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Cross-Border Banking in EMDEs

Trends, Scale, and Policy Implications

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Abstract

Cross-border banking in emerging markets and developing economies has expanded across most World Bank regions and has become large relative to some home and host economies. This paper analyzes recent trends of bank activities of financial groups headquartered in 46 emerging markets and developing economies, as well as the ownership structure of 51 prominent financial groups from emerging markets and developing economies. The data suggest that cross-border groups in most regions have grown in size, geographical reach, range of activities, and group complexity. The increasing relevance and complexity of cross-border banking pose challenges for policy makers in home and host jurisdictions as well as for the groups themselves to maximize the benefits of international financial integration while mitigating the risks. This balance calls for stronger consolidated supervision, more regional coordination and harmonization, and better group-wide corporate governance and controls. However, key challenges include institutional capacity constraints and political factors.

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Produced by the Research Support Team

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1. Introduction

Cross-border banking in Emerging Markets and Developing Economies (EMDEs) has expanded across most regions and has become large relative to some home and host economies. Financial integration may produce deeper, more inclusive, and more competitive financial systems which can contribute to inclusive growth, but also raises the prospect of instability and contagion.

This paper analyzes recent trends of bank activities of financial groups headquartered in 46 EMDEs ("EMDE groups"), as well as the ownership structure of 51 prominent EMDE groups. The analysis shows that EMDE groups have grown in terms of size, geographical reach, range of activities, and group complexity (Tables 1 and 3). In particular, EMDE groups had assets in EMDE host countries equivalent to \$1 trillion (of \$2.4 trillion in total assets from all cross-border banks in EMDE host countries) by end-2013. In addition, EMDE groups from 46 EMDE home countries had presence in 75 EMDE host countries in the same period. Also, EMDE groups were important for both home and host countries as the median (75^{th} percentile) size of their subsidiaries in overseas EMDEs is equivalent to 2% (8%) of total bank assets in the group's home country, and 11% (31%) of total bank assets in the group's host country. Finally, data from the sample of 51 prominent EMDE groups show that, as of September2017, each EMDE group had, on average, majority ownership of 30 foreign subsidiaries, of which 17 are located in EMDE host countries and 13 of these foreign subsidiaries are in the real sector. Subsidiaries were in some cases majority-owned up to the 6th level down the ownership chain, suggesting that EMDE groups have complex morphologies.

Bank regionalization has increased in most regions, driven by, among others, retrenchment of international banks and attractive opportunities abroad to grow and diversify. For example, Sub-Saharan Africa (SSA) has seen an expansion of pan-African banking groups, including from South Africa and Nigeria. While some regional banks in Europe and Central Asia (ECA) branched out, including from the Russian Federation, Slovenia, and Hungary, cross-border banking in East Asia and Pacific (EAP) has been rising, with important roles for Malaysian and Singaporean banks. Latin America and the Caribbean (LAC), and Central America in particular, have experienced a significant expansion of regional financial conglomerates, with Brazilian and Colombian banks playing key roles. Qatar National Bank has become one of the largest regionally active banks in the Middle East and North Africa (MENA), and Moroccan banks have seen an unprecedented expansion in cross-border activities, particularly in Sub-Saharan Africa.

Table 1: Banking activities of groups headquartered in EMDEs ("EMDE groups")

Subsidiaries of EMDE groups in overseas EMDEs[1]	
$1 trillion *Total assets*	**11%** *Annual 2009-13 growth rate of total assets*
Countries with EMDE group presence	
46 *Number of home EMDEs*	**75** *Number of host EMDEs*
Relative size of subsidiaries of EMDE groups in overseas EMDEs	
2% (8%) *Median (75^{th} pctile) share of total banking assets in the group's* ***home***	**11% (31%)** *Median (75^{th} pctile) share of total banking assets in the group's* ***host***
Cross-border claims of EMDE groups from seven countries on overseas EMDEs[2]	
$847 billion *Vis-à-vis all counterparties around the world*	**$233 billion** *Vis-à-vis intra-group entities around the world*

1. Data for 2013 from Claessens and Van Horen (2015); Bankscope; team calculations.
2. Data for 2017 Q1 from Bank for International Settlements; team calculations. Locational bank claims from EMDE groups headquartered in Brazil, Chile, South Africa, Mexico, Panama, Korea, Turkey.

There is an extensive literature on the implications of international banking in EMDEs which has lessons for dealing with cross-border banking activities (e.g., Cull and Martinez Peria, 2010; Claessens, 2016, and World Bank, 2017, for an overview; CGFS, 2014 for EMDEs; IMF, 2015 for SSA; Eyraud, et al., 2017 for LAC). A key message is that there are trade-offs between the benefits and costs of financial integration through cross-border banking, which depend on the interaction between home and host country factors (e.g., information infrastructure, market structure, monetary policy, regulation and supervision) as well as bank group features. The literature has focused on four aspects of that trade-off: (i) financial development and inclusion; (ii) international financial integration and diversification; (iii) home-host coordination; and (iv) effectiveness of monetary policy.

(i) Financial development and inclusion: Cross-border banking contributes to economic growth by increasing financial development in host countries. Foreign banks can promote financial deepening by bringing in scale, capital, expertise, and new technologies (e.g., credit scoring systems, digital financial services). This boosts efficiency and competitiveness (Claessens et al., 2001; Claessens and Levine, 2004) leading to better capital allocation, including better access for households and firms, which in turn enhances economic growth (Bruno and Hauswald, 2014). However, in a weak regulatory and supervisory environment, foreign banks may contribute boom and bust credit cycles leading to inferior growth outcomes (Forbes and Warnock, 2012) or to increased domestic bank risk-taking (Wu et al., 2017). Access to finance may be reduced when information infrastructures and competition are weak leading foreign banks to focus on large corporations only, possibly driving domestic banks out of business who typically cater to SMEs and households.

(ii) International financial integration and diversification: Cross-border banking may facilitate FDI flows and trade (Poelhekke, 2015; Claessens et al., 2014). Moreover, it can enhance risk diversification and smooth local economic downturns, which contributes to stability in host countries (De Haas and Van Lelyveld, 2010). However, international banking ties can also act as conduits for shocks to host countries stemming from home countries as evidenced in ECA where large international banks came under pressure to retrench to home markets due to capital and liquidity pressures (e.g., De Haas and Van Lelyveld, 2014; Feyen et al., 2014). Such retrenchment also occurred in LAC and EAP (Choi et al., 2016). Foreign banks act less as a transmission channel of shocks when they are funded by deposits locally, when they are important for the parent bank and when home and host countries are closer to each other (both physically and culturally) (Cetorelli and Goldberg, 2012a; De Haas and van Horen, 2013).

(iii) Home-host coordination: Effective cooperation between home and host supervisors is crucial to reduce costs associated with international banking. The Vienna Initiative, for example, had a stabilizing effect for emerging European countries suffering during the Global Financial Crisis (De Haas et al., 2015). Nevertheless, home bias may lead to sub-optimal outcomes (Beck et al., 2013) and prompt host supervisors to "ring-fence" banks (D'Hulster and Ötker-Robe, 2015).

(iv) Effectiveness of monetary policy: Effectiveness of monetary policy could be reduced in hosts (due to liquidity support from parent banks), and more importantly, can be affected by changes in monetary policy in the home country (Cetorelli and Goldberg, 2012b). Research suggests that the physical presence of foreign banks in the host matters in this context -- the impact of a change in monetary policy in home countries on loan growth of foreign banks in host countries is smaller if they have "brick and mortar" presence (Demirguc-Kunt et al., 2017).

The contribution of this paper to the literature is the quantitative characterization of the recent cross-border banking phenomenon in EMDEs in terms of its historical and regional trends; and the size, geographical extension, and complexity of the EMDE groups.

The increasing relevance and complexity of cross-border banking in EMDEs pose challenges for policy makers in both home and host jurisdictions as well as for the groups themselves to maximize the benefits of international financial integration while mitigating the risks. This balance calls for:

a) Stronger consolidated supervision: which includes regulatory power to supervise the holding company or the real sector arms of the EMDE group; effectively enforced regulation that targets capital, liquidity, risk management, and governance at group level; adequate on-site supervision framework with power to supervise overseas subsidiaries; supervisory stress testing practices that account for sectoral, market, and within-group linkages; among others.

b) More regional coordination and harmonization: enhanced regional coordination and regulatory harmonization between home and host countries that effectively address regulatory arbitrage and the build-up of cross-border risks.

c) Better group-wide corporate governance and controls: as EMDE groups have turned more complex, it is vital that groups themselves implement effective frameworks for group-wide, cross-border corporate governance, capital and liquidity planning, and risk management (including intra-group transactions and exposures). Such systems will also provide more reliable information for regulators and make group supervision more effective.

However, both EMDE home and host jurisdictions face key challenges that include institutional capacity constraints and political factors.

This paper is organized as follows. Section 2 describes the main trends and drivers of cross-border banking in EMDEs between 2000 and 2013. Section 3 discusses the scale of cross-border EMDE groups in terms of size, geographical reach, range of activities, and group complexity. Finally, Section 4 presents four areas of policy implications of our results.

2. Main trends and drivers of cross-border banking in EMDEs

Cross-border banking matters for financial and economic development and policy making in most World Bank regions and continues to grow. Before the global crisis, international expansion of financial groups from advanced countries (AEs) drove this trend, in part due to increasing global trade and financial liberalization (BIS, 2017). As a result, by end-2013 total bank assets in EMDE host countries amounted to $2.4 trillion.

However, in the wake of the global financial crisis, financial groups headquartered in EMDEs have increased their regional and even global footprints (Figure 1 provides an overview, and Annexes 1 and 2 provide details; also see World Bank, 2017; and CGFS, 2014) -- this trend is expected to strengthen further in most regions, but not in all (e.g., ECA, see Box 1). EMDE groups typically cater to wholesale and retail customers and offer traditional banking services in respective host countries. However, some EMDE groups also provide services through finance companies and investment vehicles.

