsidiaries in some jurisdictions reflecting a variety of regulatory, tax, economic, or political considerations.

This paper lays out the key considerations underlying the choice between branch and subsidiary structure for cross-border banking groups and their home and host countries. It examines the relative advantages of different organizational structures for cross-border banking groups and discusses the issues for financial stability from home and host country perspectives. Section II provides a brief overview of the economic distinction between centralized and decentralized structures; it discusses the factors influencing a group's choice of branch versus subsidiary as well as the implications for home/host financial stability. Section III then provides the policy implications to assess whether the choice could be seen as part of a potential solution to the TITF problem. The implications of the paper could provide some guidance to countries facing these choices, although the latter need to take into consideration the specific characteristics and circumstances of their economies and financial systems when making this choice.

A key observation of the paper is that neither the branch nor the subsidiary structure is obviously preferable in all cases from the financial stability perspective. The key to ensuring financial stability lies instead in the design of effective mechanisms to oversee and resolve cross-border banking groups. These include effective home/host supervision and information-sharing arrangements and satisfactory cross-border resolution regimes and burden-sharing agreements. Such mechanisms, combined with adequate risk management and strong capital and liquidity frameworks, would encourage banking groups and policymakers to fully internalize the costs associated with the groups' failure. This, in turn, could make home and host countries more indifferent between specific legal structures, allowing banks to organize themselves in ways that best fit their business models. Absent rapid progress in reaching global agreements on such solutions, there will likely be a growing tendency to ensure greater self-sufficiency of the local affiliates to reduce threat to financial stability and resolution costs.

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[2] Some host countries (e.g., Brazil, Mexico, and New Zealand) encourage, or require, subsidiarization of local business units. Differences in corporate tax rates across home and host countries, or differential treatment of overseas profits from branches and subsidiaries (e.g., the United Kingdom), are also known to influence banks' choice of legal mode of incorporation into a host country.

II. Choice between Branches and Subsidiaries and Implications for Financial Stability

A. The Bank Perspective

From an economic perspective, one can consider a spectrum of bank structures with varying degrees of centralization of decision-making and restrictions on intra-group transfers. The following two models are at the opposite ends of this spectrum:

- **Centralized model—free flow of intra-group capital and liquidity with integrated organizational and risk management.** Under this framework, the operations of the parent company and all affiliate business units are managed in an integrated fashion. Funding, asset allocation, and risk management are centralized in order to maximize returns at the consolidated level. Capital is raised through affiliates and jurisdictions where it is least expensive, and is subsequently deployed where it earns the highest return. The response to funding or other shocks to the group's individual businesses is also centralized, with surplus capital and liquidity directed to units experiencing a shortage, provided this is perceived to be in the long-term interest of the group.

- **Decentralized model—independently managed affiliates that are financially and operationally self-sufficient.** This model assumes that each business unit finances itself, with varying constraints on intra-group transactions,[3] manages its own risk, and deals with the consequences of bad decisions without financial assistance from affiliates or the parent. The gains from foreign direct investment (FDI) in the financial sector—transfers of technology, product design, and systems from the parent—continue to help the subsidiary improve its financial performance and risk management, as under the centralized model.

The centralized form of organization is often associated with branching in foreign jurisdictions, and the decentralized model with subsidiaries, though the subsidiary model can range from banking groups with close intra-group links to those structured as geographical constellations of stand-alone subsidiaries**.** A subsidiary is a separate legal entity, which is licensed and supervised by local regulators, with the parent having no legal obligation to support it if it falls into distress. In contrast, a branch is legally inseparable from the parent, which is fully responsible for its financial commitments.

Despite a clear legal distinction between branches and subsidiaries, however, they may in practice sometimes be operated and managed in a similar fashion. In some countries, branches work effectively as independent entities.[4] In others, subsidiaries may function similarly to branches, subject to centralized risk management established at the group level and

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[3] In some cases, such constraints may be two-sided, while in others may operate in only one direction. For example, Brazil has ring-fencing regulations to prevent Brazilian subsidiaries from moving funds to their parents but has no barriers on parent funding of the subsidiaries using various instruments (e.g., equity or debt).

[4] For example, in Argentina, Bolivia, Brazil, Chile, Ecuador, India, and Korea, branches face local capital and liquidity charges identical to those applied to subsidiaries and require local representation on their boards.

funding decisions, and are dependent on their parents for funding (see further below).[5] Practices such as group-wide guarantees and supervisory ring-fencing often blur the distinctions between branches and subsidiaries.[6]

The analysis that follows assumes that economic substance conforms to the legal form; that is, that the branch structure is substantially more centralized and has fewer or no restrictions on intra-group transfers compared with the subsidiary structure. The relative benefits of the two bank structures for cross-border banking groups are discussed. Overall, the analysis shows that some of these benefits are independent of the bank's business model (retail vs. investment/universal banking), whereas others are contingent on it. The rest of this section takes up these benefits in turn.

Both branch and subsidiary structures have certain features that make them attractive for cross-border banks, regardless of their business model:

- **For the banking group as a whole, costs of doing business may be lower under the branch structure than under the subsidiary structure.** Maintaining greater self-sufficiency of affiliates in a subsidiary structure requires that each affiliate hold higher capital and liquidity buffers to limit the likelihood of failure. This results in higher levels of capital and funding for the banking group as a whole than under the branch structure. Moreover, stricter firewalls between the affiliates and the parent in a subsidiary structure, while reducing the risk of contagion, also limit shifting of funds within the group to take advantage of borrowing in low-cost jurisdictions. These firewalls might also mean that affiliates may face higher costs of external funding if they borrow in their own name as opposed to the parent bank's name, although external and internal credit ratings also play a role in the funding costs in wholesale markets.

- **Use of the branch structure instead of subsidiaries could provide an affiliate or parent greater ability to withstand an idiosyncratic adverse shock for given levels of group capital and liquidity, so long as the shock is not so large as to threaten the viability of the group**. This is because shocks in one part of the network may be offset by gains in another. A centralized organization enables the banking group to mobilize and re-direct funds from healthy affiliates to an affiliate that finds itself in trouble due to country-specific shocks, or to draw on excess capital/liquidity of an affiliate at times of stress for the parent. In contrast, the decentralized funding and management framework of the subsidiary structure might prevent a parent bank from taking swift action due to certain restrictions on moving capital and liquidity from a subsidiary in one country to a parent or a subsidiary in a different country. As separate legal entities, subsidiaries often face legal restrictions and exposure limits on cross-border asset transfers to other parts

[5] Note, for example, that within the European Union, interbank and intra-group exposures with a duration of less than one year have been exempt from large exposure rules.

[6] For example, the Swedish Support Act 2008/09:61 explicitly states that the liquidity situation in a Swedish bank's foreign subsidiaries can be expected to improve through the Swedish guarantee program.

of the group.[7] While the firewalls of the subsidiary structure may serve to protect the interests of the individual subsidiaries, they also reduce the ability of weak individual subsidiaries to receive support from the parent compared with a branch with the same level of capital or liquidity.

- **The subsidiary structure may, in principle, be better for containing losses in the event of distress (or failure) of an affiliate.** Under this structure, a subsidiary in a given jurisdiction might be better able to continue as a going concern should other parts of the group, or the parent, fail or have to be resolved. Losses incurred by an affiliate or the parent could, in principle, be isolated from the healthy parts of the group, thereby containing the losses for other parts of the group (i.e., reduce "loss given default"). In practice, however, a parent will be forced to provide such support for reputational reasons unless doing so threatens the viability of the entire banking group.

