

Adeline Pelletier

Performance of foreign banks in developing countries: evidence from sub-Saharan African banking markets

**Article (Accepted version)
(Refereed)**

Original citation:

Pelletier, Adeline (2017) *Performance of foreign banks in developing countries: evidence from sub-Saharan African banking markets*. [Journal of Banking and Finance](#). ISSN 0378-4266

DOI: [10.1016/j.jbankfin.2017.11.014](https://doi.org/10.1016/j.jbankfin.2017.11.014)

Reuse of this item is permitted through licensing under the Creative Commons:

© 2017 [Elsevier B.V.](#)
CC BY-NC-ND 4.0

This version available at: <http://eprints.lse.ac.uk/86368/>

Available in LSE Research Online: January 2018

LSE has developed LSE Research Online so that users may access research output of the School. Copyright © and Moral Rights for the papers on this site are retained by the individual authors and/or other copyright owners. You may freely distribute the URL (<http://eprints.lse.ac.uk>) of the LSE Research Online website.

Accepted Manuscript

Performance of foreign banks in developing countries Evidence from sub-Saharan African banking markets

Adeline Pelletier

PII: S0378-4266(17)30284-4
DOI: [10.1016/j.jbankfin.2017.11.014](https://doi.org/10.1016/j.jbankfin.2017.11.014)
Reference: JBF 5259

To appear in: *Journal of Banking and Finance*

Received date: 9 June 2016
Revised date: 4 October 2017
Accepted date: 22 November 2017

Please cite this article as: Adeline Pelletier, Performance of foreign banks in developing countries Evidence from sub-Saharan African banking markets, *Journal of Banking and Finance* (2017), doi: [10.1016/j.jbankfin.2017.11.014](https://doi.org/10.1016/j.jbankfin.2017.11.014)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



Performance of foreign banks in developing countries
Evidence from sub-Saharan African banking markets

Adeline Pelletier^{a,b,*}

^aUniversity of London, Goldsmiths College, Institute of Management Studies, 8 Lewisham Way, London SE14 6NW

^bLondon School of Economics and Political Science, Centre for Economic Performance, Houghton St, London WC2A 2AE, UK.

Abstract

Do foreign banks perform better than domestic banks in host developing economies? Relying on financial statements and survey data I compare the performance of three different categories of foreign banks to the group of domestic banks in sub-Saharan Africa: global banks from developed countries, regional African banks and banks from non-African emerging economies. While emerging-market banks and global banks consistently outperform domestic banks, the difference is not significant for regional African banks. The higher performance of global banks and emerging-market banks is related to higher operational efficiency and lower cost of funding, while there is no strong evidence of segmentation by business segment in the loans market. Regional African banks, which started their foreign expansion more recently, are less able to generate interest income compared to domestic banks. These findings highlight the importance of taking into account foreign banks' heterogeneity when assessing the impact of financial FDI on the host economy.

JEL classification: F21; F23; G21

Keywords: Foreign direct investment; International banking; Performance

*Email address: a.pelletier@gold.ac.uk. Phone: +442078962802

Acknowledgements

I thank Ralph de Haas, Saul Estrin, Daniel Ferreira, Catherine Thomas, Lourdes Sosa, Luis Rayo, Enrico Rossi, seminar participants at the LSE, at the IFABS annual conference in Nottingham (2013) and the EIBA annual conference in Brighton (2012), as well as anonymous reviewers for helpful comments and discussions. Research support was provided by the department of management of the London School of Economics. All errors are my own.

ACCEPTED MANUSCRIPT

1. Introduction

As foreign banks' presence has increased sharply over the last two decades the question of the performance and financial strength of these banks, as well as the allocation of their loan portfolios, has become particularly relevant, especially in developing countries where capital markets are under-developed and SMEs face high financing constraints. While there is ample literature on the performance of foreign banks the results have been ambiguous, partly due to limited data coverage and the treatment of these banks as a homogeneous group. A recent stream of research (Van Horen, 2007; Claessens and Van Horen, 2012, 2013, 2014; Claessens, 2017) has started to examine the issue of foreign banks' entry with a more fine-grained approach by looking at the origins of foreign banks operating in developing countries. It has found that the impact of foreign banks on the host economy depends in part on these banks' home countries and business models, and on the specific characteristics of their host countries. Factors such as geographic and cultural distance, as well as the host country's level of financial development and strength of regulation, have been shown to be of particular importance for explaining foreign banks' performance and their impact on the local supply of credit. While these first empirical studies are important, in that they offer glimpses into the locational determinants and performance of foreign banks in developing countries, they do not adequately address the question of the cause of the performance differences observed between foreign banks from developing countries and those from developed countries. Neither do they examine the related questions of the business strategies, in terms of lending and funding, of these banks when they enter foreign markets. This present research aims to do so by adopting a regional lens.

More specifically, this paper aims to determine the factors that drive the differences in performance between different groups of foreign banks and domestic banks, focusing on sub-Saharan Africa, the developing region with the largest proportion of foreign-owned banks in terms of numbers¹.

Little is known about banking in sub-Saharan Africa despite the fact that the financial sector is an important recipient of FDI in the region, representing 22% of total cross-border M&A purchases in the region in 2013 (UNCTAD, 2015:33) and 7% of total greenfield FDI projects in 2011 (UNCTAD, 2012:40). This has been in part driven by intra-Africa FDI, with financial services accounting for about 50% of intra-Africa greenfield investment projects between 2003 and the start of 2014, 38% of these projects being in retail banking and 5% in insurance (UNCTAD, 2015:38). While global banks are still

¹In 2009 52% of banks in sub-Saharan Africa were foreign banks (from 31% in 1995), while this percentage was only 24% in East Asia and the Pacific (from 18% in 1995), 13% in South Asia (from 7% in 1995), and 42% in Latin America and the Caribbean (from 28% in 1995). The proportion of foreign-owned banks was also high in Eastern Europe and Central Asia, at 47% in 2009, against 15% in 1995 (Claessens and Van Horen, 2013, 2014).

very important players in the region the emergence of regional African banks, with a clear pan-African ambition, has modified the banking landscape. Some regional African banks enjoy a significant presence in a large number of countries, such as Ecobank Transnational (from Togo), which has operations in thirty countries in West Africa, Central Africa and East Africa. The larger banking groups in South Africa, such as Standard Bank, have also started to invest outside the region, setting up branches or subsidiaries in developed countries and in other emerging countries. As a result, several types of foreign banks now co-exist with domestic banks in sub-Saharan African markets: foreign affiliates of global multinational banks from developed countries (France and the U.K. in particular), foreign affiliates of emerging-market banks from Asia or the Middle East, and foreign affiliates of regional African banks. To compare the financial performance of these different categories of banks I use panel data from the Bureau van Dijk's BankScope database to obtain financial information on banks located in sub-Saharan Africa over the 2003-2012 period. I then exploit data from a novel bank survey of 77 banks in 14 sub-Saharan African countries conducted in 2013-2014 to triangulate information and further explain some of the findings obtained from the financial statements. I find that the foreign affiliates of global banks and emerging-market banks perform significantly better than domestic banks in sub-Saharan Africa, with a return on equity (using profit before tax) on average 7 basis-points higher over the study period for global banks and 28 basis-points higher for emerging-market banks, while the difference in performance is not significant for regional African banks.

Overall, this research suggests that the higher performance of foreign global banks and emerging-market banks relative to domestic banks is more driven by different access to funding (liability side of the balance sheet) and operating efficiencies than by different abilities to generate interest income (asset side). However, with regard to the more recently expanding regional African banks, the results suggest that they have a lower ability than domestic banks to generate interest income. This may be related to the fact that they still need to establish themselves and gain new customers. In contrast, the two other groups of foreign banks can benefit from better known brands (global banks such as Barclays or Standard Chartered) or an older presence on the continent with significant experience in financing specific population groups (Indian banks for instance).

In addition, the findings from the survey suggest that global banks receive more operational support from their headquarters in the domains of IT, risk management techniques and lending technology compared to the two other groups of foreign banks, as their operations tend to be more centralised at the global or regional headquarters' level. This higher level of operational support may partly explain the lower cost-to-income ratios observed when compared to regional African banks. To the extent that the heterogeneity among foreign banks with regard to business models, organizational structure and lending techniques translates into differences in performance and asset-liability management, this

needs to be taken into account by policymakers when formulating banking regulations and FDI policies.

This paper offers three contributions to the international banking literature.

First, it offers a comparison of the performance and loan allocations of different categories of foreign banks. Empirical research on the banking sector in developing countries has mainly focused on the impact of foreign banks from developed countries on SME financing in host developing countries (Clarke, Cull, Martinez Peria and Sanchez, 2005; Detragiache, Tressel and Gupta, 2008; Giannetti and Ongena, 2009). Very few studies have compared the performance of different types of foreign banks as these have traditionally been examined as a homogeneous group without distinguishing between developing and developed MNEs. However, this comparison matters as the strategies and performance of foreign banks have implications for the development of host banking markets, and both elements may differ between developing and developed foreign banks. Recently, economists such as Van Horen (2007) and Claessens and Van Horen (2012, 2014) have used a new, comprehensive database on bank ownership across the world to examine the issue of foreign banks' entry in a more refined manner by looking at the origins of foreign banks operating in developing countries. For instance, Van Horen (2007) has found that banks from developing countries are more likely to invest in other developing countries with weak institutions, and that developing countries' foreign banks are less profitable than foreign banks from high-income countries in host developing countries, based on measures of profit before tax divided by total assets over the 2000-2004 period. The findings of this present work are also similar to those of Claessens and van Horen (2012), who use data from a large number of developing countries over the 1999-2006 period and find that foreign banks tend to perform better when they are from a high-income country, when they are larger and when they have a bigger market share. This work complements the research of Claessens and van Horen (2012) by focusing on a specific developing region, sub-Saharan Africa, and providing a detailed examination of the drivers of bank performance, including detailed loan portfolio data and information on organizational structure and headquarters-subsidiaries relationships. In addition, by separating foreign banks from developing countries into two categories, those that are regional and those that come from developing or emerging countries outside the host region, this research uncovers a high heterogeneity, in terms of both performance and business model, between these two groups.

Second, this research presents new survey data on banks' practices and organization, which is commonly very scarce, in particular in Africa. For instance, Beck, Demirgüç-Kunt and Martínez Pería (2011) conducted a World Bank survey on banks' SME lending practices in 2007 which covered 91 banks from 45 countries around the world but included only 15 sub-Saharan African banks from 7 countries. Focusing on bank lending to SMEs they find that foreign banks rely more on hard verifiable information for lending decisions,

and that they are more likely to use real estate as collateral. At the same time, the authors do not find that foreign banks lend less to SMEs than private domestic banks. Another survey of SME financing in four East African countries (Kenya, Tanzania, Uganda and Zambia), conducted by the African Development Bank in 2012 (see Calice, Chando and Sekioua, 2012), is based on interviews at 16 different banks. The authors find that in East Africa banks consider the SME segment to be profitable but they also highlight a number of obstacles to SME lending, including business regulations and the difficulty of standardizing risk models, products and procedures in this segment.

The BEPS banking survey², jointly undertaken by the EBRD and Tilburg University, resulted in a sample of 611 banks in 32 transition countries (including three North African countries) at two points in time: 2007 and 2010. Several papers have relied on the BEPS survey to examine various aspects of lending. For instance, Haselmann and Wachtel (2007), in the context of transition countries, find that although banks differ in their levels of risk exposure, with foreign, EU and large banks showing a lower probability of default compared to their competitors, overall, no group of banks is subject to excessive risk taking. In a following work Haselmann and Wachtel (2010) find that in transition economies the banks' loan portfolio composition depends on the legal environment. Banks lend relatively more to SMEs and lend more mortgages in a well-functioning environment, while in a bad legal environment the proportion of lending to large enterprises, government and other household lending is higher. Finally, De Haas, Ferreira and Taci (2010) also find that the regulatory environment, in particular legal creditor protection, is an important determinant of the composition of banks' loan portfolios. They also find that bank factors such as ownership and size matter. Foreign banks are strongly involved in mortgage lending, demonstrating their willingness and ability to lend to local customers. On the corporate side size matters, with small banks lending relatively more to SMEs than large banks, which focus more on large firms. Overall, these different surveys, conducted in very different environments, seem to suggest that foreign banks are willing and able to lend to the local SME segment but that the strength of the legal environment matters. This new dataset provides richer information on banks in Africa, not only on lending techniques but also on the interaction between headquarters and their African subsidiaries, shedding light on the mechanisms behind the observed performance of banks. Third, this research provides a first analysis of the performance of foreign multinational banks in sub-Saharan Africa. So far the literature on banking in sub-Saharan Africa has been very limited, despite the rapid evolution and recent dynamism of the banking sector in the region. Studies have often focused on a specific country, such as Uganda (Beck and Hesse, 2009), Kenya (Beck and Fuchs, 2004) or Nigeria (Beck, Cull and Jerome,

²<http://www.ebrd.com/what-we-do/economics/data/banking-environment-and-performance-survey.html>

2005), or on the demand side of the banking market in sub-Saharan Africa, especially through the World Bank's Enterprise Surveys. This research offers a regional perspective on the performance of banks which have a presence across the continent. Finally, given the potential impact of foreign banks on host countries' stability via the internal capital markets that these multinational banks operate (see the literature on internal bank funding, for instance, Cetorelli and Goldberg (2012), De Haas and Van Lelyveld (2010), Popov and Udell (2012)), understanding how the funding model (liabilities) and the lending portfolio (assets) differ across different groups of banks is key to enhancing policy recommendations related to foreign bank entry.