Figure 1: Bilateral cross-border EMDE banking ties

Panel A: Ties between EMDEs and the rest of the world

Panel B: Ties between EMDEs only

Source: Claessens and Van Horen (2015); Bankscope; team calculations. Bilateral country links represent the strongest banking tie between a home and a host country during the period 2000-13. Tie strength is defined as total bank assets from home banks located in the host relative to total banking assets in the host. Darker lines indicate stronger ties.

By end-2013, overseas bank assets of EMDE groups amounted to $1.2 trillion, of which $1 trillion was through subsidiaries located in EMDE host countries, mostly in East Asia (Table 2, Panel A).[1] Between 2009 and 2013, EMDE group assets in foreign banking subsidiaries grew by 10.9 percent on average per year; at 11.3 percent per annum, foreign assets in host EMDEs grew even faster.[2] The recent expansion of cross-border banking in EMDEs is driven by EMDE groups that hail from South Africa, Russia, Colombia, China, Turkey, Nigeria, Kenya, Lebanon, and Mali.

The expansion of cross-border banking in EMDEs comes with benefits and costs, and the trade-off depends on the interaction of bilateral and regional supervisory and regulatory frameworks, economic and political factors, and bank group characteristics, including funding models, structure, and strategies. On the positive side, growing geographical reach and relative size of EMDE groups further regional financial integration, risk diversification, and the mobilization of savings. It can also promote financial market deepening and credit provision to the real economy in host countries and can also help smooth local economic cycles, particularly since many have shallow, bank-centric systems. On the downside, cross-border banking of increasingly complex groups with activities across multiple sectors can give rise to financial instability and regional contagion risks, and may interfere with local credit cycles and monetary policy.

Table 2: Cross-border banking ties between EMDEs (2013)

Panel A: Assets, loans, and deposits of EMDE groups in overseas banking subsidiaries

Home region	Total assets in host EMDEs		Net loans provided in host EMDEs		Deposits held in host EMDEs	
	US$ billion	% of total	US$ billion	% of total	US$ billion	% of total
EAP	701.2	69.6	378.3	68.5	584.0	70.3
ECA	52.4	5.2	33.7	6.1	41.9	5.0
LAC	61.1	6.1	38.9	7.1	49.2	5.9
MENA	91.8	9.1	47.9	8.7	73.2	8.8
SAR	6.1	0.6	2.2	0.4	3.5	0.4
SSA	94.3	9.4	51.1	9.3	78.8	9.5
Total	1006.8	100.0	552.1	100.0	830.7	100.0

[1] Foreign and overseas are used interchangeably.

[2] This figure is not driven by a coverage bias in the data. The average annual growth rate of assets of the 216 foreign subsidiaries which were active between 2009 and 2013 is 14.3 percent.

Panel B: Distribution of number of overseas banking subsidiaries of EMDE groups

		Home region						Total host EMDEs	Overseas subs from AEs
		EAP	ECA	LAC	MENA	SAR	SSA		
Host region	EAP	47	2	0	1	3	1	54	64
	ECA	2	51	1	10	0	0	64	113
	LAC	1	1	66	1	0	0	69	90
	MENA	0	0	0	26	0	0	26	17
	SAR	1	0	0	3	2	0	6	8
	SSA	1	0	0	12	7	80	100	48
	Total home EMDEs	52	54	67	53	12	81	319	340

Source: Claessens and van Horen (2015); Bankscope; team calculations.

Panel C: Cross-border claims of EMDE groups on overseas EMDEs (US$ billions)

	Claims vis-à-vis overseas EMDEs							Claims vis-à-vis AEs*	Claims vis-à-vis all countries	
	EAP	ECA	LAC	MENA	SAR	SSA	Total	Total	Total	Intra-group
All Sectors										
Brazil	0.2	..	2.9	..	..	0.0	3.1	77.4	80.5	..
Chile	1.2	0.0	2.7	..	0.0	0.0	3.9	11.2	15.1	..
Korea, Rep.	69.0	7.3	13.2	1.7	5.1	1.6	97.8	121.7	219.5	..
Mexico	0.1	0.0	2.2	0.0	0.0	0.0	2.3	16.3	18.7	..
Panama	..	..	..	..	..	..	..	..	55.4	..
Turkey	..	..	..	..	..	..	..	..	35.1	..
South Africa	1.1	0.1	0.2	0.1	0.4	8.6	10.5	31.4	41.9	..
Taiwan, China	91.2	1.2	8.3	0.1	3.1	4.9	108.9	271.9	380.8	..
Total	**162.8**	**8.6**	**29.5**	**1.9**	**8.6**	**15.2**	**226.5**	**620.4**	**846.9**	..
Banking Sector										
Brazil	0.0	..	2.9	..	..	0.0	2.9	75.2	78.2	55.3
Chile	1.1	0.0	1.9	..	..	0.0	3.1	10.8	13.8	..
Korea, Rep.	38.3	1.6	1.6	0.3	3.0	0.1	44.8	76.2	121.0	41.1
Mexico	0.1	0.0	0.5	..	0.0	0.0	0.6	10.4	11.0	..
Panama	..	..	..	..	..	..	..	..	33.4	14.4
Turkey	..	..	..	..	..	..	..	..	28.7	17.9
South Africa	0.7	0.0	0.0	0.1	0.3	2.1	3.1	24.3	27.4	12.4
Taiwan, China	65.9	0.7	1.1	0.1	1.2	2.8	71.8	129.4	201.1	92.4
Total	**106.1**	**2.3**	**8.0**	**0.5**	**4.4**	**5.0**	**126.3**	**388.4**	**514.8**	**233.4**

Source: Locational Banking Statistics, Bank for International Settlements; team calculations.

.. = Data not available.

* Including claims to international organizations for Mexico and Taiwan.

Various factors contribute to the EMDE cross-border banking phenomenon, including: (i) the retrenchment of AE banks due to balance sheet repair and changing business models (including de-risking)[3] after the global crisis, (ii) unfavorable economic and regulatory conditions, and institutional constraints in the home country which impede domestic expansion or make it less attractive, and (iii) increasing cross-border corporate banking, trade, and other economic ties -- supported by financial deepening in host countries -- which provide new opportunities for growth and diversification, typically based on cultural and geographical proximity.

Cross-border banking growth prospects between EMDEs differ by region and even country. Besides (bilateral) macroeconomic and trade factors, an important issue is the risk of uneven implementation of financial regulations and national protective measures (e.g., "ring-fencing" requirements on local subsidiaries of foreign banks so host supervisors can exert more control) which can create an unlevel playing field for EMDE groups and deter them from expanding and deepening their international operations.

In this context, the mode of operation of an EMDE group in the host country is an essential factor (i.e., through a subsidiary or a branch; also see Fiechter et al., 2011). While branches can be cost-efficient for EMDE groups to expand rapidly, allow for the flow of intra-group capital and liquidity, and benefit from the strength of the parent group, host regulators also have less control over them -- particularly during a crisis when the EMDE group comes under stress -- compared to a locally incorporated and legally independent subsidiary which is required to hold capital and source liquidity in the host country. In the wake of the global financial crisis when the pernicious impacts of a foreign bank branch model supported by wholesale parent funding became apparent, some host regulators have pushed towards the "subsidiary model" with an emphasis on local funding, particularly for EMDE groups with systemically relevant (retail) operations in

[3] Globally, correspondent banking relationships, predominantly with AE banks, have declined, leaving a gap in some cases that impedes cross-border activity such as trade and remittances. A recent survey from the International Finance Corporation (IFC, 2017) found that over one-quarter of bank respondents in Europe and Central Asia and Latin America and the Caribbean reported decreases, and over one-third in Sub-Saharan Africa. 72 percent of global respondents point to external factors such as compliance costs with home and host regulation, in Sub-Saharan Africa in particular. These costs pertain to, inter alia, software or system upgrades; limitations in customer information; a lack of harmonization in global, regional and local regulatory requirements; and lack of well-trained staff.

the host. The stability and efficiency trade-off of branches versus subsidiaries thus depends on specific conditions.

Finally, fintech is a critical driver and is rapidly changing the banking landscape. Financial innovations (e.g., cheaper and faster remittances & payments services and collateral registries using blockchain-based methodologies, peer-to-peer lending, credit scoring based on online platform data) can facilitate cross-border expansion of EMDE groups by helping them reach underserved segments of the household and firm population with a new range of products and services; previously, such expansion might have been impossible or cost-prohibitive. However, fintech also poses challenges for regulators to nurture innovation and competition, while keeping risks related to financial stability, consumer protection, and AML/CFT at bay.

3. Scale and characteristics of EMDE groups

By end-2013, EMDE groups operated 319 overseas banking subsidiaries in EMDE hosts and 49 in AEs (Table 2, Panel B and Annex 2). This is slightly less than AE groups, which were active through 340 overseas banking subsidiaries in EMDE hosts. Through its EMDE group operations, the median EMDE home country was connected to four EMDE hosts. The most and the least interconnected regions are Sub-Saharan Africa (SSA) and South Asia (SAR), respectively. The most connected home country is South Africa, which has banking ties to 15 EMDE hosts through overseas activities of South African groups. EMDE groups are mostly active in their own regions, but notable exceptions exist – MENA's groups are quite active in ECA and SSA, for example.

While cross-border bank activities of EMDE groups are often still small relative to most home and host countries' financial sectors, their relevance to both home and host jurisdictions has grown (Figure 2):

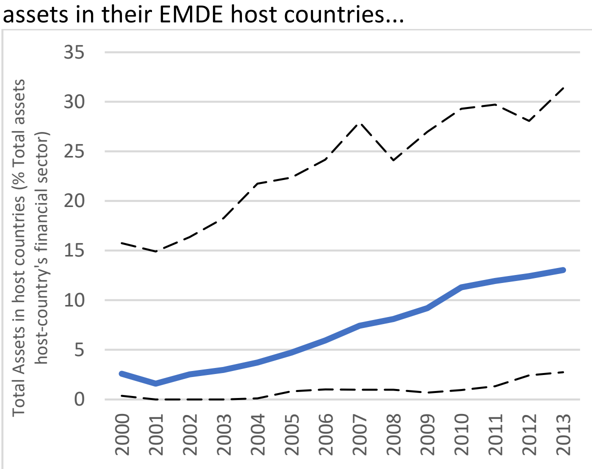
- In the median host country of EMDE groups, assets from EMDE group overseas bank subsidiaries increased by more than 10 percentage points from 2.6 percent of total host bank assets in 2000 to 13 percent in 2013.