A number of other benefits of the branch and subsidiary structures accrue only to banking groups following a particular business model:

- **Provision of services to core clients:** For a global universal bank, the branch structure that facilitates cross-border inter-affiliate funding would assist in the provision of a broad range of services to large corporate clients around the world.[8] A global retail bank, on the other hand, might prefer the subsidiary structure, with greater importance attached to the access to local deposit guarantees and a relatively lower weight assigned to large exposure limits, compared with wholesale operations, given the nature of its business (i.e., serving retail clients).

- **Liquidity management:** A more centralized (branch) model would allow global banks with wholesale operations to manage liquidity more efficiently at the group level, allowing them to transfer liquidity where it is most needed (in normal times, as well as at times of stress, absent barriers placed on transferring funds across jurisdictions in excess of the regulatory requirements). A cross-border bank might also benefit from consolidating its collateral holdings in a single pool, which allows an affiliate with poor access to eligible securities to receive liquidity by collateralizing the "excess" provided by other affiliates. For global retail banks that tend to rely largely on local funding, the ability to manage liquidity at the group level may be relatively less important.

- **Risk management:** Another key advantage of a branch model for a global universal bank is reduced counterparty and liquidity risks through internalization of clearing and

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[7] The European Commission's *Study on the feasibility of reducing obstacles to the transfer of assets within a cross-border banking group during a financial crisis, Final Report*, April 2010 (http://ec.europa.eu/internal_market/bank/windingup/index_en.htm.), provides recommendations on lifting restrictions on intra-group transfers of assets if such transfers can potentially limit the extent of a crisis.

[8] In the words of one large, global, cross-border banking group, the branch structure "enables banks to offer clients access to the parent company balance sheet and leverage the full balance sheet to provide support to clients, offering the potential for lower lending costs and enhanced credit availability in host countries."

settlement of securities and cash payment obligations.[9] These considerations may be relatively less critical for a retail bank that is more concerned with managing credit risk of retail loan books.[10]

Hence, all else equal, one could expect global retail banks to have a preference for subsidiarization, while global universal banks for branching.[11] The subsidiary structure may work well for retail banks, as it may benefit from a local management team that is fully accountable for the performance of an affiliate focused on local retail operations. There is a benefit to a management team that has a deep understanding of the local market and a greater ability to obtain local funding. On the other hand, the subsidiary structure may be less suitable for universal and investment banks because it could constrain their ability to manage liquidity globally and to serve large corporate clients.

In practice, when choosing a legal form of incorporation in foreign jurisdictions, banking groups also take into account a range of home/host country characteristics that may outweigh the business model considerations (Box 1). These include: (i) differences in *regulatory arrangements* applicable to branches and subsidiaries (e.g., requirements of local or host supervisors and legal obligations in the home country for parent bank support); (ii) *tax rules* adopted by home/host jurisdictions; (iii) relevant *macroeconomic and political risks in host* countries; (iv) the *nature of the business* sought in the local market (e.g., opportunities to optimize use of home resources to support profitable business elsewhere); and (v) the *state of financial market development* in the host country. For example, a banking group might prefer branching when local financial markets are less developed and less able to support a subsidiary; the entry to local markets targets credit extension and provision of risk management services to existing clients; political risks are high; and tax and regulatory treatments of branches are more favorable. In the case of advanced host countries, banking groups may prefer branching into countries that host major money centers (e.g., U.S. or U.K. markets) or into markets for wholesale deposit sourcing (e.g., Germany).

Therefore, actual practice is often complex, with cross-border banking groups choosing to branch into some jurisdictions and incorporate as subsidiaries in others.[12] For instance,

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[9] By centralizing trades and cash management activities, the group is able to net its customer obligations and rights and deliver only the net amount to third parties, which would reduce the total liquidity needed by the group.

[10] Appendix I describes the Spanish cross-border banking model as an example of a decentralized approach toward risk management in a global retail bank; it draws, in part, on Asociación Española de Banca (2010).

[11] See Appendix II for a summary of views from a sample of major global banking groups regarding subsidiarization and the drivers of preference for legal corporate structure.

[12] Figures 1 and 2 provide the geographical distribution of branches and subsidiaries of foreign banks. The number of branches is generally larger than the number of subsidiaries in Asia, the Middle East, North America, and western Europe, while subsidiaries outnumber branches in Latin America and central and eastern European countries. For most advanced economies (with the exceptions of France and Switzerland), the number of branches of foreign banks is larger than the number of subsidiaries. In contrast, subsidiaries appear to dominate (both in terms of number and total assets) in most emerging market economies, where the frequency of macroeconomic and financial dislocations tend to be higher than in advanced economies.

Box 1. What Drives Institutional Choice of Legal Model between Branches vs. Subsidiaries?

In choosing a legal form of incorporation for their overseas businesses, internationally active banking groups optimize with respect to: (i) differences in regulatory arrangements applicable to branches and subsidiaries; (ii) tax rules adopted by home and host jurisdictions; (iii) relevant *environmental* (i.e., macroeconomic and political) risks in host countries; (iv) the group's business model and group-wide expertise, as well as the nature of the business anticipated in the local market they are seeking to penetrate; and (v) the state of development of local financial markets in the host country. Among the advanced market economies, those hosting major money centers or derivatives exchanges may see relatively more foreign bank penetration via branches. This allows the foreign bank to raise large-volume funding for the group's global activities at lower capital cost (related, for example, to covering intra-group exposures) than if it were to enter the host country through a subsidiary.

(1) Differing regulatory treatment of branches and subsidiaries by home and host

Regulations of both home and host countries influence the choice of legal form of business model. Italian and Canadian banks, for example, are required to seek prior approval by their home regulator in order to open an overseas branch, and the Bank of Spain can refuse a bank's application to open a branch on a wider set of criteria than in the case of subsidiaries (for EU-domiciled banks, these additional constraints do not apply for affiliate operations in EU member states given the EU single passport regime). In New Zealand, foreign banks are required to operate through subsidiaries to provide separation between the subsidiary and the parent, to enable more efficient resolution in the event of distress or failure, and under other specific considerations (e.g., the home country supervisory and disclosure arrangements and market discipline, and existence of home country creditor preference upon the winding-up of the bank).[1] Banks appear to prefer organizing overseas operations as subsidiaries in countries where additional requirements on branches are the most extensive. These requirements typically either restrict business operations (e.g., restrictions on branches of foreign banks accepting deposits, as in Croatia and Mexico), ensure equal treatment of host country depositors in an event of insolvency of the parent company (e.g., Croatia and Poland), or require a more burdensome approval process by the home supervisor to open a branch.

(2) Tax and cost incentives

The disparity between tax related expenditures under the two alternatives could be substantial. Cerutti et al. (2007) found a positive and statistically significant relationship between the top corporate tax rate in a host country and the decision of a bank to incorporate its local business as a branch, since in general this would facilitate avoidance of the higher burden via profit shifting across borders.

Tax treatment by home authorities of repatriated profits from overseas branches versus subsidiaries could be different. Such differential tax treatment (as exists, e.g., in the United Kingdom) could generate profit differentials large enough to swing a bank's choice between branches and subsidiaries one way or the other.

It is possible for the optimal organizational structure of the bank to entail more complex arrangements. A host retail market of significant size and the possibility of an M&A type of entry (as in East Asia after the 1990s crises) could lead to a bias in favor of a subsidiary structure. The bank could subsequently expand in the host's region via branching out of its new subsidiary. For example, while HSBC operates subsidiaries in China, Hong Kong SAR, and Malaysia, it runs its businesses in other Asian countries through Hong Kong-based HSBC Banking Corporation and Hang Seng Bank. In Latin America, barring Brazil, it runs its businesses out of its Mexican subsidiary, Grupo Financiero HSBC.