The rest of the paper proceeds as follows. Section 2 presents the related literature and theoretical predictions. Section 3 describes the data. Section 4 compares the profitability and cost-efficiency of the different categories of banks. In Section 5 I further examine the channels of bank performance by decomposing the profit measure into its accounting components. Section 6 investigates an alternative explanation for performance difference, namely whether banks' performance is driven by composition effects related to segmentation in the loan market. Finally, Section 7 discusses the results and concludes.

2. Related literature and theoretical predictions

In this section the literature is briefly reviewed to examine the relative advantages of being a foreign bank. Four different types of factors that can affect foreign banks' performance are traditionally highlighted in the literature: host country characteristics, home country characteristics, distance and bank characteristics (see, for instance, Claessens and van Horen, 2012). I derive hypotheses below regarding how each factor affects the different categories of banks (domestic banks and foreign affiliates of global banks, emerging-market banks and African banks).

2.1. Host country factors

Starting with host country characteristics, foreign banks are found to be especially profitable in developing countries (Claessens and van Horen, 2012), and more generally in countries where credit information is limited and contract enforcement is low. In those countries where regulation is weak and the banking sector is inefficient foreign banks might be better able to gain market share and be profitable. However, research has shown that it is foreign banks from high-income countries that tend to perform better, suggesting that access to capital and technological and lending know-how matters (Claessens, 2017).

Hypothesis 1 *The foreign affiliates of global banks from developed countries perform better than domestic banks in sub-Saharan Africa.*

2.2. Home country factors

The overall development of the home market matters for bank performance. Indeed, in developed countries with well-developed regulatory systems and an educated labour force, banks will be better able to develop their risk management techniques, and adopt new financial instruments and technologies (see Berger et al., 2000). This will lead them to undertake high-return projects. The degree of competition also matters. Banks from countries where banking markets are competitive are more likely to be more efficient and more innovative (Aghion and Howitt, 1998). As such they might be better able to be competitive abroad. Given that the banking markets in the home countries of global banks tend to be competitive and sophisticated, we can expect them to be more operationally efficient than foreign banks from African countries.

Hypothesis 2 *The foreign affiliates of global banks exhibit higher operational efficiency than the foreign affiliates of African banks in sub-Saharan Africa.*

2.3. Distance factor

Distance between home and host country also matters. In a relationship-based activity such as banking knowledge of the local environment is crucial in order to screen and effectively monitor borrowers (Freixas and Rochet, 1997; Berger, Klapper and Udell, 2001), especially, as is the case for Africa, in low-transparency economies with a large informal sector and limited or non-existent formal documentation (Beck, Maimbo, Faye and Triki, 2011). As a consequence, in this sector the advantages conferred by local experience may be particularly salient. Indeed, both theoretical (Hauswald and Marquez, 2006) and empirical (Berger and DeYoung, 2001, 2006; Mian, 2006; Claessens and Van Horen, 2014) studies have suggested that foreign banks that are closer to the host country are better able to process soft information and therefore to provide loans to local firms. For instance, Stein (2002) theoretically shows that greater distance decreases bank managers' incentives to acquire "soft" information on projects as it cannot be credibly transmitted. Closeness eases the collection of soft information and its internal transmission. This would suggest that domestic banks would be better able to work with soft information, and would be expected to perform better than foreign banks in segments where soft information and local knowledge are key, such as SME lending.

In addition, this would suggest that the foreign affiliates of regional African banks may also have an important information advantage when operating in their home region compared to global banks from developed countries which may struggle to assess and monitor relatively opaque businesses. This is reflected in the "institutional voids' advantage" hypothesis (Khanna and Palepu, 2006, 2010), according to which MNEs from developing countries undertaking South-South FDI³ have an adaptation advantage over

³From a developing or emerging country to another developing or emerging country.

MNEs from developed countries undertaking North-South FDI⁴. This advantage comes from their ability to deal with difficult institutional environments, characterized by “institutional voids”. These voids are defined by Khanna and Palepu (2006) as the absence of specialized intermediaries, regulatory systems and contract-enforcing mechanisms, and the ability to deal with them is developed in their home (emerging or developing) country. In addition to an institutional voids advantage related to specific managerial abilities MNEs from developing countries operating in other developing countries could also benefit from an advantage related to the similarity of the demand (determined by per capita income levels) between their home and host countries⁵. This should make them better able to offer products that are well-adapted to the characteristics of the demand in their host countries.⁶ Due to their closeness to their host markets the sectoral allocation of loans and the lending technology used by the foreign affiliates of African banks should be similar to those of domestic banks in host sub-Saharan African countries. This means that they should operate in ways similar to local banks, which leads to the following hypothesis:

Hypothesis 3 *The foreign affiliates of African banks exhibit levels of operational efficiency similar to those of domestic banks in sub-Saharan Africa.*

In addition, banks from emerging markets should occupy an intermediary position, closer to their host markets (culturally and institutionally) than global banks but coming from a more developed and competitive banking environment than regional African banks, which should have a positive impact on their operational efficiency. This leads to the following hypothesis:

Hypothesis 4 *The foreign affiliates of emerging-market banks exhibit higher levels of operational efficiency than domestic banks in sub-Saharan Africa.*

2.4. Bank factors

Size is an important factor in explaining bank performance, with large banks benefiting from economies of scale and operating in different market segments from small banks,

⁴FDI from a developed country to an emerging or developing country.

⁵This is similar to the Linder hypothesis (Linder, 1961) in international trade according to which countries will trade intensively with others that share similar demand or consumption patterns. Recently, Fajgelbaum, Grossman and Helpman (2015) have shown both empirically and theoretically that FDI is more likely to occur between countries with similar per capita income levels.

⁶Conversely, global banks may have to “adapt down” their lending technology, which can result in a cost (“cost of adapting the technology to the local condition”, Dixit, 2011). In addition, their managers have to adapt to the host country’s institutional environment, and incur the costs of “coping with the bad governance” (Dixit, 2011). However, through experience in the host country, captured by the number of years since incorporation, affiliates of global banks can progressively overcome these disadvantages as the bank management learns from the local context and adapts its strategy.

which can lead to differences in performance (Berger and Humphrey, 1997). The foreign affiliates of global banks may benefit from scale economies in operating costs through affiliation to a large group, in particular via the sharing of IT systems for lending and risk management. In addition, they can benefit from financial support from their group via internal capital markets (Stein, 1997; De Haas and Van Lelyveld, 2010; Cetorelli and Goldberg, 2012). This might give them a funding advantage over domestic banks and other foreign banks belonging to smaller groups, in particular the recently expanding African regional banks. This funding advantage should result in lower interest expenses. Furthermore, their brand name might help them attract customers' deposits, especially from large corporates operating in sub-Saharan Africa, which could also have a positive impact on their cost of funding.

Hypothesis 5a *The foreign affiliates of global banks exhibit lower interest expenses than domestic banks in sub-Saharan Africa, due to their affiliation to a large group.*

In addition, emerging-markets banks also belong to large banking groups operating across the world. As such, they may also benefit from group financial support and positive brand image leading to a lower cost of funding. This leads to the following hypothesis:

Hypothesis 5b *The foreign affiliates of emerging-market banks exhibit lower interest expenses than domestic banks in sub-Saharan Africa, due to their affiliation to a large group.*

The different factors likely to affect the performance of foreign banks are summarized in Table A.1, Appendix A. The hypotheses are empirically tested in the following sections.

3. Data

3.1. Data

I use two different sources of data. First I use panel data from the BankScope database to obtain financial and ownership information on foreign and domestic banks operating in sub-Saharan Africa. Second, I use novel data from a bank survey to get insights into the financial management and organization of banks in order to triangulate information and explain some of the results obtained from the banks' financial statements.

3.1.1. BankScope data

The sample consists of annual financial data for the 10-year period 2003-2012 for all the banks active at some point during this period, included in BankScope, in 47 sub-Saharan countries (all African countries excluding Morocco, Algeria, Tunisia, Libya, Egypt and Sudan). The sample contains 657 banks in total, and includes banks that became inactive during the period. In 2012 76% of the banks in the sample were active, 16% were dissolved

(of which 10% were due to mergers or takeovers), 0.15% were bankrupt, 3% were in liquidation and, for 5% of them, the situation was unknown. The banks included in the sample are commercial banks (97%), cooperative banks (1%) and savings banks (2%). To reduce the heterogeneity of the sample, all investment banks, Islamic banks, micro-finance institutions, private banks, real estate and mortgage banks, and development banks were excluded, given that they operate in different market segments from those of traditional commercial banks. In addition to the BankScope data I hand collected data on the sectoral allocation of banks' loan portfolios directly from the annual reports of a subsample of 106 banks which publish this data.

3.1.2. Survey data, sample size and scope

I conducted a bank survey using a questionnaire combining both closed-ended and open-ended questions. The questionnaire is presented in Appendix B.

In total, I obtained a sample of 77 banks from 14 sub-Saharan African countries. The questionnaire was completed through both interviews and self-administration by respondents. I conducted fieldwork in Kenya (October-November 2013), Tanzania (November-December 2013) and Ghana (March-April 2014) to collect data through interviews with bank managers of domestic and foreign commercial banks. I gathered data on 62 different banks in total during these three pieces of fieldwork, out of a population of 97 banks in total in the three countries, thus obtaining an average response rate of 64%. 27 banks were located in Kenya, 19 in Tanzania and 16 in Ghana. In addition, I collected data from Uganda (4 banks) and Zambia (2 banks) by emailing the questionnaire to the banks' heads of credit. I also contacted the global headquarters of foreign banks with affiliates in Africa to ask for their help with distributing the questionnaire to their African subsidiaries. Through this channel I obtained 9 additional questionnaires from foreign affiliates of global banks in Mali, Ivory Coast, Congo, Burkina Faso, Cameroon, Senegal, Equatorial Guinea, Madagascar and Chad.

The size of the sample is admittedly small. However, this sample size needs to be put into perspective. First, banking markets in developing countries, and especially in Africa, tend to be relatively small in terms of number of banks operating in a given market⁷ compared to more developed countries. As such, the target population itself is relatively limited. Second, survey data on banking focusing on banks' practices and organization is commonly very scarce, with limited sample sizes. For instance, Beck, Demirgüç-Kunt and Martínez Pería (2008) conducted a World Bank survey on banks' SME lending practices in 2008 which covered 91 banks from 45 countries around the world but included only

⁷It is rare for more than 30 banks to operate in a given sub-Saharan country; in addition, according to Bureau Van Dijk's BankScope database, in 2012 the average number of foreign banks in sub-Saharan African countries was 7, ranging from 21 (Tanzania) to 1 (Comoros).

15 sub-Saharan African banks from 7 countries⁸. Another more recent survey of SME financing in four East African countries⁹, conducted by the African Development Bank in 2012 (see Calice, Chando and Sekioua, 2012), was based on interviews at 16 different banks. Apart from the small target population the small size of these samples is also related to sectoral factors, in particular concerns about confidentiality in the banking industry. The respondents were mainly heads of credit (retail, SMEs or corporates) (35%), followed by heads of credit risk or credit administration (26%) and CEOs (14%). On average the respondents had been in the bank for 7.5 years at the time of the survey, with a minimum of 6 months and a maximum of 42 years.

Non-response bias analysis. I conduct an analysis of the non-response rate to examine the possibility of sampling bias. To do so I compare the means of several key financial indicators of participant and non-participant banks (both domestic and foreign) surveyed in Kenya, Ghana and Tanzania. I focus on banks located in these three countries, which constitutes 81% of the sample given that the number of participant banks in the 11 other countries is very small (between one and four respondent banks) and therefore not representative, while the survey covers 66% of the commercial banks in Kenya, 59% in Tanzania and 67% in Ghana. The results are reported in Table 1. They indicate that although participant banks are on average larger by asset, with a higher net income and higher total capital ratio, the differences are not significant at the 10% level. These results give confidence that the data does not suffer from major sampling biases due to banks' self-selection, at least concerning the bank population in the countries in which fieldwork has been conducted. Of course, other biases related to the selection of countries for fieldwork cannot be excluded; however, efforts have been made to obtain data on different regions of Africa, and the sample includes all the largest banking groups present in Africa, originating from France, the U.K., the U.S. and India, as well as from North Africa and sub-Saharan Africa.

— Table 1 insert here —

3.2. *Variables of interest: bank ownership dummies*

I define three different categories of foreign banks operating in sub-Saharan Africa based on the home country's level of development and geographical distance to the host region. Global banks ("Global MNB") are banks founded in a developed country. The "Emerging MNB" category includes banks originating from an emerging or developing country¹⁰ outside the region. Regional African banks ("African MNB") are banks founded

⁸Kenya, Malawi, Sierra Leone, South Africa, Swaziland, Zambia and Zimbabwe.