- In the median home country of EMDE groups, the proportion of overseas EMDE group assets in bank subsidiaries relative to total home bank assets located in EMDE hosts has more than quadrupled to 2.1 percent in 2013, from 0.4 percent in 2000.

These medians mask substantial variation across countries, as shown by the 75th-25th percentile ranges in Figure 2.

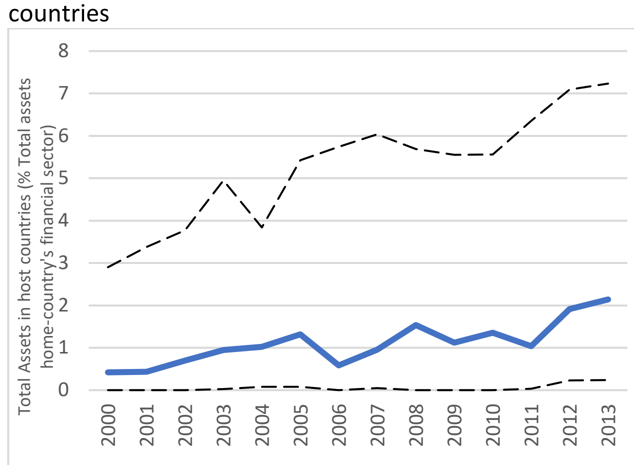
Figure 2: The growing importance of cross-border banking ties between EMDEs

EMDE groups are growing in importance relative to bank assets in their EMDE host countries...



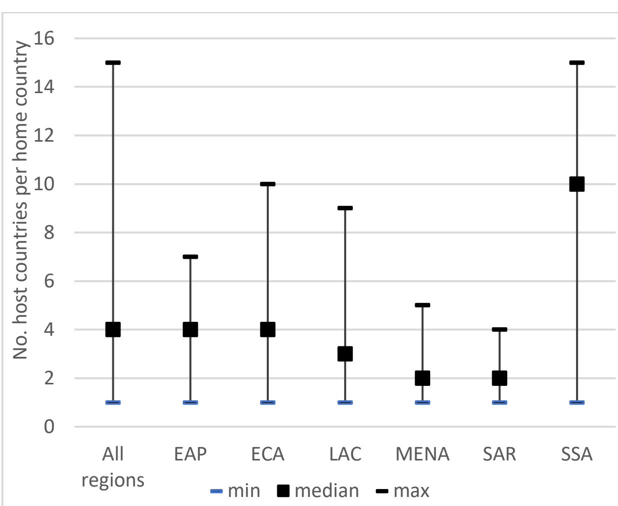
Note: Median in blue, dotted lines are 75th and 25th percentiles

...but also relative to total bank assets in their home countries

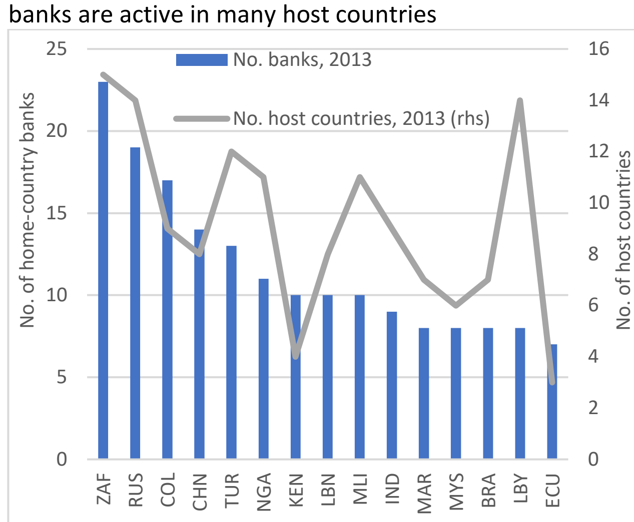


Note: Median in blue, dotted lines are 75th and 25th percentiles

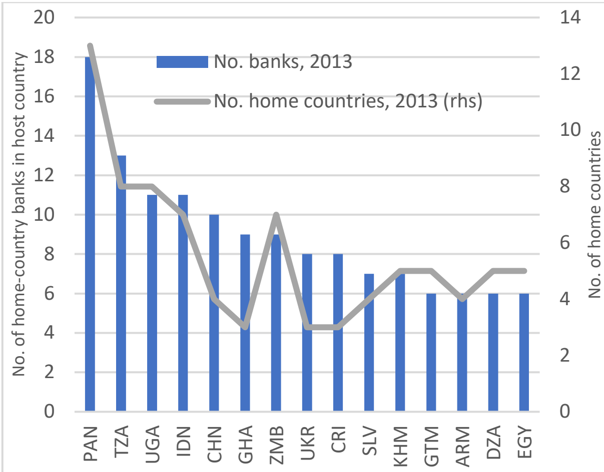
EMDE home countries have cross-border banking ties to multiple EMDE hosts, particularly in SSA



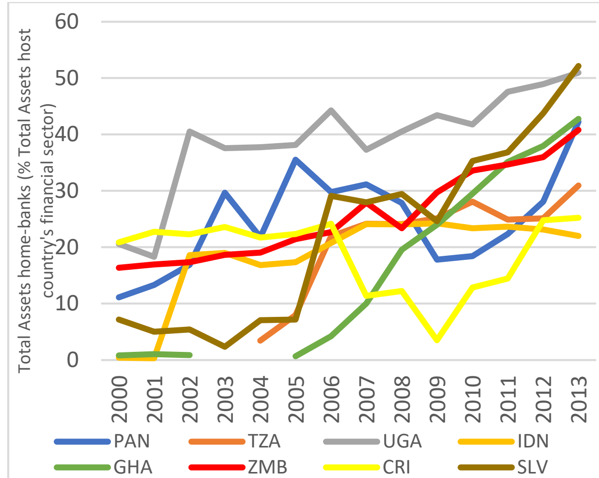
South-Africa, Russia, and Colombia are home to the most EMDE banks which are active in other EMDEs; Lebanon's banks are active in many host countries



Panama, Tanzania, and Uganda host the most foreign EMDE groups. Panama is host to banks from many different home countries



EMDE groups have grown quickly in importance relative to various EMDE hosts' local banking systems, including Panama, Uganda, El Salvador, Ghana, and, Zambia



Source: Claessens and van Horen (2015); Bankscope; team calculations.

Although limited in scope, cross-border claims data from the Bank for International Settlements (BIS) suggest that banking ties between EMDEs have grown faster than elsewhere and that intra-office exposures are sizeable (Table 2, Panel C).[4] The latter indicates that shocks can be more easily transmitted to other countries via the group, as was witnessed during the global crisis in Eastern Europe.

- In 2017 Q1, total outstanding cross-border claims from EMDE groups stood at $847 billion vis-à-vis all counterparties in the whole world and have grown by over 46 percent in the last 5 years.
- Of these global cross-border claims, $227 billion[5] were claims vis-à-vis all counterparties in overseas EMDEs, which have grown by 74 percent in the last 5 years.
- Of these cross-border claims on overseas EMDEs, $126.3 billion were vis-a-vis banks (including intra-group claims), which have grown by 142.6 percent.
- Of the $828.3 billion cross-border claims on all counterparties in the whole world, $515 billion was vis-à-vis banks; $233.4 billion of these claims represent intra-group ties,

[4] The BIS only tracks cross-border locational claims data for banks headquartered in eight EMDEs: Brazil; Chile; South Africa; Mexico; Panama; the Republic of Korea; Taiwan, China; and Turkey. Also, these data are not nationality- but residence-based. Therefore, the data may capture the activities of AE group subsidiaries in these countries.
[5] Data from Turkish banks are not included since the relevant breakdown is not available.

suggesting intra-group liquidity is an essential link between local affiliates and the EMDE group parent.

Based on the expertise of World Bank staff working with EMDEs, we collected information for 51 EMDE groups in 27 countries as of September 2017 (Annex 2, Panel A). These groups are active in 133 host countries of which 92 are EMDEs. We found evidence that these groups are complex in terms of size; geographical reach; the range of activities in both the financial and real sectors; and group morphology (Table 3):

(i) <u>Group size and revenue</u>: total group assets comprise $9.7 trillion, of which $6.5 trillion is held by two Chinese banks. Total assets in overseas financial and real sector subsidiaries of these EMDE stood at $823.7 billion (8.4 percent of group total assets), about half located in EMDE hosts. These subsidiaries also account for a sizeable share of total group revenue generated abroad.

(ii) <u>Group complexity</u>: these groups are complex and span multiple countries and industries. On average, each EMDE group has majority ownership of 30 foreign subsidiaries; 17 are located in EMDE host countries of which 14 reside in the group's own region. Importantly, on average 13 of these foreign subsidiaries are in the real sector. Subsidiaries are in some cases majority-owned up to 6th level down the ownership chain, suggesting groups have complex morphologies as well.

(iii) <u>Materiality of groups in host countries</u>: the size of foreign subsidiaries of these EMDE group is significant in some host countries. Median assets of these subsidiaries are 4.8 percent of host country GDP. However, their size exceeds 10 percent of GDP in various hosts, particularly in small SSA and LAC countries (see Annex 2, Panel B).

Table 3: Key statistics EMDE groups (September 2017)

$9.7 trillion *Total assets*	**4.8%** *Median assets of foreign subs to host GDP*
Number of host countries	
133 *All hosts*	**92** *EMDE hosts only*
Assets in host countries	
$823.7 billion *All hosts*	**$401.4 billion** *EMDE hosts only*
Number of foreign subsidiaries in host countries	

1,503 *All hosts*	**814 (622)** *EMDE hosts only (same region)*
Share of group assets in host countries	
8.4% *All hosts*	**4.1% (3.2%)** *EMDE hosts only (same region)*
Share of group revenue generated in host countries	
10.1% *All hosts*	**7.4% (5.7%)** *EMDE hosts only (same region)*

Source: Orbis Bank Focus; team analysis. Figures cover financial and real sector of majority-owned subsidiaries only. Caveats include significant missing financial information for subsidiaries. Direct ownership information was used in case total ownership was missing. The highest holder in the hierarchy of the corporate group is designated as the parent. Also, consolidation practices differ across countries, including within groups.