(3) Macroeconomic and political risks in the host country

The greater the idiosyncratic macroeconomic risk in the host country, the more attractive a subsidiary model becomes. Under a branch structure, the parent institution is typically fully responsible for all obligations and also for all losses incurred. For a subsidiary, on the other hand, obligations are limited to the value of the invested equity, and the parent has the legal option to walk away from the operation. Banks have taken advantage of this legal option in past financial crises in countries hosting their overseas affiliates.[2] Cerutti et al. (2007) find a statistically significant negative relationship between the domestic country macroeconomic risk indicator and choice of branching over subsidiarization in their sample.

Perceived political risk on the other hand generally results in a preference for branching. Legal frameworks in a number of the parent banks' home countries (e.g., Canada and the United States) have specific provisions protecting their interests against (the risk of) expropriation through violation of contractual rights or because of events such as wars or civil unrest, and such *contingent* limited liability is extended also to branches. Cerutti et al. (2007), controlling for other factors, find a significant and positive relationship between host country political risk and parent preference for branching.

In practice, a number of other factors are often critical in determining how a parent bank would respond to the realization of such risks independent of the chosen legal form of incorporation. Where the parent's exposures to the affiliate (either through non-equity funding or revenues) render the host country operations of systemic importance to the health of the parent, extension of capital and liquidity support is equally common to branches and subsidiaries, as not doing so could compromise the survival of the group. During the global financial crisis, Swedish banks provided such support to their Baltic subsidiaries and Austrian and Italian banks did so for their subsidiaries in central and eastern European countries. Similar extensions of support to subsidiaries may also be made in cases where walking away from the subsidiary entails a substantial reputation risk. The injection of capital by Portugal's Banco Espiritu Santo into its Brazilian subsidiary Banco Boavista Interatlantico following the devaluation of the Brazilian real in 1999 is a prominent example.

(4) Fitting business model to market penetration strategy

Banks adapt their incorporation strategy to their objectives for entering a host market. Banks may expand overseas via a takeover of a preexisting domestic bank. This facilitates exploitation of the incumbent comparative advantages the domestic bank enjoys with regard to assessment of local credit risk and possession of an established client base. Moreover, since reliance may be placed on the local funding base (particularly deposits) in such cases, this makes it more natural for the foreign bank to incorporate as a subsidiary rather than as a branch.

On the other hand, foreign banks prefer to branch into countries where they are primarily targeting credit extension and provision of financial services to corporate clients. Capital coverage requirements corresponding to credit extensions to large corporate clients may lead to booking these exposures through their home office or sufficiently large regional office. This is cost-effective compared with an arrangement where—to get around large exposure limits—the transaction must be booked through multiple host offices. Booking of client risk management (e.g., derivatives) contracts is also optimally done at the group level in order to both economize on capital and exploit risk management expertise that exists in major financial centers where the parent banks are incorporated.

(5) Level of development of local markets

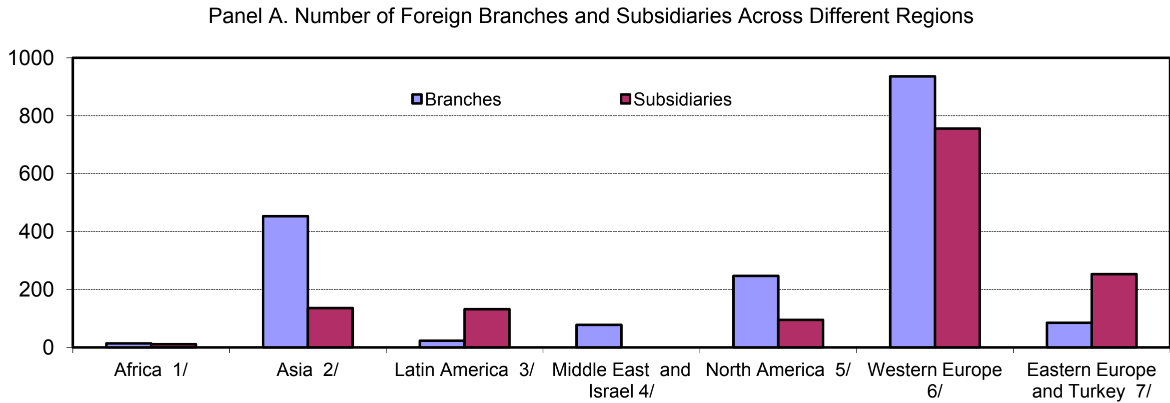
Despite differences in mode of incorporation corresponding to differences in market penetration objectives, *management style* may yet be indistinguishable. Swedish banks active in the Baltic countries and Austrian banks active in the Balkans overwhelmingly follow a subsidiary model, and retail clients are clearly important on both the investment and the funding side. Reflecting the continued importance of parent funding of the subsidiary's asset base, treasury and risk management of the subsidiary's operations are integrated into and reflect group-level decision-making. This is in contrast to the decentralized management of capital and liquidity preferred by Spanish banks for their subsidiary operations. One reason for this disparity could be the difference in state of development of local capital markets. Relative to Swedish subsidiaries in the Baltic countries, it would be easier for Spanish subsidiaries in Brazil and Mexico to raise wholesale funding locally to supplement retail deposits.

[1] For further details, see RBNZ, BS1*: Statement of principles – bank registration and supervision* (http://www.rbnz.govt.nz/finstab/banking/regulation/3272066.pdf).

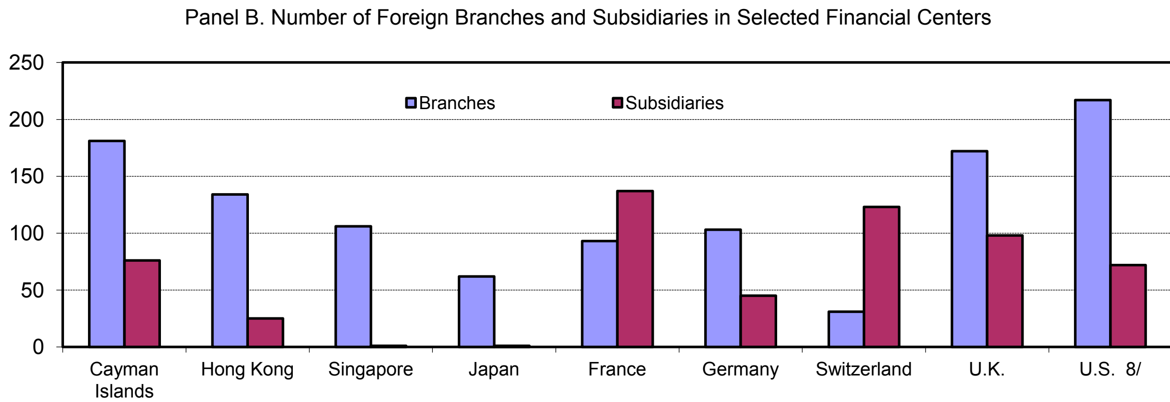
[2] During the Argentine crisis of 2000–01, Citibank increased capital outlays to its branches in the country while simultaneously selling its subsidiary, Bansud; while Credit Agricole reduced losses by permitting a government takeover of its subsidiaries Bersa, Bisel, and Suquia. Similarly, Bayerische Landesbank gave up its Croatian subsidiary, Rijecka Bank, following a depositor run in 2002 in the aftermath of large foreign exchange losses. (See Cardenas et al., 2004; Cerutti et al., 2007; Dell'Ariccia and Marquez, 2010; and Song, 2004, for further discussions.)