⁹Kenya, Tanzania, Uganda and Zambia.

¹⁰In the category "developed countries" I include countries that are classified by the IMF as "high income", defined as countries with a GNI/capita at or above \$12,615 (2014). For emerging countries I include both upper middle and lower middle income countries, with a GNI/capita between \$1,036 and \$12,615.

in Africa (including North Africa and South Africa).

Banks' ownership is determined as follows: I use the Global Ultimate Owner indicator from the BankScope database. A company is a Global Ultimate Owner (GUO) if it controls at least 50.01% of the entity and has no identified shareholders or if its shareholder's percentages are not known. When ownership information was missing in BankScope I updated it by looking at banks' websites, using the same definition. For banks which have a dispersed ownership and for which there is no ultimate owner controlling at least 50.01% of the company I determine the country of origin of the bank by aggregating the shares of the owners by country of origin, and I attribute bank ownership based on the nationality of the owners with the highest total percentage of shares¹¹. I also take into account mergers and acquisitions which have taken place during the sample period by tracking each bank's Bureau van Dijk ID number (BVD ID) in the Zephyr database of Bureau van Dijk, which records M&As. In addition, I checked all mergers and acquisitions that occurred during the sample period to ensure that only the merged entity or the acquiring bank remained in the sample after the take-over. The ownership indicator changes over the sample period for 8% of the banks in the sample. However, the composition of the sample varies over time due to the entry and exit of banks from the four different groups. While in 2003 51% of the banks were domestic banks, 21% were affiliates of Global MNB, 5% were affiliates of Emerging MNB and 23% were affiliates of African MNB, in 2012 these percentages were, respectively, 40%, 19%, 6% and 35%. As such, in the sample the percentage of foreign banks (in terms of numbers) increase from 49% to 59% over the 2003-12 period (see Table A.2 in the Appendix).

3.2.1. Characteristics of banks in the BankScope sample

In 2012, 50% of the banks fell into the category *Domestic banks*. Among foreign banks 16% were in the category *Global MNB*, 29% in the category *African MNB* and 5% in the category *Emerging MNB*. Among global multinational banks 34% were from the U.K., 25% from France and 16% from Portugal. Concerning emerging multinational banks, 36% were from India and 27% were from Malaysia, while the rest are from the Gulf Countries,

¹¹Note that I differ slightly from Claessens and Van Horen (2013, 2014), who first attributed foreign ownership to banks for which at least 50% of the shares were held by foreigners, and then summed the percentages of shares held by foreigners by country of residence, with the country with the highest percentage of shares considered the source country. For instance, if a bank is held at 60% by 3 foreigners and the highest percentage of shares owned by one of the 3 foreigners is 39%, and the remaining shares are domestically-owned, then Claessens and Van Horen's (2013, 2014) attribute the ownership of the bank to this foreigner, while I would consider that the bank is a domestic bank. This methodology was chosen because for many banks with dispersed ownership in sub-Saharan Africa it was much more difficult to accurately identify all the minority owners, even for large ones, especially when they were individuals, than to identify the nationality of the largest owner through cross-checking online sources. However, this difference in methodology only affects 5 banks in the sample, which were classified as domestic whereas they would have been classified as foreign following Claessens and Van Horen (2013, 2014) methodology. Given that this study focuses on foreign banks this classification difference is unlikely to affect results.

Russia, Pakistan and Taiwan. Most of the foreign affiliates of regional African banks belong to Nigerian banking groups (21%), followed by Togolese banks (17%) (essentially subsidiaries of the large pan-African group Ecobank), Moroccan banks (16%) and South African banks (15%).

3.2.2. Characteristics of banks in the survey sample

Out of the 77 banks surveyed, 36 are domestic banks, 17 are affiliates of African MNB, 19 are affiliates of Global MNB and 5 are affiliates of emerging-market MNB. Concerning the foreign affiliates, 38 were organized as subsidiaries and only 3 as branches. In terms of entry mode, foreign banks tend to favour greenfield entry: 64% of African MNB, 63% of Global MNB and 75% of Emerging MNB entered these markets through a greenfield operation. The banks were 27 years old on average at the time of the survey in 2014, the average incorporation date being 1987, but important variations exist between banks depending on the country of origin of the parent bank. The oldest group is constituted by the foreign affiliates of the Global MNB (39 years old on average), followed by Emerging MNB (37 years old) and domestic banks (24 years old). The foreign affiliates of regional African MNB are the last entrants (8 years old), which is consistent with the fact that the expansion of regional African MNB is a relatively recent phenomenon. In terms of size as measured by the number of employees domestic banks are the largest (1022 employees on average), followed by Global MNB (650 employees), Emerging MNB (243 employees) and African MNB (233 employees).

The following section empirically examines the relationship between banks' ownership and their financial performance in sub-Saharan Africa.

4. Banks' ownership and financial performance

4.1. Econometric specification

I use an OLS regression model to examine the relation between banks' country of origin and several indicators of financial performance. The baseline equation is the following:

$$y_{it}^c = \beta_1 \text{Global MNB}_{it} + \beta_2 \text{African MNB}_{it} + \beta_3 \text{Emerging MNB}_{it} + \rho X_{it} + \delta Z_t^c + \alpha_t + \gamma^c + \epsilon_{it}^c \quad (1)$$

y_{it}^c is the dependent variable, an indicator of financial performance. X_{it} represents a vector of time-varying bank-level controls and Z_t^c a vector of time-varying host country controls. ϵ_{it}^c is an error term. I relax the assumption of identical and independent distribution of the errors and I cluster the standard errors at the bank (affiliate) level to allow for possible correlations between residuals of a bank across time (Petersen, 2009). Year fixed effects α_t are introduced to take into account aggregate (regional) macroeconomic shocks, and host country c fixed effect γ^c are included to take into account country-specific

omitted variables that are time invariant. In alternative specifications I also control for heterogeneity in the cross-section with year-host country fixed effects in order to compare banks' performance within year-host countries. I do not include banks' fixed effects given that for 92% of the banks in this sample the ownership dummy variables do not change over the period studied, leaving too little variation in the data¹². I control for many firm, time and host country factors but the possibility of omitted variable bias, related to the omission of variables affecting both performance and ownership, remains. The objective of this research is thus to find out whether there are significant and robust correlations between the bank ownership dummies and the indicator of financial performance but it does not attempt to prove causality. The possibility of reverse causality (performance affecting ownership) is not excluded, although it is relatively low, as this would primarily be driven by acquisitions of a lower-performing group of banks by another group of banks but, as mentioned above, changes in ownership only concern less than 10% of the banks in the sample. In addition, while it may be that performance at time t affects ownership at time $t + 1$, it is less likely that it affects ownership at time t , as specified in equation (1).

Dependent variables (y_{it}^c): Measures of financial performance

I use two performance measures. First I employ the return on equity using income before tax (ROE). I do not use the traditional return on equity based on net income to avoid accounting differences being driven by different tax regulations. In addition, I do not use market to book value as a measure of financial performance, despite a long tradition in the literature on bank performance of using this measure, given that only 57 banks in the sample are listed. Second I use the cost-to-income ratio, calculated as $\text{Overheads} / (\text{net Interest Revenue} + \text{Other Operating Income})$, which is traditionally used in banking to measure operational efficiency. To mitigate the problem of outliers the dependent variables are Winsorized at 1%. This data comes from the BankScope database.

Bank ownership dummies

I include the dummies *African MNB*, *Emerging MNB* and *Global MNB* and exclude the dummy *domestic banks*; hence the interpretation of the results for the three ownership categories is relative to domestic banks, the benchmark.

Control variables

Bank controls (X_{it}). I control for the relevant country experience of the bank using the number of foreign subsidiaries of the parent company (the "General Ultimate Owner") in sub-Saharan Africa in the year of entry. I also include the year of entry and two dummies

¹²While the ownership variable changes for only 8% of the banks over the period the composition of the sample varies over time due to the entry and exit of banks from the four different groups. See Table A.1 in Appendix A.

indicating the listed status and government ownership status of the bank, which have been found to be related to performance (La Porta, Lopez-de-Silanes and Shleifer, 2001; Micco, Panizza and Yanez, 2007). The nature of the ownership variables is restrictive concerning the inclusion of other firm controls. Indeed, the ownership indicator does not only represent banks' category of ownership but is also a broader proxy for banks' capabilities, and operational and management practices, which are likely to be outcomes of banks' ownership¹³. However, for robustness I add a series of balance sheet variables (lagged) to ensure that the results are not driven by omitted bank balance sheet data. I add the total assets of the bank (in log, lagged) as a proxy for bank size, the market share (lagged), the solvency ratio (lagged), measured as the ratio of equity to assets to capture financial risk, and the loan to deposit ratio (lagged), to control for the bank's liquidity position. This data is provided by BankScope.

Host country controls (Z_t^c). I add a number of host country variables known to influence banks' performance (Van Horen, 2007; Claessens and Van Horen, 2014). I include GDP per capita in U.S. dollars obtained from the IMF World Economic Outlook, which proxies the level (and sophistication) of the demand in the host market. I also control for banking regulations, which have been shown to influence bank performance and affect financial stability (Barth, Caprio and Levine, 2004; Laeven and Levine, 2009). More specifically, I include indicators of entry barriers in the banking sector for foreign banks (prohibition of entry via joint venture and via branch), which are obtained from the World Bank's Bank Regulation and Supervision database (2012). Regulation indicators, the minimum capital adequacy ratio and the minimum capital requirement, are obtained directly from central banks' websites. In addition, I introduce an indicator of market concentration, the Herfindahl-Hirschman Index, or HHI¹⁴, which I lag by one year to address the potential reverse causality between concentration and profits¹⁵. Finally, I introduce three regional dummies: East Africa, West Africa and Central Africa (the omitted dummy being Southern Africa), which capture regional differences in terms of culture, institutions and level of development.

Summary statistics for banks' financial variables are presented in Table A.3 in Appendix A. Global banks are the largest in terms of assets (average assets of US\$2.95 billion over 2003–2012), followed by domestic banks (US\$983 million excluding South African domestic banks, US\$2.32 billion including them) and African MNB (US\$296 million),

¹³The category of ownership might influence bank practices such as asset-liability management, risk management, and bank variables such as bank size.

¹⁴According to the Structure Conduct Paradigm (Bain, 1956), banks operating in more concentrated markets are able to set higher loan rates as a result of non-competitive behaviour or collusion: higher market concentration thus generates more market power and higher bank profits.

¹⁵The idea is the following: high profit margins at time $t = 0$ allow banks to build barriers to entry, which determines concentration at $t = 1$. However, profits at $t = 0$ do not influence concentration at $t = -1$.

while Emerging MNB record the lowest amount of total assets (US\$267 million). Most of the foreign banks have expanded throughout sub-Saharan Africa in the form of subsidiaries. Only 7 banks in the sample are operating under a branch form. As Beck et al. (2011) point out, setting up a subsidiary implies higher cost than a branch but it is also easier for the supervisor to oversee as a subsidiary is organized and regulated according to the laws of the host country (see also Casu, Girardone and Molyneux, 2006). As such, according to the World Bank's Bank Regulation and Supervision 2012 database, a third of the host African countries in the sample prohibited entry via branches in 2008. While this might explain the prevalence of subsidiaries as an organizational form it is also important to note that branches are largely under-reported in BankScope as they do not publish separate annual reports.

4.2. Empirical results on banks' performance

Given that the panel is largely unbalanced I look at three different samples. The first one includes all active banks and banks which became inactive at some point during the study period, as reported in BankScope. The second one only includes active banks, thus excluding banks that have exited the market. The third one is a balanced panel of banks that are active and have no missing data for book assets for the five-year period 2007-2011.

4.2.1. Banks' Profitability

I use the Return on Equity as the dependent variable using income before tax (ROE). Table 2 reports the results on the determinants of banks' performance in sub-Saharan Africa for the three different samples.

— Table 2 insert here —

I examine first the sample containing both currently active and inactive banks. In model 1 the coefficient on the Global MNB dummy is positive and significant at the 1 percent level, indicating that Global MNB have significantly higher ROE than domestic banks. While in model 1 I use several host country controls capturing the level of development of the country (GDP per capita), the degree of market competition (lagged HHI index), indicators of banking regulation and African geographic area dummies, in model 2 I apply host country fixed effects. I add further bank controls reflecting the financial strength of the banks as well as their experience in the region. The significant increase in the R-squared between the two models suggests that there are indeed significant country effects and bank effects affecting the performance of banks that are not totally captured by the control variables in model 1. In model 3 I include year-host country fixed effects instead of separate year and host country fixed effects, which would capture any cross-section heterogeneity at the year-host country level. As such, instead of controlling for regional, sub-Saharan, macro-economic shocks, as in model 2, model 3

controls for temporal variations in macro-economic conditions at the country level. The R-squared of model 3 compared to model 2 increases slightly; the parameter estimates of the ownership dummies also change but marginally. Overall, being a Global MNB is associated with an ROE between 7 percentage points to 9 percentage points higher on average than that of a domestic bank, depending on whether bank controls, host country dummies or year#host country dummies are included.