A regression analysis using the data for the 51 EMDE banks show the relationship between the international activities of these EMDE groups and various group-level banking outcomes (profitability, market-to-book values, cost-to-income ratio, and bank risk -proxied by NPL over loans) and funding strategies (deposit, short-term funding, and equity funding and well as banks' positions in terms of liquidity and market capitalization). The analysis is built on the following econometric model:

$$Bank\ outcomes_{i,j} = \alpha + \theta_r + \beta Bank\ internationalization_i + \gamma Bank\ Controls_i + \delta Country\ Controls_j + \varepsilon_i,$$

where $Bank\ outcomes_{i,j}$ is the dependent variable for bank *i* from country *j* capturing profitability (return on average assets and net interest margin), market performance (market value of equity over book value of equity) and risk-related outcomes (non-performing loans over gross loans) as well as variables related to costs (cost-to-income ratio), funding, capitalization or liquidity (deposit, short-term funding, equity, market value of equity and liquid assets –all over assets). $Bank\ internationalization_i$, the main variable of interest, is total subsidiary assets over total group assets. In other specifications, we also differentiate between regional vs. non-regional or high-income vs. developing country subsidiary assets over total group assets. $Bank\ Controls_i$ are bank-level control variables including natural logarithm of total assets (size), loans over assets (business model), equity over assets (capitalization) and overhead over assets (bank efficiency) and $Country\ Controls_j$ include standard country-level control variables GDP per capita, GDP per capita growth and inflation. Finally, θ_r is the region fixed effects capturing region related factors not captured by country controls.[6]

Table 4: EMDE groups internationalization, bank performance, risk, efficiency and strategy (September 2017)

	(1)	(2)	(3)	(4)	(5)
Panel A	ROAA	Market-to-book	NIM	NPL over Loans	Cost-to-income
Subsidiary assets over group assets	-0.020**	-0.426	-0.027**	0.056**	0.020
	(0.009)	(0.536)	(0.011)	(0.024)	(0.128)
Observations	51	38	51	46	51
R-squared	0.538	0.670	0.921	0.462	0.372
High-income Subsidiary assets over group assets	-0.003	0.802	0.008	0.242	-0.044
	(0.022)	(0.932)	(0.029)	(0.215)	(0.301)
Developing Subsidiary assets over group assets	-0.022**	-0.571	-0.031***	0.047*	0.027
	(0.009)	(0.512)	(0.011)	(0.027)	(0.130)
Observations	51	38	51	46	51
R-squared	0.548	0.687	0.923	0.510	0.372
Regional Subsidiary assets over group assets	-0.022**	-0.761	-0.031***	0.048*	0.035
	(0.009)	(0.503)	(0.010)	(0.027)	(0.128)
Non-regional Subsidiary assets over group assets	-0.002	1.287*	0.009	0.148	-0.113
	(0.016)	(0.748)	(0.023)	(0.136)	(0.275)
Observations	51	38	51	46	51
R-squared	0.553	0.719	0.924	0.482	0.376

	(1)	(2)	(3)	(4)	(5)
Panel B	Deposits	Short-term funding	Equity	Market Equity	Liquidity
Subsidiary assets over group assets	-0.013	0.047	-0.034	-0.210***	0.021
	(0.084)	(0.051)	(0.031)	(0.068)	(0.070)
Observations	51	51	51	38	51
R-squared	0.501	0.595	0.572	0.614	0.783
High-income Subsidiary assets over group assets	-0.331*	0.340**	0.052	-0.089	0.089
	(0.180)	(0.125)	(0.107)	(0.109)	(0.123)
Developing Subsidiary assets over group assets	0.020	0.017	-0.042	-0.218***	0.014
	(0.097)	(0.060)	(0.029)	(0.066)	(0.077)
Observations	51	51	51	38	51
R-squared	0.533	0.650	0.590	0.624	0.784
Regional Subsidiary assets over group assets	0.013	0.026	-0.035	-0.234***	0.023
	(0.095)	(0.058)	(0.032)	(0.069)	(0.074)
Non-regional Subsidiary assets over group assets	-0.251*	0.238**	-0.021	-0.079	0.004
	(0.145)	(0.090)	(0.079)	(0.094)	(0.113)
Observations	51	51	51	38	51
R-squared	0.526	0.628	0.573	0.632	0.783

Notes: Each column in Panel A and B contains coefficients from the bank internationalization variables from three regressions (baseline specification, high-income vs. developing, and regional vs. non-regional subsidiaries specifications). All regressions include bank- and country-level control variables (ln(assets), loans over assets, equity over assets, overhead over assets, ln(real GDP per capita), inflation, GDP per capita growth), and region dummies. Panel A, column 5, does not include overhead over assets and Panel B, columns 3 and 4, do not include equity over assets as control variables. *, **, and *** represent statistical significance at 10%, 5%, and 1% two-tailed level, respectively. Robust standard errors for heteroscedasticity appear in parentheses.

[6] Summary statistics of all the variables used in the analysis is provided in Annex 3.

The regression results in Table 4 indicate that international subsidiary assets are generally negatively correlated with return on assets and positively associated with bank risk proxied by NPL over loans (mainly led by developing country and regional presence). The association between the degree and composition of international activities and bank costs is not statistically significant, but there is a negative association between net interest margins and bank internationalization, possibly indicating higher efficiency in financial intermediation. There is only a marginal positive correlation between non-regional subsidiary size and market-to-book ratio (Panel A, column 2). Internationalization of the EMDE banks also is not significantly correlated with equity and liquidity over assets. Yet, if bank capitalization is measured as market value of equity, internationalization, and especially through subsidiaries in developing and regional subsidiaries, is significantly associated with lower market capitalization (Panel B, column 4). Finally, Panel B, columns 1 and 2 suggest banks with higher high-income country or non-regional subsidiary presence fund themselves less with deposits and more with short-term funding at the group-level.

Although these results do not have a causal interpretation, due to non-random selection of our sample, cross-sectional and contemporaneous nature of our analysis and various endogeneity issues, the analysis still provides valuable insights to policy makers regarding bank profitability, risk and funding stability of the prominent international banking groups and how they compare with their EMDE counterparts. The results indicate that some aspects of internationalization are associated with adverse banking outcomes such as lower return on assets (particularly if subsidiaries are in developing countries and/or regional countries), higher risk (i.e., higher NPLs), and lower market capitalization (i.e., lower market equity). Even though internationalization is correlated with smaller net interest margins -which can be interpreted as improved efficiency, it is also associated with a change in funding strategy toward using fewer deposits and more short-term funding for the banks with developed/non-regional country presence). Despite all the caveats, taken together, these correlations raise some concerns about possible financial stability implications stemming from low profitability and market capitalization, low asset quality, and higher wholesale funding.

4. Policy Implications

Financial groups give rise to distinct risks such as the multiple use of the same capital ("gearing"), excessive intra-group exposures, contagion, reputation risks, and conflicts of interest (BCBS, 2012a). Even though it is challenging to build an accurate risk profile for a group that only operates domestically, it is even more challenging to do so for a group that also operates across borders. As such, the expansion of cross-border banking groups presents a complex set of challenges for regulators in both home and host jurisdictions as well as for the groups themselves; institutional capacity is a key constraint in practice for all involved parties in many EMDEs. The following (non-exhaustive) lessons have been distilled from a large policy literature as well as recent Financial Sector Assessment Programs (FSAPs) in EMDEs, including *Basel Core Principles* (BCBS, 2012b) assessments.

- <u>Consolidated supervision</u>: In many EMDEs, legal and regulatory deficiencies exist which impede effective supervision at the group-wide level. For example, the legal definition of a "financial group" or "related party" may be absent, and regulators may not have the power to directly supervise the holding company or real sector arms of the group or require changes to the group's structure. Effectively enforced regulation that targets capital, liquidity, risk management, and corporate governance at the group level is also missing in many EMDEs. Further, a framework to ensure adequate on-site supervision of overseas subsidiaries is often absent or in need of improvement. Supervisory stress testing practices can be improved by accounting for financial linkages across sectors, markets, and within and between groups.
- <u>Cross-border regulatory cooperation and harmonization</u>: To effectively address regulatory arbitrage and the build-up of cross-border risks, there is a need for enhanced regional coordination and regulatory harmonization between home and host countries. This also levels the playing field for EMDE groups vis-à-vis domestic banks and enhances financial deepening and competition. Many EMDEs have already created networks of Memoranda of Understanding (MoUs) that govern home-host cooperation. This includes the creation of Supervisory Colleges for key groups that exchange information on operations, structure, and risks. However, in practice, the effectiveness of colleges can be

improved. Moreover, supervisors in small jurisdictions face a “small host” problem: coordination with home regulators is not as effective since such operations are less relevant to the home jurisdiction. In terms of harmonization of regulation, prime candidates include the definition and calculation of capital and liquidity, corporate governance, bank licensing criteria, limits on large exposures and related-party lending, and fitness and propriety of directors, managers, and major shareholders. Regions such as LAC, EAP, and Gulf Cooperation Council (GCC) countries have created supervisory coordination mechanisms at the regional level, and the transition towards regional consolidated supervision of systemically important groups may be desirable. To ensure the reliability and comparability of financial data, harmonization of accounting and audit standards is also key.