Figure 1. Geographical Distribution of Subsidiaries and Branches of Foreign Banks, end-2008

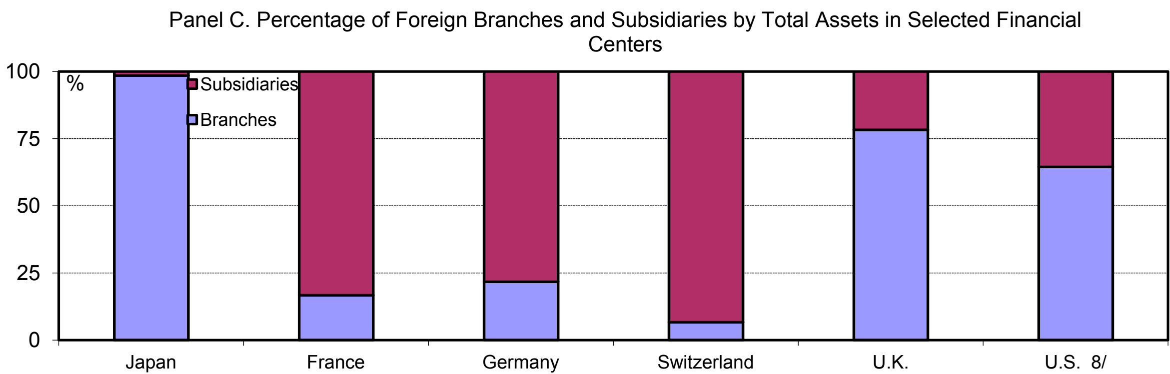
Panel A. Number of Foreign Branches and Subsidiaries Across Different Regions



Panel B. Number of Foreign Branches and Subsidiaries in Selected Financial Centers

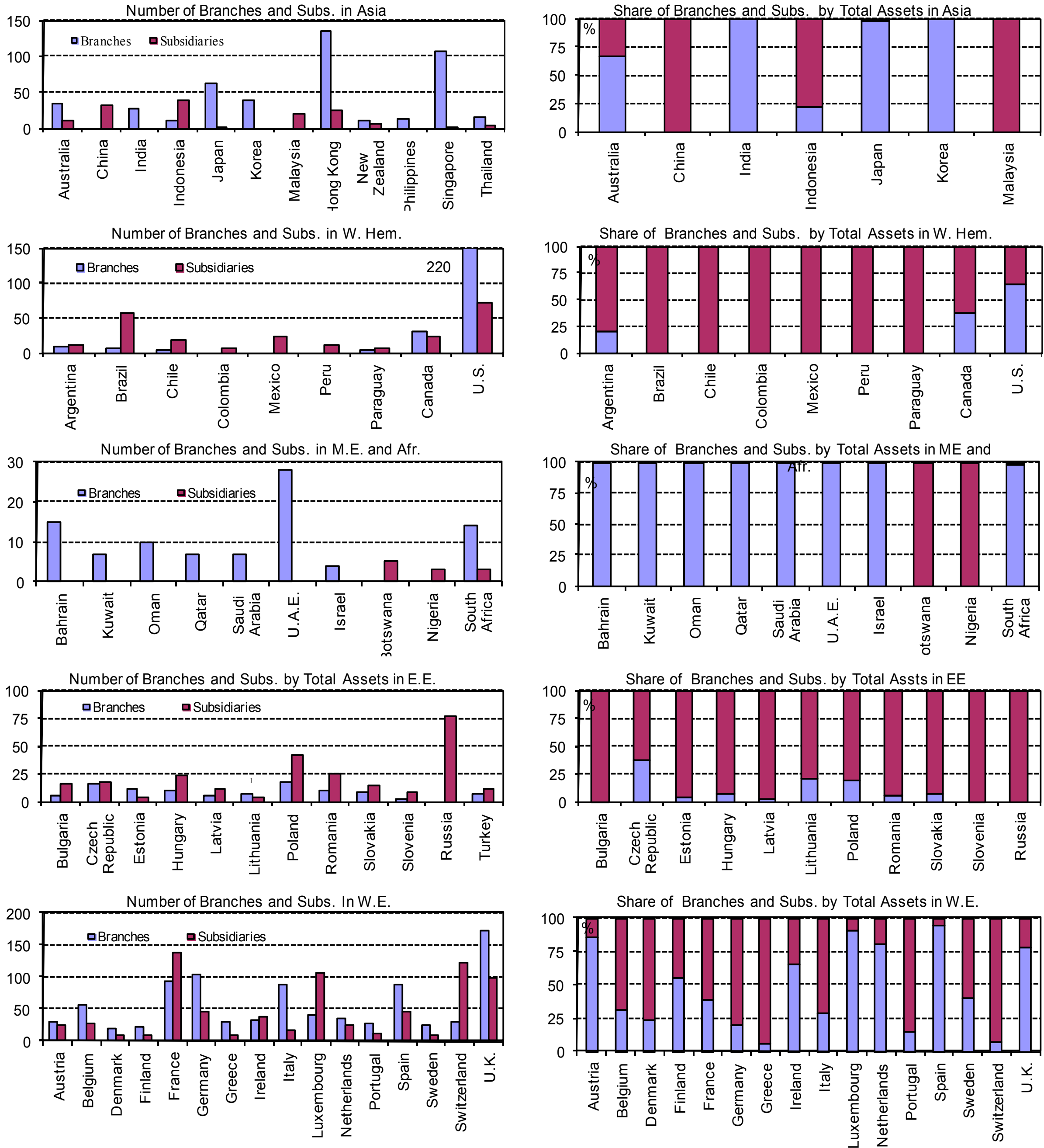


Panel C. Percentage of Foreign Branches and Subsidiaries by Total Assets in Selected Financial Centers



Source: Central banks, supervisory and regulatory agencies.
1/ Africa includes Nigeria and South Africa.
2/ Asia includes Australia, China, India, Indonesia, Japan, Korea, Malaysia, Philippines, New Zealand, Singapore and Thailand.
3/ Latin America includes Argentina, Brazil, Chile, Colombia, Mexico, Paraguay and Peru.
4/ Middle East includes Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and United Arab Emirates.
5/ North America includes Canada and United States.
6/ Western Europe includes Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Malta, Netherlands, Portugal, Spain, Sweden, and Switzerland.
7/ Eastern Europe and Turkey includes Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia, Russia, and Turkey.
8/ Branches of foreign banks include insured federal branch, insured state branch, uninsured federal agency, uninsured federal branch, uninsured state agency, and uninsured state branch while subsidiaries of foreign banks include agreement corporate banking, agreement corporate investment, edge corporate-banking, Edge corporate investment, federal savings bank, national bank, New York investment company, non-depository trust co-member, state member bank, state non-member bank, state savings bank.

Figure 2. Country Distribution of Branches and Subsidiaries of Foreign Banks, end-2008



Source: Source: Central banks, supervisory and regulatory agencies.

large cross-border Spanish banks with a retail focus, as well as the U.K. global bank HSBC, are viewed to be the closest to the subsidiary-based structure, although they also have branches in some countries (e.g., BBVA has subsidiaries in Latin America and the United States but also operates through branches in the United States, the United Kingdom, and Hong Kong SAR). Many cross-border banks with wholesale banking and trading activities (e.g., Standard Chartered) operate mainly through branches, though in a hybrid model that also contains more decentralized subsidiaries in a few countries (e.g., Standard Chartered in Korea, Hong Kong, and China). Therefore, preferences for choosing one model over the other, or the differences between the two structures, are not clear-cut.

B. The Policymaker Perspective

A key consideration for home or host authorities in weighing the merits of the subsidiary or branch structure will be their implications for growth and financial stability. While certain features of the two bank structures are relevant only for host countries, other features have different implications for home and host and hence entail different preferences. The rest of this section takes each of them up in turn.

In normal times, one would anticipate that a branch structure could provide host country borrowers with easier access to foreign credit, while a subsidiary structure may be more conducive to local market development. The empirical evidence is inconclusive.