Concerning the other groups of banks, we note that the coefficient on African MNB is either negative or positive but never significant in the three models considered. Finally, the difference between Emerging MNB and domestic banks in terms of ROE is positive and significant once further controls are included (models (2) and (3)), with a ROE being on average 10 percentage points higher. Turning to the second panel consisting exclusively of active banks (“survivor banks”), the results are qualitatively similar, with a ROE for Global MNB being on average 7 percentage points higher and the ROE for Emerging MNB being on average 10 percentage points higher than that of domestic banks. However, the difference between African MNB and domestic banks is not significant and the size of the coefficient is close to 0.

In the 5-year balanced panel (2007-2011), which controls for time of both entry and exit of banks, the coefficients remain similar in magnitude to those in the previous specifications but the coefficients on the Global MNB dummy lose significance. This might be related to the higher exit rate of domestic banks and their later entry (1982 on average as year of incorporation for domestic banks against 1972 for Global MNB, see Figure A.1 in Appendix A). Once this is controlled for the difference in performance between both groups of banks disappear. In terms of controls we note that both total assets and market share are positively related to performance with a significant coefficient, which is in line with expectations. The coefficient on the solvency ratio has a negative sign and is significant at the 5% level when host country and year fixed effects are included but the significance drops to only 10% when year#host country fixed effects are included. This negative relationship between solvency ratio and performance might be related to the fact that African banking systems, although lacking in depth compared to other regions in the world, tend to be excessively liquid because African banks lend little (Honohan and Beck 2007; Andrianova et al., 2015). The other bank controls, in particular the year of entry, number of foreign subsidiaries and the loan to deposit ratio are not significant.

Comparing the coefficients for the different dummies the results suggest that Global MNB tend to outperform domestic banks and African MNB but not Emerging MNB. The performance of African MNB is consistently and significantly lower than that of both domestic banks and the other two categories of foreign banks. These two results (the out-performance of Global MNB and the under-performance of African MNB) highlights the significant disparity among foreign banks. Finally, while I control for a large number of firm and host country observable variables, there may be remaining unobservables that

may generate a direct effect of ownership on firms' ROE (omitted variable bias). I use the methodology developed by Altonji, Elder and Taber (2005) and applied by Beck, Degryse, De Haas and Van Horen (2017) in the banking literature to gauge the relative importance of omitted variable bias. I examine how the coefficient for the ownership dummies changes when I include a larger set of covariates. If this change is substantial then it is more likely that adding more (currently unobservable) covariates would further reduce the estimated impact. In contrast, if the coefficient turns out to be stable when adding controls, then we can be more confident when interpreting the results in a causal sense. Coefficient stability is measured by the ratio between the value of the coefficient in the regression including controls (numerator) and the difference between this coefficient and one derived from a regression without covariates (denominator). The ratio in column 1 is based on a comparison of the baseline (reported) specification with an unreported specification excluding all controls (only keeping the ownership dummies and the year fixed effects). The ratios in columns (2)-(7) are based on a comparison of the reported specification with an unreported specification excluding the following firm controls: assets, market share, solvency ratio, loan to deposit ratio, foreign subsidiaries and year of entry. Regarding Global MNB, the absolute value of this ratio is between 1.8 (column (2)) and 66 (column (1)). This suggests that, to explain the full effect of the Global MNB dummy, the covariance between unobserved factors and the Global MNB dummy needs to be at least two times as high as the covariance of the included controls. We can conclude that unobservables are unlikely to explain the entire effect of Global MNB on ROE. Concerning Emerging MNB coefficients, the Altonji ratios are much lower, around -1. The negative sign reflects the fact that the coefficient for Emerging MNB actually slightly increases when the set of covariates is included, suggesting that the estimates somewhat underestimate the true causal effect. In the case of the Emerging MNB dummy selection on unobservables would have to be as strong as the selection on observables to explain the effect. Since the ratio of selection on unobservables relative to selection on observables is likely to be less than 1 (Altonji et al., 2005), part of the Emerging MNB effect on ROE is probably real.

As a further robustness test I re-estimate the specifications on the smaller sample of surveyed banks in Table 3. I obtain qualitatively similar results on the three panels, although the magnitude of the coefficients is relatively larger than those in Table 2¹⁶. This provides reassurance that the pattern observed among the surveyed banks is similar to that in the larger population of banks in sub-Saharan Africa.

Overall, these results suggest that there are stable performance differences between

¹⁶This might be because the African countries where the fieldwork was conducted (Kenya, Tanzania, Ghana) are amongst the most developed banking markets in sub-Saharan Africa. It is possible that Global MNB and Emerging MNB invest relatively more in these markets, which translates into higher financial performance.

the foreign affiliates of Global MNB and Emerging MNB and the domestic banks in sub-Saharan Africa, with foreign banks recording higher ROEs, except for the foreign affiliates of African MNB, for which the difference from domestic banks is not significant. This supports the first hypothesis, according to which Global MNB perform better than domestic banks.

The next section aims to identify the drivers of performance by first examining the operational efficiency of banks and then decomposing their profit into its revenues and expenses components.

— Table 3 insert here —

4.2.2. Banks' operational efficiency

Cost-to-income ratio as the dependent variable. The dependent variable is the cost-to-income ratio and the estimations are done on the three panels. The results are reported in Table 4. The coefficient on the dummy Global MNB is always negative but it is only significant in the first panel. This might be because these banks derive their operational efficiency from their larger size as measured by total assets (scale effects). The coefficient on total assets is significantly negative, which may suggest a potential multicollinearity effect. In further (non-reported) estimations I excluded the total assets variable and the coefficient on Global MNB was significantly negative in the survivor and balanced panels. Concerning African MNB, the coefficient is alternatively positive and negative, depending on the specifications, but it is never significant.

The difference in operational efficiency, as measured by the cost-to-income ratio, between the African MNB and the Global MNB dummies is positive, meaning that African MNB are less efficient than Global MNB, but it is only significant in Model 1. This only partially supports the second hypothesis, which states that Global MNB are more efficient than African MNB. However, the third hypothesis, according to which African MNB exhibit levels of operational efficiency similar to those of domestic banks in sub-Saharan Africa, is supported by the results, as no significant difference is observed in the cost-to-income ratio between these two groups of banks.

Finally, the coefficient on Emerging MNB is always negative, when bank's size (total assets) is controlled for, and it becomes significant and large (between 27 and 29) when further controls are included. In addition, the difference in coefficients between the Emerging MNB and African MNB dummies, and between the Global MNB and Emerging MNB dummies, is significant. This higher operational efficiency for Emerging MNB might be related to the types of customers that they serve, often adopting a niche strategy by lending predominantly to a specific population group (for instance, the Bank of India or Bank of Baroda financing the business of the Indian diaspora). Overall, the results suggest that Emerging MNB exhibit higher operational efficiency than domestic banks. This conforms to the fourth hypothesis.

— Table 4 insert here —

Operational efficiency: technological transfer from the parent bank. Cost-to-income ratios are driven by operating costs in the numerator such as spending on IT infrastructure. When banks are part of a larger group they can achieve economies of scale in operating systems, which should drive down their operating costs. A foreign affiliate of a large banking group may receive its IT and operating systems directly from the headquarters, which should reduce its operating expenses. Using survey data I examine the extent to which different categories of foreign banks receive support from their group in key areas of banking operations. In the survey respondents were asked to rate on a scale of 0 “none” to 3 “a lot” the extent to which they received information and technical support from their group in 5 areas of business operations: marketing know-how, IT and technological know-how, operational risk management techniques (fraud and corruption and process management), credit risk management techniques, and lending technology. I then take the unweighted average across all 5 items as the primary measure of support from headquarters (henceforth, “Group Support index”). The Group Support Index ranges from 0 to 3, a higher score indicating a higher level of support. Foreign affiliates depend more heavily on their headquarters for their IT systems (68% responded “a lot”) and for their lending technology (34% responded “a lot”), while around a third mentioned that they depended a lot on their headquarters for their operational risk and credit risk management, with only 8% depending on them for their marketing (see Figure 1).

— Figure 1 insert here —

The results reported in Table 5 indicate that the foreign affiliates of Global MNB receive more information and technical support from their group than foreign affiliates of African MNB or of Emerging MNB, especially in the domain of operational risk management techniques (fraud and corruption, process management) and credit risk management techniques. T-tests to compare means of the Group Support Index between these banks indicate that the differences are significant at the 5% level.

In addition, and consistently with the finding that foreign affiliates of Global MNB receive more technical support from their headquarters, the survey data collected also reveals that foreign affiliates of Global MNB receive more training from their group. 80% of bank managers of foreign affiliates of Global MNB indicated that they received training from their global headquarters on at least a bi-annual basis, while only 45% of managers of foreign affiliates of African MNB and 50% of managers of foreign affiliates of Emerging MNB declared that this was the case.

— Table 5 insert here —

Overall the survey data provides some evidence that foreign affiliates of Global MNB receive more information and technical support from their headquarters, consistent with them belonging to large groups with high operational capacity. This could also explain their slightly lower cost-to-income ratio through group-level scale economies in operating

platforms.

Having established that Global MNB and Emerging MNB are consistently more profitable than domestic banks the next section examines the drivers of these performance differences in more depth.

5. Channels at work: investigating the drivers of performance differences

5.1. Interest income vs. interest expenses

To further investigate the drivers of financial performance I decompose the profit measure into its accounting components. Banks' profits are driven by net interest margins and non interest expenditures. Indeed, banks' profit before tax satisfies the following accounting identity:

$$\begin{aligned} \text{Profit before tax} = & \text{Net interest margin} + (\text{noninterest income} + \text{overheads}) \\ & - \text{other noninterest expenditures} - \text{loan loss provisioning} \end{aligned} \quad (2)$$

As such, I re-estimate equation (1) with, alternatively, interest income and interest expenses (the difference between these two elements constituting the net interest margin) and bad loans (which impacts profit through lower interest income and higher loan loss provisioning) as dependent variables. The results for the three different samples of banks are presented in Table 6.

— Table 6 insert here —

The first column reports the ratio of interest income to average earning assets. In the first panel both African MNB and Emerging MNB report lower levels of interest income than domestic banks. However, the coefficient on the Emerging MNB dummy loses significance in the survivor sample and it is not significant in the balanced panel. For African MNB it remains significant at the 1% level in the survivor panel but it is weakly significant (at the 10% level) in the balanced panel.

The coefficient for Global MNB is always negative but never significant. The results in column 2, which reports the ratio of interest expenses to interest bearing liabilities, suggest that, while there are no significant differences between Global MNB and domestic banks in terms of interest income, there is however a significant difference between these two groups of banks concerning interest expenses generated by average interest-bearing liabilities. Indeed, Global MNB, as well as Emerging MNB and, to a lesser extent, African MNB, have a ratio of interest expenses to average liabilities that is on average one percentage point lower than that of domestic banks. However, while the difference is significant at the 5% level for Global MNB and Emerging MNB, it is only weakly significant (or non significant, depending on the specification) for African MNB. This indicates that the foreign affiliates of both Global MNB and Emerging MNB have lower funding costs than

domestic banks, as interest expenses comprise interests paid on deposits and borrowings to fund the loan portfolio. This supports hypotheses 5a and 5b.

In columns (3) and (4) I further investigate whether the difference in performance between foreign banks and domestic banks is related to the quality of their loan portfolio as identified by their level of bad loans. I use two different measures of bad loans, the ratio of non-performing loans to gross loans and the ratio of impaired loans to equity. I find that Global MNB have significantly lower levels of NPL/gross loans (but not when estimated on the balanced panel), while the difference is not significant for Emerging MNB and African MNB. Concerning impaired loans to equity, I find that only Emerging MNB record significantly lower impaired loans to equity than domestic banks. Impaired loans have a negative impact on the income statement: they reduce banks' profit as they generate an increase in the provision for loan losses.

Overall these results indicate that lower interest expenses explain the differences in ROE between Global MNB and domestic banks, and between Emerging MNB and domestic banks. There may be two (non-exclusive) reasons why domestic banks face higher interest expenses than foreign banks. It might be because foreign banks pay lower interest for a given category of funding - this would be the case, for instance, if they paid higher interest on deposits than the foreign affiliates of Global MNB. It could also be that the foreign bank affiliates have a different liability mix. It would have an impact on their interest expenses if, for instance, foreign affiliates of Global MNB had a higher percentage of their funding composed of customer deposits, which pay low or zero interest to customers, while domestic banks were more exposed to longer-term financing bearing a higher interest cost. I do not have detailed information on the interest paid by banks for specific funds but I am able to examine whether the liability profiles of the groups of banks differ. The results are presented in the next sub-section.

5.2. Explaining differences in interest expenses: the liability mix

I examine whether the lower cost of funding of global banks is due to differences in the liability mix.