- Cross-border crisis management and resolution: EMDE groups have become potential conduits for shocks as they have grown systemically important in home (e.g., Morocco) and/or host (e.g., El Salvador) jurisdictions. A failure of such a group could reverse the accrued socio-economic benefits of financial integration. However, even just to deal with domestic bank failures, crisis management, and resolution frameworks in most EMDEs need strengthening. As such, most EMDEs are not fully equipped to deal with the more complex case of a systemic bank failure across borders; for example, resolution authorities lack the tools, powers, and recognition of actions across borders. A cross-border crisis may be further exacerbated due to incentive conflicts between the home and host supervisor (D’Hulster, 2012). Crisis Management Groups, which bring together home and host supervisors to coordinate recovery and resolution planning of systemically important groups (e.g., FSB, 2014), should ameliorate these challenges, but they largely remain in their infancy. As mentioned, it is also crucial whether the EMDE group operates in the host through a branch or subsidiary; the latter is easier to control or “ring-fence” and resolve in case the EMDE group fails. Political factors and national interests typically also play a complicating role. As the global financial crisis has shown, cross-border banks are “international in life, but national in death.”

- Corporate governance and risk management frameworks at the group level: EMDE groups have become more difficult to manage as they have grown more complex and need to navigate jurisdictions with differences in key areas such as the economic cycle, country risk, supervision and regulation, and accounting. It is therefore crucial that groups *themselves* implement effective frameworks for group-wide, cross-border corporate governance, capital and liquidity planning, and risk management (including intra-group transactions and exposures). Such systems will also provide more reliable information for regulators and make group supervision more effective.

Box 1: Regional perspectives

Sub-Saharan Africa[7]

Evolution of cross-border banking

International banking groups are less active in the region today than they were a decade ago, with the notable exception of pan-African banking groups that have grown dominant (also see IMF, 2015). Growth is driven by both established groups (e.g., from South Africa) and the emergence of new ones (e.g., from Nigeria, Morocco, Togo/WAEMU,[8] Kenya). Groups cater to both wholesale and retail customers and offer traditional banking services. Most groups operate under a subsidiary model.

Outlook and risks

Although there are still legal and regulatory impediments to cross-border regional flows (e.g., exchange rate regime), the diversification of financial systems and financial conglomerization is likely to increase. Many groups have experienced rapid internal (credit) and external (acquisition) growth over the past few years, and risks have grown, including for intra-group liquidity and credit. Some groups do not appear to have large capital and liquidity buffers and do not enjoy external support. A few banking groups faced major governance challenges in recent years. Following a period of rapid expansion, a more difficult environment may reveal weaknesses which countries are not yet well equipped to proactively identify and react to.

Supervision, crisis management, and regional coordination

Supervisory colleges are increasingly being organized for large pan-African banking groups (Kenya, WAEMU, Nigeria, Morocco). In response to difficult conditions in home (sometimes host) jurisdictions, anecdotal evidence suggests that some pan-African banking groups are strengthening their oversight of group entities, tightening lending policies, and putting on hold the brisk expansion observed so far. Crisis preparedness remains minimal for cross-border banking groups. Disclosure is limited, making it difficult to assess groups' risk profiles across countries and within the group. Recovery and resolution planning is in its infancy in most SSA countries. There are a few ongoing regional initiatives, but nothing with the ambition and breadth needed. A Committee of African Banking Supervisors (CABS) was set up under the aegis of the Association of African Central Banks (AACB) to build capacity of home and host supervisors.

Policy challenges

Data comparability and reliability are major issues to implement effective consolidated and cross-border supervision, with only some countries having implemented IFRS and Basel II/III (and with sometimes inconsistent implementation). A few groups are controlled by entities which are not bank holding companies and for which supervisors only have partial regulatory, supervisory and enforcement powers.

Eastern Europe and Central Asia[9]

Evolution of cross-border banking

Eurozone banks are mostly active across borders in the region, with commercial banking subsidiaries in new EU Member States, the Balkans, and, to a lesser extent, Eastern ECA. However, some ECA banks branched out in the last years: OTP (Hungary), NLB (Slovenia), and Sberbank, VTB, and Alfabank (the Russian Federation). While European banks expanded into particular sub-regions (the Balkans in the case of NLB, neighboring new EU member states in the case of OTP) Russian banks tend to be quite global. Sberbank operates across Europe and Kazakhstan and has a branch in India. VTB is mostly active in CIS (e.g., Armenia, Ukraine, Belarus, Kazakhstan, Azerbaijan, Serbia, and Georgia) and Western Europe, but also has subsidiaries in Angola and branches in India and China. Alfa bank operates in former Soviet republics (e.g., Ukraine, Belarus, Kazakhstan) and Western Europe.

Outlook and risks

The crisis brought significant deleveraging and adjustments to the ownership structure in ECA banking sectors, but Eurozone banks remain essential players. However, given their need for balance sheet repair as well as high Non-performing loans (NPLs) and weak credit growth throughout the region, cross-border activities are not likely to expand. Sberbank has announced a downsize to their operations in Europe due to EU limiting activities to digital services. The wholesale parent funding model remains a risk, although reliance on external funding has subsided. Home countries with unresolved issues are key sources of risk, with the highest impact in host countries where subsidiaries of these banks are systemically important.

Supervision, crisis management, and regional coordination

As part of EU accession, EU candidate countries must align regulation to EU standards, including on consolidated supervision. The Vienna Initiative, a European bank coordination framework created after the crisis to safeguard financial stability in the region, has not yet focused on regulation and supervision of regional financial conglomerates. More advanced countries may already apply some degree of consolidated supervision. Countries in Western ECA and the Balkans have recently formed a Financial Stability Committee (FSC) to facilitate coordination – it is unclear whether these structures function adequately. In Russia, initial moves have also been made in terms of cross-border crisis planning and involvement in recovery and resolution plans for cross border groups. However, the cross-border dimension of consolidated supervision is still mostly undeveloped.

Policy challenges

A challenge is the "small host problem" as home supervisors have little incentive to cooperate and share information with the host supervisor. The experience of MoUs between home and host supervisors has been somewhat disappointing, particularly during crises, as these documents are not legally binding. This mismatch of incentives between home and host supervisors is potentially behind the continuous use of ring-fencing tools by host supervisors.

East Asia and Pacific[10]

Evolution of cross-border banking

Intraregional cross-border banking in EAP has been rising since the global financial crisis, thanks largely to two main financial centers, Hong Kong SAR, China, and Singapore. Today, most of the financial intermediation in EAP is intraregional. Regional expansion of EAP banks is expected to continue through branches and subsidiaries. Some of the most regionally active banks include ICBC (China), HSBC (Hong

[7] This regional section is based on substantive inputs provided by Cedric Mousset, Souleymane Coulibalby, Andrej Popovic, Gunhild Berg, Valeriya Goffe, Caroline Cerruti, Mark Hanusch and Ulrich Bartsch.

[8] West African Economic and Monetary Union.

[9] This regional section is based on substantive inputs provided by Raquel Letelier, Eva Gutierrez, Alena Kantarovich and Elisa Gamberoni.

[10] This regional section is based on substantive inputs provided by Ana Maria Aviles, Richard Record, John Litwack, Elitza Mileva, Luan Zhao, Kevin Chua and Birgit Hansl.

Kong SAR, China), Shinhan, Hana, and Woori banks (the Republic of Korea), CIMB and Maybank (Malaysia), DBS, OCBC, UOB (Singapore), and Bangkok Bank (Thailand). In December 2014, the ASEAN Central Banks endorsed the ASEAN Banking Integration Framework (ABIF), to facilitate the flow of financial services. Members adopted the scheme of Qualified ASEAN Banks (QABs), in which a bank qualified in one jurisdiction receives equal treatment in others. Bilateral negotiations to deepen integration are on the rise, starting between the larger economies.

Outlook and risks

Cross-border banking increases financial stability risks stemming from banks of growing systemic importance. Overall, the overseas operations of most banks mentioned above are generally profitable and well capitalized. Moreover, they remain largely focused on traditional lending activities. Nonetheless, bank asset quality deterioration in countries which are regionally systemic (e.g., China) is a key factor to watch. In the context of the ABIF, Malaysian, Singaporean, and Thai banks aim to increase their regional footprint in the coming years.

Supervision, crisis management, and regional coordination

Supervisory colleges and information sharing are well-established in ASEAN3+ countries, and China has established a college for its G-SIFI. Some host countries have sought to control cross-border banking through subsidiarization. Malaysia appears to have a hands-on supervisory approach for groups with an appropriate risk-based focus. Malaysia has signed MoUs, including with China, Nigeria, and Thailand. Singapore supervises banks on both solo and group-wide levels, has powers to intervene at the holding company level, and is endowed with a range of cross-border resolution powers. At the regional level, a cross-border crisis management and resolution framework was put in place by the Executives' Meeting of East Asia-Pacific (EMEAP) Central Banks.

Policy challenges

A key regional challenge is to strengthen and harmonize supervisory coordination and bank governance. Coordination of bankruptcy of non-financial businesses with regional activities pose challenges to debt restructuring or insolvency with important implications for banks. Well-defined resolution frameworks are lacking and ambiguities surrounding deposit insurance protection for small depositors in foreign banks require clarification. There is a need to harmonize capital regulation as often a branch of foreign banks is subject to less stringent requirements than local banks.

Latin America and the Caribbean[11]

Evolution of cross-border banking

Along with a reduction in global bank activity in the region following the global financial crisis, LAC and Central America in particular experienced an expansion of regional financial conglomerates through mergers and acquisitions, and cross-holdings of banks has increased.[12] Dominant regional groups hail from Colombia, Nicaragua, and Guatemala although they are typically controlled by holding corporations located in Panama. Regional groups' share of banking assets exceeds 50 percent in El Salvador, Nicaragua, Honduras, and Guatemala, but groups are also present in Costa Rica and Panama.

Outlook and risks

[11] This regional section is based on substantive inputs provided by Steen Byskov, Joost Draaisma, Fernando Giuliano, Stefano Curto, Julian Folgar, Antonio Nucifora, Fabiano Silvio Colbano, Cornelius Fleischhaker and Cristina Savescu.
[12] See Eyraud et al. (2017) on benefits of global and regional integration for LAC.

Despite progress in improving cross-border supervision of regional conglomerates and groups, the existing regional arrangements inadequate to measure and mitigate regional contagion risks. Executing efficient cross-border resolution would be an even greater challenge.