- **Credit supply:** Intuitively, the structure that has fewer restrictions on inter-affiliate transactions—the branch structure—should make the provision of credit to affiliates easier. However, empirical evidence does not necessarily support the hypothesis that subsidiaries have less ability to supply credit in host countries (e.g., subsidiaries of western European banking groups facilitated the rapid growth of credit to the private sector in the central and eastern European countries in the pre-crisis period). There is also no firm evidence that subsidiaries are characterized by more/less stable inter-affiliate cross-border capital flows than branches.[13]

- **Local financial market development:** The subsidiary model could be better for local market development in host countries than the branch model, because subsidiaries are more likely to rely on local savings. That said, a subsidiary structure with tighter constraints on intra-group transactions could potentially limit the lending capacity of the affiliates operating in the host country, and given the standard restrictions on bank exposure to any single borrower (as a percentage of the bank's capital base), a subsidiary would have a lower lending limit than a branch operating under the parent bank's lending limit. This may result in an increase in direct cross-border borrowing by large nonfinancial firms. With the latter bypassing the local market, the implications of the subsidiary structure for local financial market development may not be obvious.

[13] Staff analysis (available upon request) presents some limited evidence that the stability and resilience of intra-group capital flows are related more to idiosyncratic factors in a country than to the legal structure of foreign banks in host countries.

Home and host regulators may have opposite preferences regarding the branch and subsidiary structures. A number of considerations play a role:

- **Supervisory control and oversight responsibility** of the host country are greater under the subsidiary structure than under the branch structure, while the opposite is true for the home country under the branch structure.[14] The home supervisor remains responsible for the supervision of the whole group under consolidated supervision, regardless of the organizational structure of a banking group; however, since the host authority is the lead supervisor for locally incorporated subsidiaries, the effectiveness of group supervision (hence home preferences between the two structures) would be subject to the quality of host country supervision and the adequacy of home/host supervisory coordination and information-sharing on the local markets and operations of the affiliates.[15] From the host country perspective, the absence of a clear legal obligation of the parent to support its overseas depositors, systemic importance of the affiliate for the local banking system, and uncertainty about the assets and capital under a branch structure (e.g., depositor preference rule in home jurisdictions) may induce the host to choose the subsidiary structure, which would permit it to impose the regulations that could protect the depositors of the institutions doing business in their jurisdiction.

- **Source of adverse shocks:** The host country is better off with the subsidiary structure when facing adverse external shocks (as it is easier to ring-fence the subsidiaries of foreign banks than their branches) and better off with the branch structure if facing a shock to the domestic economy or the financial system (as the branch structure entails stronger commitment, in principle, on the part of the parent bank to support its affiliates). The opposite is true for the home country—that is, the home country may prefer the organizational form that best facilitates drawing on capital or liquidity of affiliates (i.e., a branch structure) when a parent bank is facing a negative shock, and may prefer the advantages of having limited liability (a subsidiary structure) when it is the host country that experiences a negative macro-financial shock.

- **Extent of fiscal costs and/or banking-related contingent liabilities in the event of bank distress:** In the event that an affiliate operating in a host country falls into distress, the host country would have a relatively heavier obligation and burden when dealing with a subsidiary than with a branch, which is the responsibility of the parent bank (and home authorities). In fact, one could argue that, for home countries with limited fiscal capacity, it might be prudent to encourage their large internationally active banks to organize themselves as subsidiary-based structures rather than as branch-based structures (IMF, 2010a).

In sum, from the financial stability viewpoint, both the branch and the subsidiary structure have their advantages, and a variety of different considerations play a role in

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[14] See Box 2 for further information on home/host supervisory responsibilities regarding foreign bank affiliates.

[15] A good example of such cooperation is the two-tier supervision practice of the operations of the two large Spanish banks' overseas subsidiaries, where close cooperation exists between home and host supervisors.

Box 2. Roles of Home-Host Supervisors for Subsidiaries and Branches Under the Basel and EU Rules

The Basel Committee's position on home and host authorities' responsibilities with regard to supervision of branches of cross-border banks is described in the Basel Concordat and summarized in the Core Principles for Effective Banking Supervision (BCPs).[1] The basic underlying principles are that the home country supervisor should have access to all information it needs to perform effective consolidated supervision and that all cross-border operations should be subject to effective home and host country oversight. Countries have taken different approaches, based on their circumstances, to put this in practice.

- Section VI of the BCPs describes the obligations of home and host supervisors as follows: "Home supervisors must practice global consolidated supervision over their internationally active banking organizations, adequately monitoring and applying appropriate prudential norms to all aspects of the business conducted by these banking organizations worldwide, primarily at their foreign branches, joint ventures, and subsidiaries" (BCP 23).

- As regards the home authority's obligations vis-à-vis coordination with the relevant host authorities, BCP provides that, "A key component of consolidated supervision is establishing contact and information exchange with the various supervisors involved, primarily host country supervisory authorities" (BCP 24).

- With regard to host country responsibilities, there is an expectation that host supervisors will ensure that business conduct of local affiliates of foreign banks is of the same high standard expected and enforced for domestic institutions, and that they have the ability to share information with relevant home authorities in order for the latter to carry out satisfactory consolidated supervision (BCP 25).

Within the EU membership, the power to grant authorization to conduct business within the membership, albeit outside of the home country, rests with the home country, which subsequently communicates its decision to the relevant host member state. In the case of a subsidiary, however, authorization to conduct business must be sought from the host country authorities (potentially in addition to the home country).

- With regard to the supervision of branches, the host supervisor is expected to ensure compliance by locally active branches of cross-border banks domiciled within the EU with conduct of business rules (under Article 32(7) of MiFID). In fulfilling its obligations with regard to this article of the directive, the host supervisor/authority shall have the right to examine branch arrangements. It is, therefore, expected to examine branch arrangements and request such changes as are strictly needed by the authority to enforce conduct of business obligations.

- While responsibility for branch supervision rests with the home supervisor, Article 42(a) of the EU's Capital Requirements Directives (CRD) stipulates conditions under which the host may designate a branch operating in its jurisdiction as *significant* (i.e., systemically important). Designation of such branch as significant improves the host's capacity to supervise the branch (e.g., for participation of the host supervisor in meetings of the supervisory college of the banking group where issues specific to the branch or group risks are discussed). To make supervision by the home authority possible, the host authority is obliged to facilitate onsite examination of locally active branches by the home supervisor of the corresponding cross-border bank/group. The host also retains supervision responsibility for liquidity and measures related to monetary policy implementation where the latter is independent. This is also true under the Basel Concordat, where the primary responsibility for supervising liquidity rests with the host authority (see http://www.bis.org/publ/bcbsc312.pdf).

- In the case of subsidiaries, the host carries the responsibility for supervision of the locally incorporated affiliate of the cross-border bank.

[1] See also BCBS (1996), "The Supervision of Cross Border Banking," Basel ("Basel concordat"; http://www.bis.org/publ/bcbs27.htm), and BCBS (1997), "Core Principles of Effective Banking Supervision," Basel (available at http://www.bis.org/publ/bcbs30a.pdf).

[2] European Commission (2006) Directive 2006/48/EC of the European Parliament (Capital Requirements Directive), http://ec.europa.eu/internal_market/bank/regcapital/index_en.htm#crd and European Commission (2007), "Supervision of Branches under MiFID," Internal Markets and Services DG, Brussels (http://ec.europa.eu/internal_market/securities/docs/isd/mifid-branches_en.pdf), http://www.markets-in-financial-instruments-directive.com.

the authorities' preferences for a given structure. Barring the factors that affect the practical choice of different structures, home and host countries may both prefer a cross-border bank structure with stricter firewalls when conditions in their own country are better than those abroad, so as to protect their country from external shocks and minimize the fiscal costs of a failure. In the opposite case, they would prefer a model with weaker firewalls. Home and host authorities focus also on the implications of the choice for a number of other considerations, including supervisory quality (both of the home and host country), capacity of the home authority to support the affiliates in stress, level playing field concerns vis-à-vis domestic institutions, and the systemic importance of the affiliate for the domestic banking system.