5.2.1. BankScope data

I use data from BankScope to investigate this issue further. Given the smaller number of banks reporting a detailed liability break-down, the sample size is reduced to 287 banks in total. The data in Table 7 suggests that a composition effect related to the liability mix may be driving the performance results: the foreign affiliates of Global MNB and Emerging MNB have a significantly lower share of their total funding composed of short-term capital compared to domestic banks. Foreign banks (in particular Global MNB and Emerging MNB) have a significantly higher share of their funding composed of current deposits (which may bear low or zero interest) than domestic banks, while

they have a significantly lower share of their funding composed of saving deposits, which generally pay higher interest than current accounts. Overall this suggests that the foreign banks' affiliates have a significantly different liability mix compared to domestic banks. In particular, they are less exposed to funding sources that bear higher interests, which translates into lower interest expenses and higher ROE. This further supports hypotheses 5a and 5b.

— Table 7 insert here —

5.2.2. *Survey findings*

Evidence from the bank survey corroborates this finding: foreign affiliates of Global MNB tend to benefit from a large deposit base through financing large corporates and institutional clients. In addition, large global banks tend to be very well established in the retail market and therefore have easy access to current customer deposits. Access to current customer deposits was a concern for a significant number of the small domestic banks surveyed. Indeed, while a large majority of the bank respondents across all bank categories considered that access to the interbank market was easy (83% of the banks considered that access to the interbank market was easy, somewhat easy or very easy), only 60% of the respondents considered that it was easy to gather customer deposits, with significant differences between banks. Respondents from foreign affiliates of global banks perceived access to deposits as easier than respondents from domestic banks and foreign affiliates of African MNB and Emerging MNB. Indeed, 45% of the domestic banks, 59% of the African MNB and 60% of the Emerging MNB surveyed considered that it was easy¹⁷ to access deposits, whereas this number was close to 90% for Global MNB. The difference in the perception of access to deposits is significant between Global MNB and domestic banks (see Table 8).

It is worth noting that while global banks, in the context of Africa, benefit from access to cheaper sources of funding through their ability to attract deposits locally, in Central and Eastern Europe foreign banks also have a competitive advantage in accessing cheap funding but this is gained through their ability to tap into the internal capital market of their multinational group (De Haas and van Lelyveld, 2010).

In Africa the global brand of global banks helps them garner customers' trust and attract customer deposits in a context of weaker local competition and less credible deposit insurance mechanisms as compared with Eastern Europe. Most of the survey respondents who perceived access to customer deposit to be difficult cited competition issues, followed by high interest rates to pay on deposits. These results further support hypothesis 5a, according to which the foreign affiliates of global banks exhibit lower interest expenses than the other groups of banks due to their affiliation to a large group.

¹⁷Includes the categories "somewhat easy", "easy" and "very easy".

— Table 8 insert here —

Overall these additional findings suggest that the higher ROE of the foreign affiliates of Global MNB and Emerging MNB relative to those of domestic banks is due to lower interest expenses, related to the composition of their liability mix, as a significantly higher proportion of their funding base consists of low cost demand deposits in comparison to domestic banks. In other words, the lower performance of domestic banks is due to higher cost of funding, while there is no evidence of significant differences in their ability to generate interest income.

In the next section I examine this last point further, investigating whether these performance differences are related to segmentation in the loan market.

6. Alternative explanation: market segmentation

A potential composition effect that might account for the difference in performance between groups of banks is related to the existence of market segmentation and stable differences in the composition of the loan portfolio between banks. Indeed, if some banks have a portfolio which primarily consists of loans to sectors with high return and/or low risk with low levels of bad loans, then these banks might have a competitive advantage which then translates into higher profits. In other words, if different categories of foreign banks cater to different market segments then foreign banks' heterogeneity in a host country could be explained, and sustained, by product differentiation and niche markets. In particular, prior research suggests that foreign banks "cherry-pick" borrowers in developing countries (Detragiache, Gupta, and Tressel 2008; Beck and Martínez Peria 2010; Gormley 2010, 2014), undermining overall access to credit. In this section, I examine two different aspects of the composition of banks' portfolios: the allocation of loans by business segments (corporate, retail), and the allocation of loans by economic sectors. The econometric specifications are based on equation (1), with a measure of loan portfolio allocation as the dependent variable and the same three ownership dummies as explanatory variables. I obtain data on loans from three different sources.

The first source is the BankScope database, which provides information on loans to the retail and corporate sectors. I then complement this data with information on loan portfolio allocation by economic sector, which I hand-collected from banks' annual reports. I obtained information on a subsample of 106 banks which publish data on the sectoral allocation of their loans in their annual reports. This sample of banks reporting the allocation of loans by sector is an unbalanced panel over the period 2003-2012.

The third data source that I use to further examine the differences in loan portfolios within the corporate segment (SMEs vs. large corporates) is the survey data. Rather than giving banks a predetermined size classification of banks, the survey questionnaire directly asks banks their definition of SMEs. In this respect, it follows the methodology employed by Beck, Demirgüç-Kunt and Martínez Pería (2011) for their survey of bank

SME financing around the world. Close to 80% of the banks surveyed define SMEs according to their annual turnover, the rest of the banks defining them according to their transaction amounts. On average, the annual turnover varies between US\$200,000 and US\$5 million and the transaction amount varies between US\$3,000 and US\$300,000, depending on the client and the bank. These numbers are consistent with banks' SME definitions reported in Beck, et al. (2011).

6.1. Allocation of loans by business segment

I use information obtained from BankScope on the type of customers to which banks extend their loans. The results are reported in Table 9. All the foreign affiliates have a lower percentage of their loan portfolio exposed to the residential mortgage segment than domestic banks. The result is significant at the 5% level and robust to the inclusion of additional controls. This can be explained by better knowledge of local conditions among domestic banks, allowing them to extend more retail mortgage loans, while foreign banks may be more reluctant to provide loans to retail customers to finance housing projects. This is in contrast to findings obtained in Eastern Europe (De Haas, Ferreira and Taci, 2010), where foreign banks, and in particular greenfield foreign banks, are significantly more involved in mortgage lending than private domestic banks, having exported their knowledge and lending methods for mortgage products to this region, where mortgage markets were absent before the end of Communism.

— Table 9 insert here —

I further investigate the differences between banks in terms of the types of corporate customers in their loan portfolio, distinguishing between small and medium enterprises (SMEs) and large corporates, relying on the survey data presented above. The results, reported in Table 10, indicate that there are no significant differences between the four categories of banks (global, emerging, African and domestic banks) in the shares of their portfolios allocated to SMEs and large corporates once bank and country controls are included. Concerning retail loans, the survey data shows that Emerging MNB have a significantly lower exposure to the retail segment than domestic banks, which reflects a niche market strategy focusing on corporates.

This finding corroborates that of Clarke, Cull, Martinez Peria and Sanchez (2005), according to which larger foreign banks have greater impacts on access to financial services for small and medium-sized enterprises in Latin America, potentially due to higher commitment to the market, while smaller banks are more niche players. Similar findings regarding the role of foreign banks as financiers of SMEs were obtained in the context of Eastern Europe by De Haas, Ferreira and Taci (2010), who found that foreign banks lent significantly less to large firms when compared to private domestic banks, with greenfield foreign banks lending roughly between 15 and 17 percentage points less to large firms than a domestic private bank would.

This data is admittedly limited but it further suggests that there are no significant differences between foreign banks in their allocations of loans by business segment, and especially there are no significant differences between foreign banks and domestic banks in the shares of their loan portfolios allocated to the SME segment.

— Table 10 insert here —

6.2. Allocation of loans by economic sectors

Finally, I examine the sectoral allocation of loans in Table 11 using data obtained directly from banks' annual reports.¹⁸

The results indicate that Global MNB are significantly more exposed to the manufacturing sector but significantly less exposed to extractive industries. In contrast, Emerging MNB are significantly more exposed to extractive industries but also to public utilities, the manufacturing sector, transport and government and para-statal organizations compared to domestic banks. Emerging MNB are also less exposed to trade and tourism and the social and education sector. Finally, African MNB report a significantly higher exposure to the transport and communication sectors. As such, although I do not find strong evidence of market segmentation with respect to types of loans (retail vs. corporate), I do find that Global MNB and Emerging MNB finance the manufacturing sector more than domestic banks do, and that Emerging MNB offer relatively more loans to the extractive industries sector as a percentage of their total loans. This is consistent with the fact that FDI from China and India began their expansion in Africa in the natural resource extraction industry (Beck et al., 2011). I do not find any significant difference between banks with respect to the agriculture sector, construction sector, finance sector, foreign trade and micro small business sectors. This result also corroborates Beck et al.'s (2011:43) findings that the agricultural sector is significantly underrepresented in the loan books of all banks, while trade and commerce and construction are overrepresented in the loan books of African MNB.

— Table 11 insert here —

To sum up, I find only weak evidence of market segmentation along customer niches and, more specifically, I do not find that global banks offer significantly more loans to corporate clients than domestic banks. As such, with the limitations of the data at hand, I do not find strong evidence that the heterogeneity of foreign banks' performance is primarily driven by market segmentation on the asset side of the business: once again,

¹⁸Only 21% of the active banks in the BankScope sample report the sectoral allocations of their loan portfolios. I conducted a preliminary comparison of means between the group of banks which reports this sectoral loan data and that which does not. I found that the reporting banks were significantly larger (by total assets). In addition, the means differences between the two groups in terms of financial performance indicated that reporting banks tended to record higher ROEs over the sample period. However, this difference was not significant at the 5% level for foreign banks, which suggests that potential sampling biases were not strongly related to performance measures.

the performance difference between these two groups of banks seems to be driven by differences in interest expenses (the cost of capital), rather than differences in interest income (their ability to generate revenues from banking activities, in particular lending).

7. Discussion and Conclusion

Using financial statements data from BankScope and survey data this research found that regional African banks were significantly less profitable (ROE) and cost efficient than affiliates of global banks in sub-Saharan African host markets. This is in line with the results of Claessens and Van Horen (2012), who found that geographical closeness does not improve performance in host developing countries. Similarly to Claessens, Demirgüç-Kunt and Huizinga (2001) and Claessens and Van Horen (2012), I also found that foreign banks from developed countries outperformed domestic banks in developing countries, while foreign banks from developing countries performed worse than domestic banks. However, while the foreign affiliates of African MNB under-perform compared to domestic banks, those from emerging markets outside the region (“Emerging MNB”) record higher performance than domestic banks, highlighting the heterogeneity among the group of developing and emerging country banks.

The five research hypotheses were empirically supported, although the second hypothesis, according to which Global MNB are more operationally efficient than African MNB, was only partially supported by the empirical evidence.

Overall the research does not suggest that the affiliates of regional African banks are better able to operate in sub-Saharan Africa than global banks. In other words, it does not seem that they have a specific home or regional advantage, related to a lower cultural and institutional distance, when operating in Africa. This raises the following question: Why do foreign regional African banks survive despite systematically under-performing compared to both other foreign banks, particularly global banks, and domestic banks?

A first explanation could be that there are important quality differences between customers inside each market segment.

There is still the possibility of cream-skimming of the best borrowers within each economic sector and business segment by global banks, without observing significant differences between foreign banks in terms of the overall sectoral and business allocations of their loan portfolios. Variations in the quality of customers and their associated costs, especially the cost of screening and monitoring, could then translate into significant and stable variations in performance between banks.

Secondly, as Bloom and Van Reenen (2007) have shown for manufacturing firms, in countries with low competition the dispersion of firms’ productivity tends to be higher. Given that most sub-Saharan African banking markets are characterized by a high level of concentration and relatively low market competition this may also explain why lower-performing (regional African) banks do not exit the market. In addition, it is important

to note that even in the most competitive markets, such as Kenya, where more than 40 banks operate and compete for the same customers, all the banks are actually generating substantial profits, and consolidation has not yet occurred. In this market interest spreads, especially in the SME segment, are still very high and the banks have not reduced them despite a reduction in operational costs over the years (see Osoro (2013)).

The higher performance of global banks may also be related to higher levels of operational capacity, embedded in their organization, allowing them to benefit from lower operating and funding costs. In particular, the survey showed that global banks received significantly more operational support (in terms of IT, technology, risk management techniques etc.) than other groups of foreign banks.

One limitation of this research concerns the availability and quality of financial data on banks. Financial data is missing for a few banks in years in which they have been active (most often the latest years) and not all the commercial banks in Africa are included in BankScope, although this non-reporting only concerns the smaller banks and those which were incorporated most recently. These omissions are, however, unlikely to affect the results substantially, and may in fact indicate that they are conservative estimates: given that most of the omitted banks in BankScope are banks which were only recently incorporated and that foreign affiliates of regional African banks are those which have most recently entered new markets in their neighbouring countries, including these banks may lower the average measures of financial performance of regional African banks if we consider that new entrants tend to face a higher risk of exit due to lower performance.