Supervision, crisis management, and regional coordination

In recognition of the challenge of regional contagion risks through financial institutions, the Central American countries have both strengthened their own banking regulation and supervision frameworks and developed regional collaboration. Several regional institutions have been established to address regional cross-border banking challenges, including the Council of Supervisors for Central America, the Dominican Republic, and Colombia; the Regional Monetary Council of Central Banks; supervisory colleges for the main financial conglomerates; and, a regional Council of Finance Ministers. Moreover, all Central American countries are members of the Association of Bank Supervisors of the Americas (ASBA). More broadly, regional coordination and protocols for cross-border bank resolutions remain work in progress.

Policy challenges

Cross-border oversight and coordination, consolidated governance, and accounting frameworks all require strengthening and regional harmonization. Regulation of large credit and intra-group exposures is uneven across the region. There is also a need to adapt the legal framework for financial activities. Cross-border supervision and monitoring of systemic risk, particularly as regards information exchange with home supervisors of foreign institutions, need strengthening throughout the region. Cross-border resolution remains the most important and most challenging aspect of cross border banking and will be particularly challenging when losses must be shared across countries.

Middle East and North Africa[13]

Evolution of cross-border banking

Qatar National Bank (QNB) has become one of the largest regionally active banks in the region. QNB was active either directly or through subsidiaries, in 27 countries, including most of the Middle East (e.g., Jordan, the United Arab Emirates, Iraq, Saudi Arabia), Africa (e.g., Tunisia), and Asia (e.g., Indonesia, Vietnam, Myanmar). QNB also owns 20% of the pan-African institution Ecobank Transnational, and it has recently acquired controlling stakes in banks in the Arab Republic of Egypt and Turkey. Moroccan banks have seen an unprecedented expansion in cross-border activities, particularly in Sub-Saharan Africa. At end-2013, Moroccan banks were present in 23 countries, mostly in Francophone Africa. Lebanese have expanded their foreign presence with total assets abroad now representing around 18 percent of Lebanese banking assets. Lebanese banks have activities in Saudi Arabia, the Syrian Arab Republic, Turkey, Egypt, and the United Arab Emirates, as well as international financial centers via their correspondent banking networks. Saudi Arabia is primarily a host jurisdiction; a couple of large Saudi banks have overseas activities, but none are systemic from a host perspective. Some large regional and Asian banks have stepped in to fulfill the funding gaps created by de-risking measures in some MENA countries which caused international banks to retrench.

Outlook and risks

[13] This regional section is based on substantive inputs provided by Laurent Gonnet, Syed Mehdi Hassan, Emmanuel Pinto Moreira, Rei Odawara, Abdoulaye Sy, Khalid el Massnaoui, Harun Onder, Tehmina Khan, Hoda Youssef, Wissam Harake, Sara al-Nashar, and Ibrahim Chowdhury.

Moroccan regional conglomerates are systemically important at home and in some African host countries. As such, these banks may act as a channel of contagion back to Morocco, particularly given the fragile state of some African banking systems.

Supervision, crisis management, and regional coordination

Moroccan banks have responded to cross-border challenges by controlling cross-border expansion more tightly, strengthening supervision on a solo or consolidated basis, and enhance cooperation with the host countries.

Policy challenges

Most countries in the region are not following international best practices regarding banking crisis resolution, particularly coordination with regulators where subsidiaries of banks are systemically important. Oversight and accounting in home and host countries are often not harmonized.

South Asia[14]

Evolution of cross-border banking

Despite its shared history, culture, and geography, South Asia is the least economically integrated region in the world. Not surprisingly, it is also among the least integrated regions in terms of cross-border banking. Historical, geopolitical, developmental, policy and regulatory reasons as well as asymmetry in country size are behind the low levels of integration. Intra-regional trade and investments in SAR are just 5 percent and 1 percent, respectively, of the totals. There a just a handful of banks from the three largest economies – India, Pakistan, and Bangladesh – which have presence in other SAR countries. With low levels of trade and various regulatory restrictions on currency convertibility and local borrowing by foreign investors still present, especially in India as the largest regional market, banks generally do not favor other regional countries in their business diversification strategies. There is, nevertheless, a growing presence of cross-regional banking, with a number of global players active in India and to a lesser extent in Bangladesh and Pakistan.

Outlook and risks

Growth in cross-border banking will closely follow regional trade and investment integration. It will likely grow gradually, supported by, e.g., the upcoming improvements in regional transport connectivity and connections in the energy sector. However, as some banks are dealing with large NPL volumes, their cross-regional expansion will be slow. Cross-border banking risks appear subdued. SAR countries are working on improving regulation and supervision of their financial sectors, which could eventually contribute towards closer integration of their banks.

Supervision, crisis management, and regional coordination

Regional coordination is done to some extent through SAARC FINANCE - the Network of Central Bank Governors and Finance Secretaries of the SAARC region, uniting all eight SAR countries. One of the broad objectives of the network is to consider and propose harmonization of banking legislations and

[14] This regional section is based on substantive inputs provided by Marius Vismantas, Muhammad Waheed, Sarmad Sheikh, Zahid Hussain, AKM Abdullah, Anuradha Ray, Poonam Gupta and Smriti Seth.

practices within the region. While the cooperation is far behind the level of the ASEAN countries in EAP, it does provide a forum for collaboration and opportunities for gradual regional integration. As of date, there are no formal supervision or crisis management frameworks in SAR. The Reserve Bank of India, however, maintains the SAARC Currency Swap Arrangement, a backstop line of funding, which allows swaps up to $2 billion for further financial stability in the region, available to all SAR countries.

Policy challenges

The key policy challenges facing the SAR countries, apart from the short-term NPL issues, are continued structural reforms in their financial sectors which would eventually increase harmonization of policies and regulations among the countries. Regional coordination under the SAARC FINANCE umbrella could be further strengthened for that purpose. Closer trade and investment integration should lead to further easing of currency convertibility and capital flow restrictions in SAR, furthering integration of banks and financial systems along the way. ASEAN's Banking Integration Framework (ABIF) and Qualified ASEAN Bank (QAB), as well as the EU's banking passport could become long-term aspirational objectives in the area of intra-regional cross-border banking integration.

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Annex 1: Characteristics of EMDE groups in EMDE host countries

Top home countries based on number of active banks in host EMDE countries, by region (2013)

Home Country	No. EMDE banks active in host EMDE countries		No. host EMDE countries	Total Assets in EMDE host countries (US$ million)		Total assets EMDE banks in host countries (% of Total Assets Home Financial Sector)		Total lending EMDE banks in host countries (% of Total Lending Home Financial Sector)		Total Deposits EMDE banks in host countries (% of Total Deposits Home Financial Sector)		Loan to Deposit Ratio (weighted mean by assets, %)		Return on Assets (weighted mean by assets, %)		Regulatory Capital Ratio (weighted mean by assets, %)	
	2013	Change from 2009 (abs.value)	2013	2013	Change from 2009 (%)	2013	Change from 2009 (percent pts)	2013	Change from 2009 (percent pts)	2013	Change from 2009 (percent pts)	2013	Change from 2009 (percent pts)	2013	Change from 2009 (percent pts)	2013	Change from 2009 (percent pts)
East Asia and Pacific																	
CHN	14	4	8	413,717.8	15.6	2.1	-2.9	2.2	-2.2	2.0	-2.4	67.6	33.2	1.4	0.0	20.1	-6.1
SGP	13	2	8	168,365.9	172.2	23.5	7.8	25.2	5.0	26.1	8.6	69.9	-2.9	0.7	0.3	15.3	-6.0
MYS	8	1	5	29,735.0	75.3	5.3	0.5	5.9	-0.1	5.3	0.5	72.9	-5.3	1.2	0.0	20.6	8.3
TWN	5	1	4	54,814.1	132.2	2.3	-0.3	1.8	-0.2	2.2	-0.2	79.5	-8.3	1.2	-0.1	28.7	0.3
HKG	5	0	1	63,274.8	76.0	4.4	0.6	5.3	-1.9	4.7	0.5	66.8	-13.9	0.5	-0.3	12.6	-3.7
THA	4	1	4	3,912.3	118.0	0.7	0.1	0.4	-0.2	0.6	0.2	66.2	-9.6	0.4	0.0	36.4	..
PHL	2	1	2	1,144.3	557.6	0.6	0.4	0.6	0.4	0.6	..	65.2	-186.8	0.9	-0.1	36.5	..
VNM	1	0	1	113.6	209.4	0.1	0.0	0.1	..	0.1	..	115.3	109.0	0.5	2.0	..	..
Europe and Central Asia																	
RUS	19	8	10	53,027.9	209.4	3.3	2.5	4.0	3.2	5.8	4.4	85.5	4.8	0.9	-0.1	18.9	-11.0
TUR	13	2	10	18,701.8	4.3	0.8	0.1	0.6	0.2	0.9	0.2	74.0	33.8	1.3	0.3	18.6	-42.5
KAZ	6	1	5	1,131.6	230.0	2.5	1.4	2.1	0.9	2.2	1.6	84.6	-13.0	-0.8	0.0	20.1	-145.3
CYP	5	3	4	3,958.4	-88.7	5.5	3.5	5.8	3.5	3.8	2.4	92.3	-7.9	-0.5	0.1	14.3	-2.2
SRB	3	0	2	665.4	35.9	2.2	0.4	2.3	0.4	2.3	0.3	90.4	14.6	0.3	-0.3	29.2	13.5
BGR	2	1	2	207.9	175.2	0.5	..	0.3	..	0.5	..	59.7	-40.6	-1.0	6.8	22.0	-68.0
UZB	1	..	1	138.2	..	2.0	..	0.8	..	1.9	..	41.8	..	1.8	..	59.9	..
UKR	1	0	1	3,502.4	219.3	1.2	0.1	0.7	-0.3	1.1	0.1	58.1	-26.6	-0.7	-1.0	..	..
GEO	1	..	1	362.1	..	8.8	..	6.4	..	10.4	..	55.8	..	0.1	..	..	..
Latin America and the Caribbean																	
COL	17	12	9	31,697.2	490.9	10.1	4.6	10.3	5.5	10.9	5.5	83.0	50.3	1.3	-0.6	13.7	..
BRA	8	1	5	27,581.5	244.9	1.0	0.8	1.8	1.6	1.2	0.9	57.3	-3.7	4.1	0.8	..	..
NIC	7	1	5	4,377.7	25.2	88.1	35.4	98.9	33.1	96.5	37.7	78.3	3.7	0.9	-0.2	..	..
ECU	7	6	3	4,173.2	327.9	12.6	6.8	14.2	5.8	13.6	7.6	78.0	-6.9	0.9	0.3	18.8	..
VEN	4	1	3	979.8	133.7	0.4	0.0	0.5	0.2	0.4	0.0	68.9	19.3	0.3	3.5	23.2	-43.4
MEX	4	0	4	566.5	178.1	1.2	0.3	3.7	0.6	1.3	-0.2	77.0	-28.8	6.9	3.9	39.4	-28.4
ARG	4	0	3	354.9	29.7	0.3	0.1	0.1	0.0	0.3	0.1	71.7	25.7	0.7	0.6	..	..
GTM	3	1	2	1,659.0	64.4	5.9	-0.1	7.0	-0.4	6.0	-0.2	75.5	1.4	1.1	0.3	15.8	2.0
PER	3	1	2	1,957.1	77.4	2.1	0.1	2.3	0.9	2.4	0.3	84.6	-7.8	1.5	-3.4	18.3	-1.3
PAN	2	0	2	860.8	93.5	2.5	1.0	3.2	1.7	2.4	1.2	91.0	-19.5	1.4	1.1	12.4	-5.9