The first-best solution to these tensions, therefore, lies in the design of appropriate mechanisms for: joint home/host supervision of cross-border groups in normal conditions, (harmonized) cross-border resolution regimes, and clear and effective burden-sharing arrangements in stressed or crisis conditions, along with effective risk management by the banking groups. After all, the problems experienced by cross-border banking groups during the recent crisis had little, if anything, to do with whether they were legally organized as branches or subsidiaries, and had much to do with the underlying weaknesses in risk management, regulation and supervision, supervisory coordination, and crisis management tools.[16]

The practical difficulties of global cooperation during a crisis have led some policymakers to explore greater self-sufficiency of local operations of cross-border banks, regardless of their business models.[17] Absent effective information exchange and coordination among regulators and supervisors and effective cross-border resolution mechanisms, there will be a natural desire for host authorities to ensure that local banks maintain sufficient capital and liquidity buffers in their country (e.g., through tighter intra-group limits on subsidiary operations) so as to minimize the chance of financial stability risks being imported from distressed foreign banks. In light of the recent crisis experience, some believe this is easier to do under a subsidiary structure. Apart from shielding a business from losses elsewhere in the

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[16] If the organizational structure of the banking group is too complex, it may be difficult for senior management of the group to monitor and stay on top of what risks are being assumed within the organization. The crisis produced examples of CEOs and other senior management acknowledging that they were unaware of the risks and exposures assumed by their institution. The experience of some European banks and of Lehman during the recent crisis suggests that an affiliate can take on excessive risks and incur losses that could create significant financial stability risks, threatening the stability of the entire group regardless of its structure.

[17] An extreme variant of such self-sufficiency, the "stand-alone subsidiarization" (SAS) model, was explored by the U.K. Financial Services Authority (2009) as a way to reduce the likelihood of costly banking group failures by requiring group affiliates to be organized independently of each other and the parent, with complete firewalls between different parts of the group. While offering some potential benefits (e.g., by isolating the failure to the parent and/or specific affiliates), the adverse implications of SAS may be significant (e.g., hampering the ability of a banking group to manage liquidity and capital on a group-wide basis, given the strict constraints on intercompany flows and transfer of capital and liquidity to individual affiliates—factors that may in turn affect the stability of the group as a whole).

group, an additional attraction of a subsidiary structure is the relative ease with which resolution authorities could spin off businesses and affiliates individually.[18]

Organizing banking groups as a constellation of separate legal subsidiaries may facilitate implementation of *living wills*—recovery and resolution plans that provide systematic and holistic blueprints to facilitate orderly wind-down of systemically important financial groups in the event of failures.[19] The plans facilitate the resolution of such groups by simplifying the legal and financial structure of the banking group and by encouraging a more streamlined corporate structure. However, imposing self-sufficiency constraints on all banking groups regardless of their business models could be costly. Such costs would include: (i) constraints on management of liquidity and capital for the group as a whole; (ii) the need to hold higher capital and liquidity levels at a consolidated level over and above the Basel III requirements;[20] and (iii) potential opportunities for regulatory arbitrage created by varying standards applied by different jurisdictions to restrict intra-group exposures.[21]

Effective international coordination of supervision and resolution of cross-border groups and burden-sharing arrangements can provide financial stability benefits without these potential costs. Preferable to imposing organizational constraints on foreign structures would, hence, be to make tangible and rapid progress in reaching global agreements on satisfactory and enforceable cross-border resolution regimes and burden-sharing arrangements. In the absence of progress toward the first-best solution, restrictions on bank structure may be seen by some jurisdictions as the price to pay for financial stability as domestic authorities attempt to reduce the destabilizing effects of cross-border failures.

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[18] A counter-argument to this may be that a subsidiary structure may complicate, rather than facilitate, resolution. Recently, an informal group of 10 creditors proposed treating the many subsidiaries of Lehman Brothers as one entity in an effort to boost the payouts to bondholders and reduce those to subsidiary creditors. Creditors have argued that their payouts would be boosted if the various subsidiaries (18) are combined as opposed to carrying out the resolution with a subsidiary-by-subsidiary approach (see *Financial Times*, December 16, 2010, http://www.ft.com/cms/s/0/0eb247d6-08aa-11e0-b981-00144feabdc0.html#axzz19dMw9XHG).

[19] The idea of a living will—proposed by the United Kingdom's FSA—is a prominent example of a set of proposals targeted to preserve a firm as a going concern (without public support), to promote resilience of key functions, and facilitate rapid resolution or wind-down in a scenario of severe financial distress. The overall objective of all such proposals is similar to that of the idea discussed in this paper, that is, to resolve TITF institutions without systemic disruption and without putting public finances at risk.

[20] See Appendix III which illustrates the point that under stricter forms of ring-fencing, banking groups have substantially larger needs for capital buffers at the parent and/or subsidiary level than under less strict (or in the absence of any) ring-fencing.

[21] These exclude costs that banking groups organized largely as branch-based structures may have to incur if they are transformed into subsidiaries. In discussions on this issue, many bankers say that the subsidiary approach may be more costly in terms of capital, liquidity, operating flexibility (e.g., lending limits, or requirements to conduct certain businesses) and administrative expense than a branch system. The impact on the parent bank's desired return from its operations in host countries may in some cases induce the bank to simply exit the market or refocus its activities. Empirical information to support these arguments, however, was not available.

III. Conclusions and Policy Implications

There is no one size that fits all when it comes to the choice of the organizational structure for cross-border banking groups, given the diversity of their business lines and the varying objectives and stages of financial development of different countries. The preference for a given structure depends, in general, on the stakeholders concerned.

- **From a banking group's perspective,** the choice is affected by the group's business focus and differences in tax and regulatory regimes across jurisdictions. Banks with significant wholesale operations would appear to favor a more centralized branch model that provides the flexibility to manage liquidity and credit risks globally at lower funding costs, support individual affiliates where needed, and serve the needs of large clients. For a global retail bank tapping retail deposits, a more decentralized subsidiary model may be preferable because of the focus of the business on serving local retail clients and the greater importance of local deposit guarantees.

- **From the host/home country perspectives,** home authorities would prefer a cross-border bank structure with stricter firewalls across parts of the group (the subsidiary model) when their banks expand into countries with weak economies and a risky business environment. Host authorities might also prefer the subsidiary model if conditions in their country are better than those in the home country, to shield the local subsidiaries from the problems of the parent. By contrast, countries with underdeveloped financial systems and weak economies may prefer global banks to enter via branches that can facilitate credit services based on the parent's strength. The quality of supervision, adequacy of information-sharing systems, and systemic importance of the affiliate for home and host financial systems also play a role in home/host preferences.

The legal structure for cross-border banking does not, in and of itself, affect the likelihood of a bank failure. While, legally, a group is obligated to support a troubled branch but may walk away from a troubled subsidiary, reputational risks may limit the ability to restrain contagion independent of the legal corporate structure. The problems experienced during the recent crisis had less to do with how groups were legally organized than with the underlying weaknesses in risk management, regulation and supervision, supervisory coordination, and crisis management tools.

These complexities argue for policies and practices that avoid bank business strategies and risk taking that pose undue systemic risk. This requires:

- strengthened capital and liquidity regimes to provide sufficient buffers against adverse shocks (e.g., along the lines proposed by the Basel Committee);

- adequate risk governance, assuring prudent risk management systems by banking groups to cover liquidity and funding pressures in both domestic and global markets;

- sound home and host supervisory regimes that are likely to act preemptively when a parent or an affiliate gets into difficulties, regardless of a branch or a subsidiary; and

- effective dialog and information-sharing mechanisms between home and host supervisors (e.g., via supervisory colleges) to facilitate decisions about the groups' operations, including ensuring participation by host supervisors in supervisory colleges when the parent bank affiliates are systemically important in the host country financial system.