A second data limitation concerns the lack of detailed information at the loan level, in particular on the amounts and interest rates of the loans and sizes of the borrowing firms. As mentioned above, there is still the possibility that large foreign (global) banks “cream-skim” borrowers within each category (retail/SMEs/corporate), even though there is no significant evidence that these banks are less exposed to SMEs. In addition, having more detailed information at the loan level would also allow us to examine the welfare implications for host markets of the presence of foreign banks. The results obtained in this study may be interpreted as evidence that regional African banks increase the fragility of the host banking system as they are associated with lower performance, while global banks may improve the stability of the banking system. At the same time, it may be that regional banks are more exposed to the tail-end of the SME segment and to non-traditional borrowers excluded by global banks, which face high financing constraints despite being crucial for economic development. This preliminary analysis of the drivers of banks’ performance needs to be complemented with more fine-grained information on banks’ loan portfolios to infer policy implications for FDI in the banking sector. The implications for future research of these findings are twofold. First, the empirical results have shown that developing and developed country MNEs are associated with different strategies, and perform differently in the host markets. As a consequence, they do not

have the same impacts on the host economies. This stresses the need to take into account the level of development of the country of origin of foreign banks when examining foreign multinationals' entry into host markets. Secondly, this research poses the question of the sustainability, or even existence, of potential "home region advantages" provided by a supposedly deeper knowledge of the local context. This research suggests that the advantages of closeness are limited when foreign competitors are highly productive and global.

Understanding how time, as well as host and home countries' specific factors, affect the prevalence of these advantages and disadvantages constitutes an avenue for future research. One potential lesson for developing countries' banks embarking on international expansion in other developing countries is that to catch up with developed country banks they should build on their knowledge of developing environments by further specializing in niche customer markets untapped by developed countries' multinationals. In the banking sector in particular this research suggests that access to low-cost deposits is key to unlocking performance. Given the large unbanked population in African markets there are still many opportunities for regional African banks to tap into local deposits.

Bibliography

- Aghion, P., Howitt, P., 1998. *Endogenous Growth Theory*. MIT Press, Cambridge, MA.
- Altonji, J. G., Elder, T. E., Taber, C. R., 2005. Selection on observed and unobserved variables: Assessing the effectiveness of catholic schools. *Journal of Political Economy* 113, 151–184.
- Andrianova, S., Baltagi, B. H., Demetriades, P. O., Fielding, D., 2015. Why Do African Banks Lend so Little? *Oxford Bulletin of Economics and Statistics* 77, 339–359.
- Bain, J. S., 1956. *Barriers to new competition: Their character and consequences in manufacturing industries*. Harvard University series on competition in American industry, Harvard University Press, Cambridge.
- Barth, J. R., Caprio Jr., G., Levine, R., 2004. Bank regulation and supervision: what works best? *Journal of Financial Intermediation* 13, 205–248.
- Beck, T., Cull, R., Jerome, A., 2005. *Bank Privatization and Performance: Empirical Evidence from Nigeria*. Policy Research Working Paper Series 3511, The World Bank.
- Beck, T., Degryse, H., De Haas, R., van Horen, N., 2017. When arm's length is too far: relationship banking over the business cycle. *Journal of Financial Economics*, forthcoming .
- Beck, T., Demirgüç-Kunt, A., Martínez Pería, M. S., 2011. Bank Financing for SMEs: Evidence Across Countries and Bank Ownership Types. *Journal of Financial Services Research* 39, 35–54.
- Beck, T., Fuchs, M., 2004. *Structural issues in the Kenyan financial system: improving competition and access*. Policy Research Working Paper Series 3363, The World Bank.
- Beck, T., Hesse, H., 2009. Why are interest spreads so high in Uganda? *Journal of Development Economics* 88, 192–204.
- Beck, T., Maimbo, S., Faye, I., Triki, T., 2011. *Financing Africa: Through the crisis and beyond*. World Bank, Washington DC.
- Berger, A., DeYoung, R., Genay, H. and Udell, G., 2000. Globalization of financial institutions: evidence from cross-border banking performance. *Brookings-Wharton Papers on Financial Services* 3, 23–158.
- Berger, A., Humphrey, D., 1997. Efficiency of financial institutions: international survey and review. *European Journal of Operational Research* 98, 175–212.

- Berger, A. N., DeYoung, R., 2001. The Effects of Geographic Expansion on Bank Efficiency. *Journal of Financial Services Research* 19, 163–184.
- Berger, A. N., DeYoung, R., 2006. Technological Progress and the Geographic Expansion of the Banking Industry. *Journal of Money, Credit and Banking* 38, 1483–1513.
- Berger, A. N., Klapper, L. F., Udell, G. F., 2001. The ability of banks to lend to informationally opaque small businesses. *Journal of Banking and Finance* 25, 2127–2167.
- Bloom, N., Van Reenen, J., 2007. Measuring and Explaining Management Practices Across Firms and Countries. *The Quarterly Journal of Economics* 122, 1351–1408.
- Calice, P., Chando, V. M., Sekioua, S., 2012. Bank Financing to Small and Medium Enterprises in East Africa: Findings of a Survey in Kenya, Tanzania, Uganda and Zambia. Working Paper 146, The African Development Bank.
- Casu, B., Girardone, C., Molyneux, P., 2006. *Introduction to Banking*. Pearson Education, England.
- Cetorelli, N., Goldberg, L. S., 2012. Liquidity management of U.S. global banks: Internal capital markets in the great recession. *Journal of International Economics* 88, 299–311.
- Claessens, S., 2017. Global Banking: Recent Developments and Insights from Research. *Review of Finance* 21, 1513–1555.
- Claessens, S., Demirgüç-Kunt, A., Huizinga, H., 2001. How does foreign entry affect the domestic banking market? *Journal of Banking and Finance* 25, 891–911.
- Claessens, S., Van Horen, N., 2012. Being a foreigner among domestic banks: Asset or liability? *Journal of Banking and Finance* 36, 1276–1290.
- Claessens, S., Van Horen, N., 2013. Impact of foreign banks. *Journal of Financial Perspectives* 1, 1–18.
- Claessens, S., Van Horen, N., 2014. Foreign banks: Trends and impact. *Journal of Money, Credit and Banking* 46, 295–326.
- Clarke, G., Cull, R., Martínez Pería, M. S., Sanchez, S. M., 2005. Bank Lending to Small Businesses in Latin America: Does Bank Origin Matter? *Journal of Money, Credit and Banking* 37, 83–118.
- De Haas, R., Ferreira, D., Taci, A., 2010. What determines the composition of banks loan portfolios? Evidence from transition countries. *Journal of Banking and Finance* 34, 388–398.

- De Haas, R., Van Lelyveld, I., 2010. Internal capital markets and lending by multinational bank subsidiaries. *Journal of Financial Intermediation* 19, 1–25.
- Dell’Ariccia, G., Marquez, R., 2004. Information and bank credit allocation. *Journal of Financial Economics* 72, 185–214.
- Detragiache, E., Tressel, T., Gupta, P., 2008. Foreign banks in poor countries: Theory and evidence. *Journal of Finance* 63, 2123–2160.
- Dixit, A. K., 2011. International Trade, Foreign Direct Investment, and Security. *Annual Review of Economics* 3, 191–213.
- Fajgelbaum, P., Grossman, G., Helpman, E., 2015. A Linder Hypothesis for Foreign Direct Investment. *Review of Economic Studies* 82, 83–121.
- Freixas, X., Rochet, J.-C., 1997. *Microeconomics of Banking*. MIT Press, Cambridge Mass.
- Giannetti, M., Ongena, S., 2009. Financial Integration and Firm Performance: Evidence from Foreign Bank Entry in Emerging Markets. *Review of Finance* 13, 181–223.
- Gormley, T. A., 2010. The impact of foreign bank entry in emerging markets: Evidence from India. *Journal of Financial Intermediation* 19, 26–51.
- Gormley, T. A., 2014. Costly information, entry, and credit access. *Journal of Economic Theory* 154, 633–667.
- Haselmann, R., Wachtel, P., 2007. Risk Taking by Banks in the Transition Countries. *Comparative Economic Studies* 49, 411–429.
- Haselmann, R., Wachtel, P., 2010. Institutions and Bank Behavior: Legal Environment, Legal Perception, and the Composition of Bank Lending. *Journal of Money, Credit and Banking* 42, 965–983.
- Hauswald, R., Marquez, R., 2006. Competition and Strategic Information Acquisition in Credit Markets. *Review of Financial Studies* 19, 967–1000.
- Honohan, P., Beck, T., 2007. *Making Finance Work for Africa*. World Bank, Washington DC.
- Khanna, T., Palepu, K., 2006. Emerging giants: Building world-class companies in developing countries. *Harvard Business Review* 84, 60–69.
- Khanna, T., Palepu, K., 2010. *Winning in Emerging Markets: a road map for strategy and execution*. Harvard Business Press, Boston Mass.

- La Porta, Rafael and Lopez-De-Silanes, Florencio and Shleifer, Andrei , 2001. Government Ownership of Banks. *Journal of Finance* 57, 1540–6261.
- Laeven, L., Levine, R., 2009. Bank governance, regulation and risk taking. *Journal of Financial Economics* 93, 259–275.
- Linder, S. B., 1961. *An Essay on Trade and Transformation*. Almqvist and Wiksell, Stockholm.
- Mian, A., 2006. Distance Constraints: The Limits of Foreign Lending in Poor Countries. *Journal of Finance* 61, 1465–1505.
- Micco, A., Panizza, U., Yanez, M., 2007. Bank ownership and performance. Does politics matter? *Journal of Banking and Finance* 31, 219–241.
- Osoro, J., 2013. When a harder look at facts and logic matters. In: Tunnen, C. (ed.), *Banking Survey 2013*, Think Business Limited, Nairobi.
- Petersen, M., 2009. Estimating Standard Errors in Finance Panel Data Sets: Comparing Approaches. *The Review of Financial Studies* 22, 435–480.
- Popov, A., Udell, G. F., 2012. Cross-border banking, credit access, and the financial crisis. *Journal of International Economics* 87, 147–161.
- Stein, J. C., 1997. Internal capital markets and the competition for corporate resources. *The Journal of Finance* 52, 111–133.
- Stein, J. C., 2002. Information Production and Capital Allocation: Decentralized versus Hierarchical Firms. *The Journal of Finance* 57, 1891–1921.
- UNCTAD, 2012. *World Investment Report*. United Nations, Geneva.
- UNCTAD, 2015. *World Investment Report*. United Nations, Geneva.
- Van Horen, N., 2007. Foreign banking in developing countries: Origin matters. *Emerging Market Review* 8, 81–105.

Table 1: **Analysis of non-response bias - Means comparison of participant vs. non-participant banks**

This table presents an analysis of non-response bias, using T-test to compare the means of several key financials of participant and non-participant commercial banks in the survey in Tanzania, Kenya and Ghana. Financials are from the BankScope database, for the last year available. NS: Non Significant.

Financials	Participant		Non-Participant		Difference in Means T-test
	Mean	Obs.	Mean	Obs	
ALL BANKS					
Total Assets (millions USD)	710	48	536	28	0.88 ^{NS}
Net Income (thous. USD)	20415	48	15077	28	0.67 ^{NS}
Net Interest Margin (%)	7.9	47	8.3	27	-0.54 ^{NS}
Total Capital Ratio (%)	24.0	36	23.7	16	0.05 ^{NS}
Number of employees	406	20	458	11	-0.26 ^{NS}
FOREIGN BANKS					
Total Assets (millions USD)	577	24	447	17	0.70 ^{NS}
Net Income (thous. USD)	14154	24	15541	17	-0.17 ^{NS}
Net Interest Margin (%)	7.7	23	9.2	16	-1.04 ^{NS}
Total Capital Ratio (%)	26.4	22	20.5	12	0.73 ^{NS}
Number of employees	274	13	532	9	-1.32 ^{NS}