Note: Weighted mean calculated in 2 steps: first, weighted mean for all EMDE banks from home country active in host country; second, weighted mean across host countries

Source: Claessens and Van Horen (2015); Orbis Bank Focus; team calculations.

Home Country	No. EMDE banks active in host EMDE countries		No. host EMDE countries	Total Assets in EMDE host countries (US$ million)		Total assets EMDE banks in host countries (% of Total Assets Home Financial Sector)		Total lending EMDE banks in host countries (% of Total Lending Home Financial Sector)		Total Deposits EMDE banks in host countries (% of Total Deposits Home Financial Sector)		Loan to Deposit Ratio (weighted mean by assets, %)		Return on Assets (weighted mean by assets, %)		Regulatory Capital Ratio (weighted mean by assets, %)	
	2013	Change from 2009 (abs.value)	2013	2013	Change from 2009 (%)	2013	Change from 2009 (percent pts)	2013	Change from 2009 (percent pts)	2013	Change from 2009 (percent pts)	2013	Change from 2009 (percent pts)	2013	Change from 2009 (percent pts)	2013	Change from 2009 (percent pts)
Middle East and North Africa																	
LBN	10	4	7	18,453.3	224.1	17.5	12.0	34.8	27.8	16.7	11.7	76.0	26.2	1.6	0.4	15.9	-59.8
LBY	8	-2	7	18,665.4	-24.8	20.7	-15.3	85.9	-2.9	18.4	-16.5	60.0	15.9	1.6	0.3	30.2	1.5
MAR	8	4	6	8,029.8	210.4	6.2	3.6	6.2	3.4	6.6	3.7	74.9	6.5	1.7	-0.1	..	..
KWT	6	1	6	14,410.8	64.9	12.5	3.2	10.6	4.0	10.9	2.6	70.9	14.1	1.8	-0.3	16.4	-4.7
ARE	6	1	6	13,960.7	518.3	3.9	3.1	2.1	1.6	3.8	3.0	53.1	-13.7	1.3	0.7	17.8	-1.1
QAT	3	..	3	45,046.6	425.2	3.6	..	3.5	..	3.4	..	90.1	..	0.8	..	18.7	..
BHR	3	0	3	16,107.0	2.9	31.0	10.8	39.0	15.5	31.9	8.6	67.0	-10.7	1.6	-0.6	15.6	-1.3
EGY	3	0	3	2,890.0	-5.7	0.7	0.2	0.4	0.2	0.8	0.3	36.9	8.0	1.5	-0.2	25.0	-7.7
OMN	2	1	2	2,815.2	57.3	9.8	-1.2	8.0	-0.8	10.0	0.6	65.8	-18.8	-0.5	1.9	11.7	-10.1
JOR	2	0	2	6,610.5	0.5	7.6	-0.1	9.0	1.8	7.7	-0.4	68.2	-1.2	2.2	1.5	13.1	..
South Asia																	
IND	9	2	7	9,230.8	-53.0	0.2	..	0.1	0.0	0.1	..	55.2	2.7	1.8	-0.8	21.6	-5.2
PAK	2	0	2	5,445.7	4.2	0.2	0.0	0.2	0.0	0.2	-0.1	46.8	10.5	2.1	-0.3	20.0	3.0
BGD	1	0	1	224.8	49.4	0.3	-0.1	0.3	-0.1	0.3	-0.1	72.2	5.1	3.7	-16.5	12.9	7.3
Sub-Saharan Africa																	
ZAF	23	3	15	49,681.2	135.1	6.7	2.5	4.9	2.1	7.4	2.4	55.0	10.5	2.7	-0.1	19.6	-0.3
NGA	11	4	6	7,699.8	56.4	2.9	1.0	1.9	0.4	3.1	1.3	31.2	-16.0	1.2	1.4	29.0	-1.3
MLI	10	1	10	5,789.7	69.6	191.5	33.4	187.5	40.6	194.1	37.1	64.5	-1.0	1.5	0.2	14.3	-1.7
KEN	10	4	3	2,327.8	167.4	9.2	2.9	9.7	3.6	10.1	3.5	67.8	8.1	1.0	0.6	15.6	0.1
MUS	5	0	5	40,664.9	34.9	127.9	-5.0	159.9	36.0	153.8	8.0	74.3	15.4	1.5	-1.7	24.5	-5.4
MWI	3	2	3	184.6	114.0	17.3	9.2	22.3	16.8	17.8	7.8	55.4	20.9	-4.1	-4.2	32.7	10.7
BWA	3	0	3	728.8	104.4	10.6	5.1	9.7	3.3	9.6	4.7	63.4	-5.3	0.4	-0.4	12.8	-0.9

Annex 2: Characteristics of 51 major financial groups headquartered in EMDEs

Panel A: Overseas activities by group (millions of US Dollars)