Greater and coordinated efforts are also needed to put in place mechanisms that allow effective resolution of cross-border banks in the event of their failure (see also IMF, 2010b). This requires, in turn: (i) effective contingency planning arrangements, with a robust safety net that covers deposits in foreign branches; and (ii) satisfactory cross-border resolution regimes and burden-sharing arrangements between home/host authorities to provide national authorities with the legal powers to restructure viable businesses of such groups and resolve the unviable ones without major systemic disruptions.

Having these elements in place would contribute to financial stability, make home/host authorities more indifferent between specific legal structures, and allow banks to organize themselves in a way that best fits their business models. Imposing a particular organizational structure across the board would introduce inefficiencies and eliminate the advantages a given structure provides to a given business model, while imposing costs on the group's ability to manage risks during normal times and support affiliates at stressful times.

Until adequate progress is made in designing effective cross-border resolution regimes, resolving cross-border banking groups that are organized as subsidiaries may, in principle, be less costly or destabilizing than resolving banking groups organized as branches. For both retail and wholesale banks, healthy subsidiaries that operate independently of the parent bank will be able to better survive the failure of the parent or other affiliates within the group than individual branches, even though remaining subsidiaries could come under pressure due to confidence effects. In the event of a restructuring of a banking group, separate subsidiaries may be sold more easily to other investors and banks.

While a subsidiary structure may partially address financial stability concerns, this solution does not justify abandoning the efforts to achieve the first-best solution. Effective and harmonized cross-border resolution regimes accompanied by equitable burden-sharing mechanisms should remain a key priority, along with adequate risk management systems, strong capital and liquidity frameworks, and effective home/host arrangements for supervision and coordination.

Appendix I: Spanish Cross-Border Banking Model

This appendix describes the key features of the cross-border Spanish banking models.

Major internationally active Spanish banks enter host country financial systems through locally incorporated subsidiaries more often than other large, mature market banks. The subsidiaries typically rely on local deposits and traditional sources of funding that they believe are sufficient for developing retail-oriented businesses. In case of domestic liquidity shortages, subsidiaries can tap the parent for assistance, albeit at a premium. In normal conditions, however, their business model has been designed to be decentralized, so that subsidiaries are self-sufficient in their funding, which is often raised under their own name. Moreover, some of them have implemented a model with decentralized management of the different currencies in which their business units operate.

The subsidiaries have independent governance, though boards of directors are appointed by the head office. Credit risk is managed at the subsidiary level subject to limits and tailored to specific host regulatory requirements. Risk management and control functions at the group level and individual units are characterized by common policies, tools, information systems, processes, and models.

A number of factors play a role in the choice of such a business model:

- The adoption of the subsidiary structure reflects the fact that the group strategy is based on a retail business model aimed at ensuring viability of the enterprise in the longer run. The guiding philosophy is that basing business on a network of self-financed entities provides for better risk management.

- The decentralized model is partly the legacy of past corporate structures and risk management arising from the groups' acquisitions. In some cases, a process of de-localization of business units was initiated in Latin America at a time when country risk was perceived to be high. Subsidiarization was a conscious choice to limit the spread of problems in individual units to the parent or the group.

- The home country regulator, the Bank of Spain, supported a model of decentralized liquidity management. Moreover, in principle, it can limit overseas branching of Spanish banks on the basis of a set of factors (e.g., if the branch is not going to be subject to effective host supervisory control) that are more extensive than those with which it can limit subsidiaries.

While management of funding is decentralized, the broad strategy of liquidity growth and the guidelines of funding policy are often set at the group level. In some cases, if a new funding tool is to be implemented in a particular country unit, the decision is made by the group Asset Liabilities Committee with subsequent technical support from the parent.

APPENDIX II: BANKING INDUSTRY VIEWS ON THE STAND-ALONE SUBSIDIARIZATION (SAS) APPROACH

Table A1. Banking Industry Views on SAS—A Survey of Selected Global Banks

Banking Groups	Views
Global Investment Bank	• Trapping pools of liquidity in legal entities should be avoided, and banks should be able to transfer excess liquidity across the group. The bank uses branches in certain locations and subsidiaries in emerging markets and is concerned about losing flexibility in managing capital and liquidity within the group, which may in turn increase systemic risk.
Global Investment Bank	• Concerned about the possibility of trapped liquidity at individual subsidiaries (through cushions of liquidity at subsidiaries and treatment of affiliates).
Global Retail Bank	• The benefits to stability are significant and the costs manageable. • Subsidiarization provides a medium-term orientation for the business model, including funding stability and discipline for the local subsidiaries. • An important side effect is the development of local capital markets. • Business models heavily focused on local retail banking with minimal reliance on short-term wholesale funding are very compatible with SAS. • Broader franchise and reputational concerns are “an element” in the decision to provide a subsidiary with capital and liquidity support during a crisis (but at market prices or higher). • Forcing branches to convert into stand-alone subsidiaries would likely have a material impact on corporate lending activity for the bank’s wholesale operations.
Global Universal Bank	• Capital and liquidity pools in each of its affiliates and the way the bank is structured to ensure self-sufficiency have served the bank well. The bank is concerned about the loss of ability to initiate cross-border support within the group to cope with a temporary liquidity crisis and support affiliates when needed. The loss of these capabilities would be detrimental to the group as a whole. Reputational cost of not supporting subsidiaries is high. It is good to keep flexibility in structure.
Global Universal Bank	• SAS will stop consolidation. Country by country silos will reduce banks’ ability to expand in other countries and fund large customers. It will have direct effects on their business models since the banks tend to use a branch model for wholesale activities and a subsidiary model for retail activities. What is needed is an articulation of an effective exchange of information between home and host authorities.
Global Universal Bank	• There should not be a forced change to a banking group structure; a mix of branches and subsidiaries should be permitted based on the business model of a particular group. • What is needed is better control/monitoring of capital and liquidity flows within the banking group; enhanced capital and liquidity regimes; effective coordination of regulation and supervision by home/host authorities; strong risk management and governance by banks; establishment of crisis management and contingency mechanisms. • Capital and liquidity being ring-fenced in different parts of the world will reduce the ability to serve large clients, manage liquidity risks, cope with stressful conditions; will lead to higher cost and reduced availability of credit; and cause increased concentration of risk.
Global Universal Bank	• Worried about a growing number of jurisdictions that are imposing restrictions on liquidity transfers not only on the subsidiaries but also branches. This development is inefficient from a liquidity risk management perspective as well as from a systemic risk perspective, with the inability of the group to transfer liquidity from one location to where it is most needed. The bank questions the benefit for a bank holding company of having a stand-alone subsidiary and the limited resolution benefits given the importance of reputational costs.
Global Universal Bank	• Significant concern about various jurisdictions adopting restrictive and nationalistic approaches on liquidity management of affiliates, which would raise the cost of funding and affect liquidity risk management capacity of the group.