Table 2: **Bank financial performance and bank ownership in sub-Saharan Africa**

This table presents the results of multivariate regression analyses of bank performance using OLS estimation. The dependent variable is return on equity using income before tax. The excluded ownership dummy is Domestic Bank. Constants are included but not reported. The Altonji ratios are measured following Altonji, Elder and Taber (2005). The ratios are based on a comparison of the baseline specification (shown in these columns) to an (unreported) specification without controls. The ratio in column 1 is based on a comparison of the baseline (reported) specification to an unreported specification excluding all controls (only keeping the ownership dummies and the year fixed effects). The ratios in columns (2)-(7) are based on a comparison of the reported specification to an unreported specification excluding the following firm controls: assets, market share, solvency ratio, loan to deposit ratio, foreign subsidiaries, year of entry. The Altonji ratio equals the value of the coefficient in the regression including the controls divided by the difference between this coefficient and the one derived from the regression without the controls. Standard errors are robust to heteroskedasticity and are adjusted for bank clustering with values reported beneath each coefficient estimate in parenthesis. The dependent variable is Winsorized at 1%. *, ** and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	All banks (657)			Survivor banks (495)		5-year Balanced panel (217)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Global MNB	8.670*** (2.698)	6.717** (3.004)	7.633** (3.138)	6.945** (3.082)	7.515** (3.230)	6.151 (3.740)	5.942 (3.892)
African MNB	-4.520 (3.032)	-0.802 (2.695)	0.522 (2.826)	-1.260 (2.743)	-0.238 (2.872)	0.639 (3.274)	0.458 (3.468)
Emerging MNB	0.901 (3.311)	9.518*** (3.361)	10.297*** (3.608)	9.714*** (3.275)	10.342*** (3.519)	10.410** (4.350)	10.070** (4.609)
Listed company	12.941*** (2.558)	2.856 (2.900)	3.296 (3.108)	3.388 (2.955)	3.804 (3.162)	5.957* (3.207)	6.218* (3.394)
HHI, lagged	13.865* (7.182)	-9.110 (5.762)	-11.690* (6.342)	-9.431 (5.819)	-10.806* (6.523)	1.165 (5.071)	1.932 (6.477)
GDP per capita (host) '00 USD	0.090 (0.070)	0.125 (0.116)		0.133 (0.121)		-0.095 (0.117)	
Minimum capital req. (host), '000 USD	0.134* (0.076)	-0.210* (0.108)		-0.195* (0.113)		-0.067 (0.299)	
Total assets, log, lagged		4.197*** (1.143)	4.041*** (1.364)	3.924*** (1.167)	3.762*** (1.379)	2.736** (1.379)	1.945 (1.587)
Market share, lagged		22.851** (9.449)	32.163*** (11.536)	25.886*** (9.624)	34.344*** (11.739)	19.476* (11.059)	31.213** (13.698)
Solvency ratio, lagged		-0.219** (0.086)	-0.173* (0.092)	-0.217** (0.088)	-0.179* (0.094)	-0.270** (0.125)	-0.254* (0.137)
Loan to deposit ratio, lagged		0.502 (0.335)	0.477 (0.419)	0.491 (0.342)	0.478 (0.429)	0.304 (0.305)	0.345 (0.375)
Foreign subs. Africa at inc.		-0.489 (0.443)	-0.565 (0.451)	-0.526 (0.442)	-0.598 (0.451)	-0.247 (0.424)	-0.166 (0.443)
Year of entry		0.004 (0.033)	0.021 (0.036)	0.003 (0.033)	0.019 (0.036)	0.020 (0.047)	0.020 (0.050)
Minimum capital adequacy ratio (host)	-29.210 (98.184)						
Prohibition of entry via JV (host)	-6.062 (4.103)						
Prohibition of entry via branch (host)	5.773 (3.771)						
East Africa	-1.668 (3.636)						
West Africa	-9.857** (3.921)						
Central Africa	3.625 (3.938)						
Observations	1,977	1,855	1,855	1,804	1,804	886	886
Adjusted R-squared	0.086	0.236	0.256	0.241	0.257	0.230	0.210
Year FE	✓	✓		✓		✓	
Host country FE		✓		✓		✓	
Year#Host country FE			✓		✓		✓
Wald test, F-Stat							
Test Africa-Global	13.61***	6.31**	4.93**	7.35***	5.75**	1.91	1.71
Test Africa-Emerging	1.74	8.10***	6.53**	9.53***	7.99***	4.12**	3.47*
Test Global-Emerging	3.99**	0.58	0.45	0.57	0.51	0.75	0.62
Altonji ratio Global MNB	65.682	1.777	2.197	1.848	2.093	-13.761	-38.335
Altonji ratio African MNB	1.904	0.130	-0.075	0.197	0.034	-0.146	-0.107
Altonji ratio Emerging MNB	-0.320	-1.098	-1.061	-1.097	-1.059	-0.982	-1.010

Table 3: **Bank financial performance and bank ownership in sub-Saharan Africa - SURVEY SAMPLE**

This table presents the results of multivariate regression analyses of bank performance based on the survey sample using OLS estimation. The dependent variable is return on equity using income before tax. The excluded ownership dummy is Domestic Bank. Constants are included but not reported. Standard errors are robust to heteroskedasticity and are adjusted for bank clustering with values reported beneath each coefficient estimate in parenthesis. The dependent variable is Winsorized at 1%. *, ** and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	All banks (657)			Survivor banks (495)		5-year Balanced panel (217)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Global MNB	12.320** (5.178)	11.753** (5.736)	11.855* (6.130)	11.753** (5.736)	11.855* (6.130)	5.100 (3.149)	3.344 (3.287)
African MNB	-17.822** (8.481)	6.757 (7.316)	7.187 (8.479)	6.757 (7.316)	7.187 (8.479)	3.539 (4.856)	2.435 (4.944)
Emerging MNB	1.782 (8.299)	30.228*** (6.106)	29.850*** (6.991)	30.228*** (6.106)	29.850*** (6.991)	32.396*** (4.358)	31.963*** (4.345)
Observations	332	261	261	261	261	144	144
Adjusted R-squared	0.212	0.441	0.439	0.441	0.439	0.477	0.545
Year FE	✓	✓		✓		✓	
Host country FE		✓		✓		✓	
Year#Host country FE			✓		✓		✓

Table 4: **Bank operational efficiency and bank ownership in sub-Saharan Africa**

This table presents the results of multivariate regression analyses of bank performance for three different samples (all banks, survivor banks, and 5-year balanced panel), using OLS estimation. The dependent variable is the cost to income ratio. The excluded ownership dummy is Domestic Bank. All models include a constant. Standard errors are robust to heteroskedasticity and are adjusted for bank clustering with values reported beneath each coefficient estimate in parenthesis. The dependent variable is Winsorized at 1%. *, ** and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	All banks (657)			Survivor banks (495)		5-year Balanced panel (217)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Global MNB	-8.987** (3.828)	-7.098* (4.035)	-7.495* (4.295)	-5.967 (4.114)	-6.005 (4.359)	-5.119 (4.771)	-4.825 (4.947)
African MNB	6.111 (4.195)	-0.530 (3.598)	-1.647 (3.742)	0.885 (3.734)	-0.113 (3.886)	-0.996 (4.187)	-0.859 (4.543)
Emerging MNB	-7.181 (7.326)	-28.311*** (4.726)	-28.789*** (5.054)	-28.135*** (4.753)	-28.513*** (5.067)	-26.527*** (5.830)	-25.903*** (6.111)
Listed company	-16.190*** (2.783)	0.494 (3.206)	-0.136 (3.496)	1.254 (3.269)	0.730 (3.578)	1.640 (3.364)	1.504 (3.589)
HHI, lagged	2.013 (8.588)	1.605 (5.061)	-4.116 (9.638)	1.575 (5.075)	-8.205 (11.074)	-6.359 (4.599)	-5.643 (5.686)
GDP per capita (host)	-0.270*** (0.088)	-0.212 (0.220)		-0.296 (0.229)		0.004 (0.127)	
Minimum capital req. (host)	-0.156* (0.086)	0.058 (0.106)		0.064 (0.122)		0.473 (0.378)	
Total assets, log, lagged		-9.158*** (1.678)	-9.180*** (1.982)	-9.505*** (1.748)	-9.369*** (2.050)	-8.559*** (1.905)	-8.199*** (2.251)
Market share, lagged		-4.201 (9.730)	-8.805 (14.099)	-4.116 (10.074)	-9.926 (14.489)	-2.443 (10.495)	-9.576 (14.371)
Solvency ratio, lagged		-0.139 (0.229)	-0.132 (0.231)	-0.129 (0.238)	-0.113 (0.239)	-0.259 (0.200)	-0.296 (0.204)
Loan to deposit ratio, lagged		-2.048*** (0.833)	-2.104** (0.851)	-2.029** (0.853)	-2.126** (0.867)	-1.031* (0.553)	-0.997 (0.646)
Foreign subs. Africa at inc.		0.981** (0.489)	0.980** (0.491)	0.989** (0.492)	0.998** (0.495)	0.634 (0.508)	0.571 (0.535)
Year of entry		-0.011 (0.044)	-0.022 (0.048)	-0.009 (0.045)	-0.019 (0.048)	-0.051 (0.047)	-0.052 (0.050)
Min. capital adequacy ratio (host)	93.700 (116.050)						
Prohibition entry via JV (host)	9.648 (6.173)						
Prohibition entry via branch (host)	2.924 (5.668)						
East Africa	-0.623 (5.396)						
West Africa	4.194 (5.024)						
Central Africa	-8.956 (6.236)						
Observations	1,921	1,808	1,808	1,754	1,754	875	875
Adjusted R-squared	0.075	0.223	0.213	0.232	0.226	0.259	0.217
Year FE	✓	✓		✓		✓	
Host country FE		✓		✓		✓	
Year#Host country FE			✓		✓		✓
Wald test, F-Stat							
Test Africa-Global	8.86***	2.76*	1.93	2.91*	1.92	0.62	0.53
Test Africa-Emerging	2.73*	32.25***	27.73***	34.89***	30.19***	17.51***	15.47***
Test Global-Emerging	0.05	18.46***	15.73***	19.82***	17.43**	10.87***	9.72***

Table 5: **Group Support Index - support received by foreign affiliates from their group for key operational processes**

A higher score indicates higher group support to foreign affiliates for operational processes. *** and ** indicates that the difference in means (t-test) with Global MNB is significant at the 1% level and at the 5% level respectively.

Support index goes from 0 “none” to 3 “a lot”	Obs.	Mean	Std. Dev.	Min	Max
African MNB	16	1.80**	0.81	0.2	3
Global MNB	18	2.33	0.47	1	3
Emerging MNB	4	1.40***	0.43	1	2
All banks	38	2.01	0.7	0.2	3

Table 6: **Interest income vs. interest expenses and bank ownership**

This table presents the results of multivariate regression analysis of operating performance for three different samples (all banks, survivor banks, 5-year balanced panel), using OLS estimation. The dependent variables are the ratio of interest income to average earning assets, the ratio of interest expenses to average interest bearing liabilities, non performing loans (NPL) to gross loans and impaired loans to equity (all in %). The following controls are included in all models: listed company, GDP per capita (host), HHI (t-1), minimum capital requirements (host), total assets (lagged, in logs), marketshare (lagged), solvency ratio (lagged), loan to deposit ratio (lagged), number of African subsidiaries owned by the group at incorporation, year of incorporation. Constants are included but not reported. Standard errors are robust to heteroskedasticity and are adjusted for bank clustering with values reported beneath each coefficient estimate in parenthesis. The dependent variables are Winsorized at 1%. *, ** and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	Interest income /assets (1)	Interest expenses /liabilities (2)	NPL /gross loans (3)	Impaired loans /equity (4)
All banks (657)				
Global MNB	-0.917 (0.802)	-0.874*** (0.275)	-2.706** (1.290)	-7.835 (6.031)
African MNB	-1.775*** (0.556)	-0.503* (0.285)	-1.597 (1.562)	3.707 (8.056)
Emerging MNB	-2.659** (1.347)	-1.052** (0.521)	-3.810 (2.447)	-19.347*** (7.452)
Observations	1,783	1,780	1,088	1,116
Adjusted R-squared	0.458	0.558	0.272	0.269
Controls; Year#Host Country FE	✓	✓	✓	✓
Sample with survivor banks (495)				
Global MNB	-0.857 (0.815)	-0.817*** (0.278)	-2.166* (1.277)	-6.276 (6.046)
African MNB	-1.821*** (0.576)	-0.506* (0.299)	-0.862 (1.514)	5.788 (8.128)
Emerging MNB	-2.587* (1.364)	-1.023* (0.530)	-3.396 (2.419)	-16.780** (7.210)
Observations	1,732	1,729	1,048	1,077
Adjusted R-squared	0.452	0.553	0.273	0.258
Controls; Year#Host Country FE	✓	✓	✓	✓
5-year balanced panel (217)				
Global MNB	-0.939 (1.059)	-0.885** (0.341)	-1.119 (1.503)	-5.880 (6.407)
African MNB	-1.569* (0.796)	-0.593 (0.359)	1.491 (1.981)	5.832 (9.686)
Emerging MNB	-2.841 (2.200)	-1.610** (0.814)	-1.471 (2.832)	-14.857** (6.467)
Observations	860	855	605	617
Adjusted R-squared	0.437	0.637	0.159	0.156
Controls; Year#Host Country FE	✓	✓	✓	✓
Wald test, F-Stat				
Test Africa-Global	0.34	0.63	2.79*	2.82*
Test Africa-Emerging	0.37	1.52	0.87	5.00**
Test Global-Emerging	0.80	0.87	0.02	1.83

Table 7: **Banks' funding profile (in % of total funding)**

This table presents the results of multivariate regression analyses of banks' funding profile for two different samples (all banks, and 5-year balanced panel), using OLS estimation. Each dependent funding source variable is in % of total funding. The excluded ownership dummy is Domestic Bank. The following controls are included in all models: listed company, total assets (lagged, in logs), market share (lagged), solvency ratio (lagged), loan to deposit ratio (lagged), number of African subsidiaries owned by the group at incorporation, year of incorporation, GDP per capita (host), HHI (lagged), minimum capital requirements (host), minimum capital adequacy ratio (host). Standard errors are robust to heteroskedasticity and are adjusted for bank clustering with values reported beneath each coefficient estimate in parenthesis. *, ** and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Note: Short-term funding (in % of total funding) (col. 1) is composed of customer deposits (current (2), saving (3) and term (4)) plus deposits from banks (5) and other short term funding (not reported in the table). Current accounts, which may or may not be interest bearing, are subject to immediate and unlimited withdrawal at the option of the customer. Savings accounts place some limitation on the frequency of withdrawals. They generally pay higher interest than current accounts. Term deposits have a fixed maturity date.