		Parent Bank		Cross-border subsidiaries					Cross-border developing country subsidiaries				
Company name	Country	Total assets	Operating revenue	Total assets	Operating revenue	Total Subs. Assets over Parent Assets	Total Subs. Operating Revenue over Parent Assets	# of subs	Total assets	Operating revenue	Total Subs. Assets over Parent Assets	Total Subs. Operating Revenue over Parent Assets	# of subs
BANCO ANGOLANO DE INVESTIMENTOS	AO	8,232	611	863	10	10.5%	1.6%	3	-	-			2
ITAU UNIBANCO HOLDINGS SA	BR	415,296	36,344	27,936	953	6.7%	2.6%	33	5,620	619	1.4%	1.7%	10
ABC HOLDINGS LIMITED-BANCABC	BW	2,040	182	1,084	118	53.1%	64.9%	16	1,084	118	53.1%	64.9%	15
CHINA CONSTRUCTION BANK CORPORATION JOINT STOCK COMPANY	CN	3,016,447	80,912	85,550	1,630	2.8%	2.0%	65	8,163	257	0.3%	0.3%	11
INDUSTRIAL & COMMERCIAL BANK OF CHINA (THE) - ICBC	CN	3,473,088	92,706	188,224	4,844	5.4%	5.2%	186	18,963	1,248	0.5%	1.3%	12
GRUPO AVAL ACCIONES Y VALORES S.A.	CO	74,674	5,535	44,243	3,740	59.2%	67.6%	56	43,782	3,730	58.6%	67.4%	42
BANCO DAVIVIENDA	CO	31,175	2,228	12,337	753	39.6%	33.8%	26	12,337	753	39.6%	33.8%	26
BANCO GNB SUDAMERIS SA	CO	8,741	335	2,418	136	27.7%	40.6%	2	2,418	136	27.7%	40.6%	2
BANCOLOMBIA S.A.	CO	65,405	4,538	38,682	1,936	59.1%	42.7%	68	38,009	1,922	58.1%	42.4%	63
BGFIBANK	GA	4,717	359	1,385	59	29.4%	16.4%	10	1,139	53	24.1%	14.8%	9
OTP BANK PLC	HU	38,502	2,800	22,317	1,536	58.0%	54.9%	90	12,672	1,184	32.9%	42.3%	65
STATE BANK OF INDIA	IN	531,338	22,100	3,430	98	0.6%	0.4%	19	2,220	74	0.4%	0.3%	8
ICICI BANK LIMITED	IN	152,076	12,117	9,723	202	6.4%	1.7%	10	1,456	40	1.0%	0.3%	3
ARAB BANK PLC	JO	34,161	1,319	7,474	219	21.9%	16.6%	20	2,673	147	7.8%	11.1%	8
KCB GROUP LIMITED	KE	5,808	678	904	52	15.6%	7.7%	6	595	52	10.2%	7.7%	4
COMMERCIAL BANK OF AFRICA LIMITED	KE	2,210	197	229	22	10.4%	11.2%	3	229	22	10.4%	11.2%	3
EQUITY GROUP HOLDINGS LIMITED	KE	4,622	625	624	59	13.5%	9.4%	7	484	59	10.5%	9.4%	5
NIC GROUP PLC	KE	1,653	156	82	7	5.0%	4.5%	2	82	7	5.0%	4.5%	2
DIAMOND TRUST BANK KENYA LIMITED	KE	3,201	248	851	71	26.6%	28.6%	5	851	71	26.6%	28.6%	5
I&M HOLDINGS LIMITED	KE	2,054	203	451	41	22.0%	20.2%	5	451	41	22.0%	20.2%	5
ACLEDA BANK PLC	KH	4,665	346	169	18	3.6%	5.2%	2	169	18	3.6%	5.2%	2
BANK AUDI SAL	LB	44,267	2,349	16,355	624	36.9%	26.6%	15	13,880	598	31.4%	25.5%	5
BANK OF CEYLON	LK	11,459	500	172	3	1.5%	0.6%	1	-	-			
LIBYAN FOREIGN BANK	LY	18,865	208	6,848	179	36.3%	86.1%	14	2,631	98	13.9%	47.1%	10
BANQUE SAHÉLO-SAHARIENNE POUR L'INVESTISSEMENT ET LE COMMERCE	LY	2,790	130	296	13	10.6%	10.0%	13	296	13	10.6%	10.0%	13
BANQUE MAROCAINE DU COMMERCE EXTÉRIEUR-BMCE BANK	MA	30,301	1,298	18,014	1,044	59.4%	80.4%	30	7,377	409	24.3%	31.5%	23
BANQUE CENTRALE POPULAIRE SA	MA	34,837	1,551	3,759	206	10.8%	13.3%	22	3,526	153	10.1%	9.9%	16
ATTIJARIWAFA BANK	MA	42,469	1,949	12,658	760	29.8%	39.0%	32	11,993	709	28.2%	36.4%	24
BANCO AZTECA SA	MX	6,364	1,563	85	33	1.3%	2.1%	1	85	33	1.3%	2.1%	1
MALAYAN BANKING BERHAD - MAYBANK	MY	164,056	4,983	11,853	1,446	7.2%	29.0%	49	3,895	320	2.4%	6.4%	18
CIMB GROUP HOLDINGS BERHAD	MY	108,285	3,506	28,149	1,824	26.0%	52.0%	54	27,946	1,665	25.8%	47.5%	26
CAPRICORN INVESTMENT HOLDINGS LIMITED	NA	2,623	182	491	24	18.7%	13.2%	6	491	24	18.7%	13.2%	6
ACCESS BANK PLC	NG	11,423	891	2,497	123	21.9%	13.8%	14	876	92	7.7%	10.3%	9
UNION BANK OF NIGERIA PLC	NG	4,107	297	448	11	10.9%	3.7%	1	-	-			
DIAMOND BANK PLC	NG	6,721	528	1,164	10	17.3%	1.9%	5	855	-	12.7%		4
ZENITH BANK PLC	NG	15,540	1,191	2,129	123	13.7%	10.3%	4	810	86	5.2%	7.2%	3
UNITED BANK FOR AFRICA PLC	NG	11,490	888	1,643	140	14.3%	15.8%	19	1,484	134	12.9%	15.1%	18
FBN HOLDINGS PLC	NG	15,531	1,533	3,418	127	22.0%	8.3%	13	333	48	2.1%	3.1%	11
BANCO DE LA PRODUCCION S.A. - BANPRO	NI	2,139	185	3,170	261	148.2%	141.4%	6	3,170	261	148.2%	141.4%	5
HABIB BANK LIMITED	PK	23,921	1,078	1,956	47	8.2%	4.4%	6	-	-			1
QATAR NATIONAL BANK	QA	197,718	6,342	56,230	2,585	28.4%	40.8%	30	45,087	2,585	22.8%	40.8%	23
VTB BANK (PUBLIC JOINT-STOCK COMPANY)-JSC VTB BANK	RU	207,487	9,728	28,143	884	13.6%	9.1%	125	3,237	308	1.6%	3.2%	23
SBERBANK OF RUSSIA OAO	RU	418,229	28,772	92,906	3,497	22.2%	12.2%	91	50,857	2,960	12.2%	10.3%	43
ALFA-BANK OJSC	RU	37,417	1,169	2,979	189	8.0%	16.2%	5	1,616	154	4.3%	13.2%	3
NLB DD-NOVA LJUBLJANSKA BANKA D.D.	SI	12,690	534	4,589	318	36.2%	59.6%	40	3,741	181	29.5%	33.9%	31
ECOBANK TRANSNATIONAL INCORPORATED	TG	20,511	1,969	19,197	1,566	93.6%	79.5%	45	19,085	1,554	93.0%	78.9%	41
BANGKOK BANK PUBLIC COMPANY LIMITED	TH	82,171	2,927	3,191	79	3.9%	2.7%	4	3,191	79	3.9%	2.7%	3
INVESTEC LIMITED	ZA	44,180	1,330	2,056	44	4.7%	3.3%	21	2,020	44	4.6%	3.3%	14
NEDBANK GROUP LIMITED	ZA	70,593	3,636	4,218	305	6.0%	8.4%	53	3,755	281	5.3%	7.7%	31
FIRSTRAND LIMITED	ZA	93,222	6,651	8,606	768	9.2%	11.5%	46	8,285	756	8.9%	11.4%	34
STANDARD BANK GROUP LIMITED	ZA	142,811	7,602	37,472	2,759	26.2%	36.3%	104	27,509	2,551	19.3%	33.6%	73

Panel B: Materiality of groups in host countries

Host Country	Total Subsidiary Assets over GDP	Total Subsidiary Assets (millions of USD)	Host Country	Total Subsidiary Assets over GDP	Total Subsidiary Assets (millions of USD)	Host Country	Total Subsidiary Assets over GDP	Total Subsidiary Assets (millions of USD)
Angola	2.5%	2,217	Gambia, The	11.9%	115	Namibia	106.4%	10,920
Argentina	1.2%	6,581	Guinea-Bissau	10.1%	114	Niger	10.9%	818
Armenia	4.6%	481	Equatorial Guinea	0.9%	95	Nigeria	3.2%	12,834
Burundi	3.2%	95	Guatemala	15.5%	10,664	Nicaragua	12.6%	1,669
Benin	45.9%	3,943	Honduras	15.1%	3,251	Nepal	3.5%	732
Burkina Faso	29.8%	3,610	Croatia	15.2%	7,653	Panama	86.8%	47,915
Bulgaria	12.4%	6,517	Hungary	1.0%	1,247	Peru	0.8%	1,618
Bahrain	3.7%	1,181	Indonesia	2.7%	25,551	Philippines	0.6%	1,921
Bahamas, The	0.9%	82	Iraq	0.5%	934	Paraguay	15.5%	4,257
Bosnia and Herzegovina	14.1%	2,335	Kazakhstan	4.9%	6,600	Romania	1.0%	1,933
Belarus	6.8%	3,204	Kenya	6.5%	4,615	Russian Federation	0.3%	3,394
Brazil	0.4%	6,905	Cambodia	6.9%	1,373	Rwanda	8.8%	740
Barbados	22.9%	1,052	Lao PDR	0.9%	151	Senegal	26.1%	3,855
Botswana	25.1%	3,834	Lebanon	2.0%	968	Sierra Leone	3.8%	138
China	0.0%	2,246	Liberia	9.7%	203	El Salvador	65.9%	17,671
Cote d'Ivoire	20.1%	7,254	Lesotho	41.1%	905	Serbia	5.2%	1,952
Cameroon	8.4%	2,042	Luxembourg	13.7%	8,235	Slovak Republic	1.8%	1,590
Congo, Rep.	7.6%	595	Macao SAR, China	58.5%	26,194	Slovenia	4.4%	1,950
Colombia	0.0%	132	Madagascar	6.6%	658	Swaziland	29.4%	1,097
Cape Verde	2.3%	38	Maldives	1.1%	38	Chad	4.4%	426
Costa Rica	27.6%	15,826	Mexico	0.0%	46	Thailand	3.9%	15,878
Cyprus	49.1%	9,722	Macedonia, FYR	11.4%	1,238	Tunisia	14.8%	6,221
Czech Republic	1.5%	2,808	Mali	20.5%	2,876	Turkey	10.0%	85,585
Djibouti	30.6%	529	Myanmar	0.0%	18	Tanzania	4.3%	2,049
Dominican Republic	0.4%	257	Montenegro	33.5%	1,400	Uganda	8.8%	2,243
Egypt, Arab Rep.	4.8%	16,283	Mozambique	17.0%	1,874	Ukraine	4.1%	3,823
Gabon	6.6%	931	Mauritania	0.9%	44	Uruguay	0.7%	384
Georgia	4.1%	584	Mauritius	50.2%	6,103	Congo, Dem. Rep.	4.1%	1,433
Ghana	13.9%	5,948	Malawi	12.0%	651	Zambia	10.8%	2,104
Guinea	6.7%	421	Malaysia	0.6%	1,851	Zimbabwe	12.6%	2,058

Annex 3: Summary statistics for the 51 major EMDE financial groups

Variable	Obs	Mean	Std. Dev.	Min	Max
ln(Assets)	51	10.164	1.842	7.411	15.061
Loans to assets	51	0.542	0.140	0.066	0.787
Equity to assets	51	0.118	0.040	0.056	0.245
Overhead to assets	51	0.036	0.029	0.002	0.206
GDP per capita	51	7165	9367	672	63222
Inflation	51	0.057	0.057	0.009	0.348
GDP per capita growth	51	0.018	0.028	-0.053	0.063
Return on average assets (ROAA)	51	0.015	0.011	-0.009	0.040
Market-to-book ratio	38	1.064	0.616	0.017	2.615
Deposits over assets	51	0.671	0.109	0.241	0.833
Short-term funding over assets	51	0.098	0.076	0	0.393
Market capitalization over assets	38	0.121	0.076	0.001	0.309
NPL over gross loans	46	0.059	0.048	0.007	0.244
Liquidity over assets	51	0.193	0.127	0.056	0.724
Cost-to-income ratio	51	0.523	0.142	0.150	0.936
Net interest margin	51	0.056	0.043	0.017	0.306
Subsidiary Assets over Group Assets	51	0.230	0.221	0.006	0.990
Subsidiary Assets in High-income countries over Group Assets	51	0.053	0.074	0	0.351
Subsidiary Assets in Developing countries over Group Assets	51	0.178	0.219	0	0.990
Subsidiary Assets in countries from the same region over Group Assets	51	0.149	0.221	0	0.990
Subsidiary Assets in countries outside the same region over Group Assets	51	0.081	0.116	0	0.577