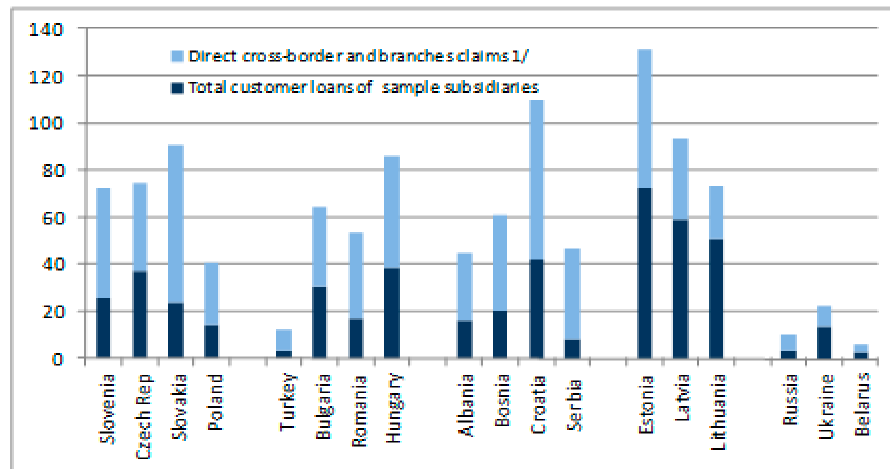
APPENDIX III: AN ILLUSTRATIVE SIMULATION OF CAPITAL COSTS OF RING-FENCING[22]

This appendix illustrates the potential impact of ring-fencing (i.e., different restrictions on cross-border transfers of excess profits and/or capital between a parent bank and its subsidiaries located in different jurisdictions) on cross-border banks. The cost of ring-fencing for banks is measured in terms of the amount of additional capital that might be needed if these banks were restricted in the extent to which they could reallocate excess profits and capital across jurisdictions following a shock to credit quality in an affiliate. In particular, this appendix simulates the potential capital needs of 25 major European cross-border banking groups resulting from a credit shock affecting their affiliates in central, eastern, and southern Europe (CESE). The simulations show that under stricter forms of ring-fencing, sample banking groups have substantially larger needs for capital buffers at the parent and/or subsidiary level than under less strict (or in the absence of any) ring-fencing.

Data

The analysis focuses on 25 European cross-border banking groups that are domiciled in Austria, Belgium, Denmark, France, Germany, Greece, Italy, the Netherlands, and Sweden and that have significant presence in the CESE region (Figure 3), including through their 113 subsidiaries operating in 18 CESE countries. While the main focus is on the groups' indirect exposures through the subsidiaries incorporated in the CESE countries, their direct cross-border lending and lending through branches in the CESE region are considered as well.

Figure 3. Total Foreign Claims of Sample Banking Groups on the CESE Countries
(in percent of host country GDP)



Sources: Bankscope, national authorities, BIS, and staff estimates.

[22] For more details, see Cerutti et al. (2010).

Methodology

The CESE credit shock refers to the deterioration in macroeconomic conditions over the period of 2009–10 leading to an increase in nonperforming loans (NPLs) and a decrease in returns on assets (ROAs) of the CESE subsidiaries. The simulation of the shock relies largely on the actual data for 2009 and on projections using panel regression models for the CESE country-level NPLs and ROAs for 2010.

The capital needs resulting from the CESE credit shock are estimated in two steps:

- For each subsidiary, the capital need is defined as the amount of capital required to bring its post-shock capital-asset ratio (CAR) back to either the country-specific (Basel II) regulatory minimum or to the subsidiary-specific pre-shock level. The latter is conservative in that it requires subsidiaries not to run down pre-shock buffers.

- At the group level, total capital needs are computed by adding up all the capital needs of individual subsidiaries (and also losses on direct cross-border exposures of parent banks, in some simulations) and offsetting them against any other funds (i.e., excess profits and/or capital) that can be re-allocated from other parts of the banking group.

Hence, the resulting total capital needs at the group level depend on the availability of excess profits and/or capital in the subsidiaries and parent bank, as well as on the degree to which these funds (excess profits and/or capital) can be reallocated within a group.

Four scenarios with varying degree of ring-fencing are considered in the simulation exercise (see Table A2 for the detailed definitions of the banking groups' capital needs arising from a shock to their CESE subsidiaries):

- *The no ring-fencing* scenario assumes that parent bank's profits, as well as subsidiaries' excess profits *and* excess capital buffers can be used to cover a capital shortfall in any of the subsidiaries.

- *The partial ring-fencing* scenario assumes that parent bank's profits and *only* subsidiaries' excess profits, but not excess capital, can be re-allocated within a group.

- The *near-complete ring-fencing* scenario assumes that only transfers from the parent to the subsidiaries are allowed.

- *The full ring-fencing*, i.e., stand-alone subsidiarization (SAS), assumes that no transfers between any of the group's affiliates (including from the parent bank to subsidiaries) can take place.

Results

For the sample cross-border banking groups, the differences between capital needs under different forms of ring-fencing turn out to be significant: in the ring-fencing/SAS scenarios, the sample banks' aggregate recapitalization needs are 1.5–3 times higher than in the case of no

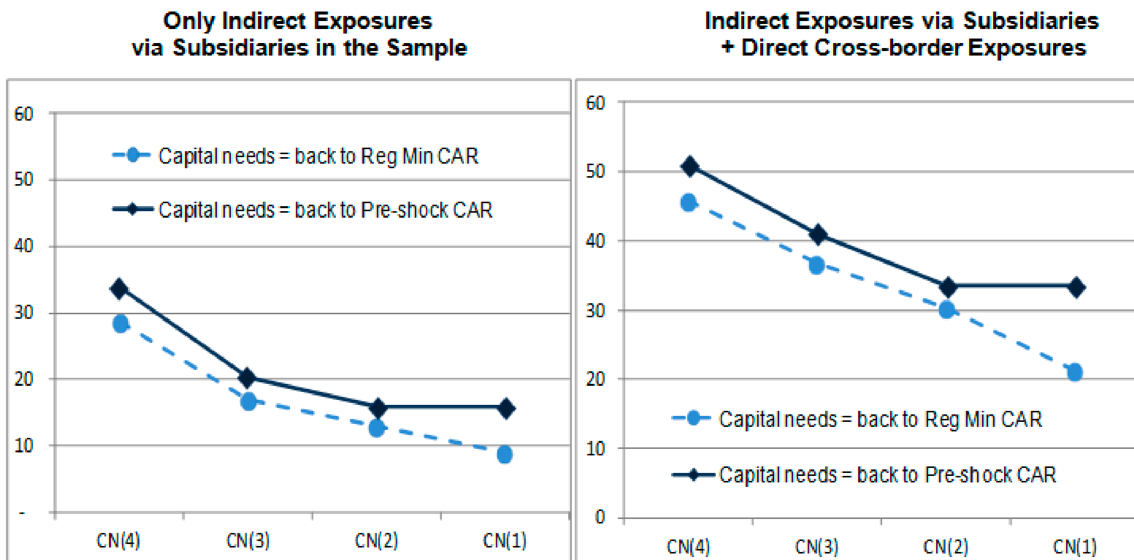
ring-fencing in response to a simulated credit shock affecting the banks' CESE subsidiaries over the 2009–10 period (Figure 6).

Table A2. Definitions of Capital Needs Under Four Ring-Fencing Scenarios

Degree of Ring-fencing	Capital Needs after a CESE Credit Shock (if positive)
No ring-fencing	CN(1) = sum of capital needs of all CESE subsidiaries — sum of excess profits and capital of all CESE subsidiaries — profits of the parent bank
Partial ring-fencing	CN(2) = sum of capital needs of all CESE subsidiaries — sum of excess profits of all CESE subsidiaries — profits of the parent bank
Near-complete ring-fencing	CN(3) = sum of capital needs of all CESE subsidiaries — profits of the parent bank
Stand-alone subsidiarization	CN(4) = sum of capital needs of all CESE subsidiaries

The results are robust to variations in the methodology for computing the banking groups' recapitalization needs, including (i) adding losses incurred on direct cross-border lending and lending through branches in the CESE region, (ii) redefining the recapitalization need of a subsidiary as the amount of capital required to bring its post-shock CAR back to the subsidiary-specific pre-shock (end-2008) level (instead of the country-specific regulatory minimum), and (iii) using different approaches to computing the post-shock adjustment in risk-weighted assets for the post-shock CARs (standardized versus the Basel II Internal Ratings Based (IRB) approach).

Figure 4. Aggregate Capital Needs Resulting from a CESE Shock
(*In billions of dollars*)



Source: Authors' estimates.

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