	SHORT-TERM FUNDING (% total) (1)	Customer Deposits			Deposits from banks (5)
		current (2)	saving (3)	term (4)	
PANEL A: All banks (287)					
Global MNB	0.024** (0.011)	0.107*** (0.040)	-0.107*** (0.040)	-0.042 (0.038)	0.018 (0.024)
African MNB	0.009 (0.011)	0.092** (0.038)	-0.137*** (0.041)	0.007 (0.033)	-0.004 (0.024)
Emerging MNB	0.037*** (0.014)	0.114 (0.086)	-0.097** (0.046)	0.059 (0.061)	-0.039 (0.035)
Observations	1,761	1,501	1,154	1,531	1,322
Adjusted R-squared	0.386	0.219	0.467	0.481	0.084
Controls	✓	✓	✓	✓	✓
Year#Host Country FE	✓	✓	✓	✓	✓
PANEL B: 5-year balanced panel (197)					
Global MNB	0.031* (0.018)	0.147*** (0.053)	-0.136*** (0.049)	-0.038 (0.047)	0.014 (0.040)
African MNB	0.012 (0.015)	0.144*** (0.048)	-0.171*** (0.054)	0.029 (0.040)	-0.000 (0.040)
Emerging MNB	0.057** (0.026)	0.201* (0.116)	-0.117* (0.060)	0.109 (0.087)	-0.063 (0.048)
Observations	797	723	547	720	620
Adjusted R-squared	0.430	0.121	0.478	0.408	0.073
Controls	✓	✓	✓	✓	✓
Year#Host Country FE	✓	✓	✓	✓	✓
Wald test, F-Stat					
Test Africa-Global	2.42	0.00	0.89	2.63	0.20
Test Africa-Emerging	3.46*	0.25	1.65	0.87	2.93*
Test Global-Emerging	1.49	0.23	0.19	2.74*	4.94**

Table 8: **Access to customers' deposits**

The index is the average of the respondents' perception of their bank's access to customers' deposit for each category of banks. The index goes from -3 "Very difficult access" to +3 "Very easy access". *** indicates that the difference in means (t-test) with domestic bank is significant at the 1% level.

	Number of banks	Index of ease of access to customers' deposit (from -3 "Very Difficult" to +3 "Very Easy")
Global MNB	19	1.89***
Regional African MNB	17	0.47
Domestic banks	36	0.25
Emerging MNB	5	1.58

Table 9: Allocation of loans by business segment

This table presents the results of multivariate regression analysis of banks' portfolio allocation by business segment (in % of total loans) over the 2003-2012 sample period, including all banks, using OLS estimation. The excluded ownership dummy is domestic banks. The excluded ownership dummy is Domestic Bank. The following controls are included in models (2), (4), (6) and (8): listed company, total assets (lagged, in logs), market share (lagged), solvency ratio (lagged), loan to deposit ratio (lagged), number of African subsidiaries owned by the group at incorporation, year of incorporation, GDP per capita (host), HHI (lagged), minimum capital requirements (host), minimum adequacy ratio (host). All models include a constant. Standard errors are robust to heteroskedasticity and are adjusted for bank clustering with values reported beneath each coefficient estimate in parenthesis. *, ** and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	RETAIL				CORPORATE			
	Residential mortgage (1)	Other mortgage loans (2)	Other mortgage loans (3)	Other retail loans (4)	Residential mortgage (5)	Other mortgage loans (6)	Other retail loans (7)	Other retail loans (8)
Global MNB	-0.032*** (0.012)	-0.044** (0.020)	-0.001 (0.002)	-0.003 (0.003)	0.024 (0.019)	0.015 (0.023)	-0.044 (0.041)	0.035 (0.047)
African MNB	-0.046*** (0.010)	-0.032*** (0.016)	-0.001 (0.002)	0.001 (0.005)	0.021 (0.020)	0.018 (0.021)	-0.128*** (0.031)	-0.033 (0.035)
Emerging MNB	-0.047*** (0.010)	-0.071*** (0.030)	-0.004*** (0.002)	-0.007* (0.004)	-0.026* (0.015)	-0.009 (0.023)	0.150 (0.092)	0.181 (0.134)
Observations	2,469	1,883	2,469	1,883	2,469	1,883	2,469	1,883
Adjusted R-squared	0.035	0.226	-0.000	0.008	0.004	0.311	0.048	0.376
Controls		✓		✓		✓		✓
Year#Host Country FE		✓		✓		✓		✓
Wald test, F-Stat								
Test Africa-Global	4.39**	0.00	1.46	0.02	0.01	5.87**	2.92*	
Test Africa-Emerging	0.24	3.01*	3.22*	4.88**	1.08	9.69***	2.89*	
Test Global-Emerging	4.94**	2.30	1.36	5.95**	0.63	4.31**	1.16	

Table 10: Allocation of loans by type of corporate customers

This table presents the results of multivariate regression analysis of banks' loan portfolio allocation by type of corporate customer (in % of total loans) in 2013, using OLS estimation. The dependent variable is the share of total loans for three types of customer (SME loans, retail loans and large corporates loans as a percentage of total loans, the omitted category being "Other" (microfinance, savings and credit cooperatives, etc.). The excluded ownership dummy is domestic banks. Panel A includes all the banks surveyed reporting loan information (74). Panel B includes only data on the three countries where fieldwork has been conducted (Kenya, Tanzania and Ghana), as it is more representative of the local bank population, covering 64% of the commercial banks in these three countries. The following firm and host country controls are included: listed company, government ownership, GDP per capita (host), HHI (t-1). Constants are included but not reported. Standard errors are robust to heteroskedasticity and are adjusted for bank clustering with values reported beneath each coefficient estimate in parenthesis. *, ** and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

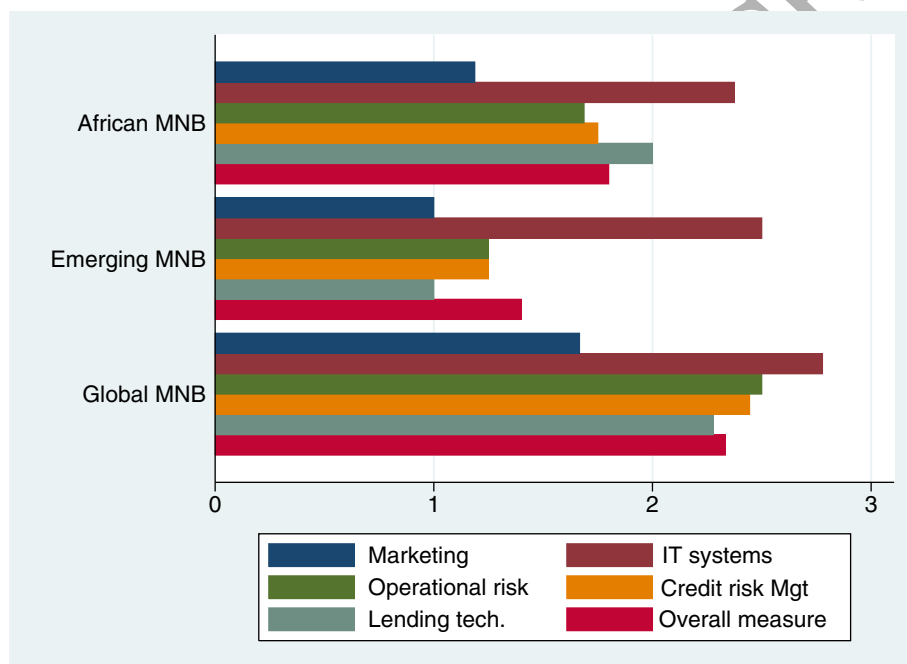
Panel	CORPORATE SEGMENT						RETAIL		
	SMEs			Large Corporates			A	B	
	A	B	A	B	A	B	A	B	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Global MNB	-0.134** (0.057)	-0.026 (0.089)	-0.053 (0.082)	0.129* (0.074)	0.084 (0.136)	0.128 (0.132)	0.010 (0.055)	-0.092 (0.063)	-0.068 (0.060)
African MNB	-0.046 (0.059)	-0.078 (0.075)	-0.066 (0.071)	0.161** (0.067)	0.101 (0.093)	0.102 (0.089)	-0.091** (0.040)	-0.012 (0.040)	-0.024 (0.037)
Emerging MNB	-0.018 (0.157)	-0.056 (0.145)	-0.059 (0.131)	0.217 (0.165)	0.214 (0.145)	0.242* (0.135)	-0.225*** (0.034)	-0.232*** (0.055)	-0.230*** (0.052)
Observations	74	74	59	74	74	59	74	74	59
R-squared	0.018	0.051	0.137	0.043	-0.015	0.053	0.097	0.369	0.366
Controls	✓	✓	✓	✓	✓	✓	✓	✓	✓
Host Country Dummies	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wald test, F-Stat									
Test Africa-Global	1.80	0.30	0.02	0.18	0.01	0.04	5.21**	1.38	0.47
Test Africa-Emerging	0.03	0.03	0.00	0.11	0.55	0.99	38.44***	14.17***	13.32***
Test Global-Emerging	0.54	0.03	0.00	0.28	0.51	0.48	34.76***	3.56*	5.58**

Table 11: **Sectoral repartition of loans (% total loans) using data compiled from banks' annual reports**

This table presents the results of multivariate regression analysis of banks' loan portfolio allocation by economic sector over the 2003-2012 sample period, including all active banks which report sectoral breakdown of loans, using OLS estimation. The excluded ownership dummy is Domestic Bank. All regressions have a total of 436 observations. The following controls are included in all models: listed company, government ownership, number of African subsidiaries owned by the group at incorporation, year of incorporation, GDP per capita (host), HHI(t-1). All models include a constant as well as year and host country fixed effects. Constants are included but not reported. Standard errors are robust to heteroskedasticity and are adjusted for bank clustering with values reported beneath each coefficient estimate in parenthesis. *, ** and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	Agriculture, forest, & fishing (1)	Public utilities (2)	Extractive industries (3)	Manufactur. (4)	Transport & communication (5)	Trade accomo & tourism (6)	Construction (7)
Global MNB	0.008 (0.012)	0.002 (0.005)	-0.015*** (0.004)	0.074*** (0.022)	0.008 (0.015)	-0.050 (0.034)	0.029 (0.022)
African MNB	0.005 (0.017)	0.012 (0.013)	0.008 (0.007)	0.040* (0.024)	0.033*** (0.012)	-0.041 (0.058)	0.004 (0.020)
Emerging MNB	-0.022 (0.026)	0.027** (0.011)	0.133*** (0.005)	0.095*** (0.032)	0.057*** (0.017)	-0.162*** (0.035)	0.033 (0.031)
Adjusted R-squared	0.316	0.104	0.747	0.307	0.213	0.222	0.324
	Finance, ins., real estate (8)	Social & education (9)	Government & para-statal (10)	Individuals (11)	Foreign trade (12)	Micro small business (13)	
Global MNB	-0.024 (0.039)	-0.017 (0.022)	-0.002 (0.003)	-0.098 (0.063)	0.001 (0.002)	-0.008 (0.009)	
African MNB	-0.017 (0.058)	-0.010 (0.010)	-0.007* (0.004)	-0.073* (0.040)	0.001 (0.005)	-0.000 (0.002)	
Emerging MNB	-0.055 (0.049)	-0.041** (0.019)	0.036*** (0.007)	-0.136 (0.083)	-0.001 (0.011)	0.006 (0.006)	
Adjusted R-squared	0.362	0.113	0.870	0.519	0.808	0.000	

Figure 1: Components of the Group Support Index by categories of banks (unweighted)



Source: Proprietary Bank Survey data

Appendix A

ACCEPTED MANUSCRIPT

Table A.1: **Factors affecting foreign bank's performance in sub-Saharan Africa (SSA)**

Note: (+) denote positive impact on performance, (-) negative impact

	Host country (SSA)	Home country	Distance	Bank characteristics
Global MNB	inefficient banking sector on average, weak regulation	developed banking markets, strong regulation, competitive (+)	high cultural and institutional distance (-)	large size, economies of scale at group level(+)
African MNB	inefficient banking sector on average, weak regulation	developing markets, weak regulation, low competition (-)	low cultural and institutional distance (+)	small size
Emerging MNB	inefficient banking sector on average, weak regulation	emerging markets, weak to medium regulation and medium to high competition	low to medium cultural and institutional distance (+)	small size, niche strategy

Table A.2: **Evolution of the composition of the banking sector over the sample period 2003-2012**

Number of banks by country of origin (number and percentage of total)

Number of banks per year per category										
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Domestic bank	210	197	190	190	195	197	203	200	199	198
Global MNB	87	88	87	87	90	91	92	92	92	92
Emerging MNB	20	22	24	24	25	26	26	27	28	28
African MNB	94	107	114	114	123	132	148	164	169	173
Total	411	414	415	415	433	446	469	483	488	491
% of banks per year per category										
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Domestic bank	51.1	47.6	45.8	45.8	45.0	44.2	43.3	41.4	40.8	40.3
Global MNB	21.2	21.3	21.0	21.0	20.8	20.4	19.6	19.1	18.9	18.7
Emerging MNB	4.9	5.3	5.8	5.8	5.8	5.8	5.5	5.6	5.7	5.7
African MNB	22.9	25.9	27.5	27.5	28.4	29.6	31.6	34.0	34.6	35.2
Total	100	100	100	100	100	100	100	100	100	100

Source: Author calculations based on BankScope database

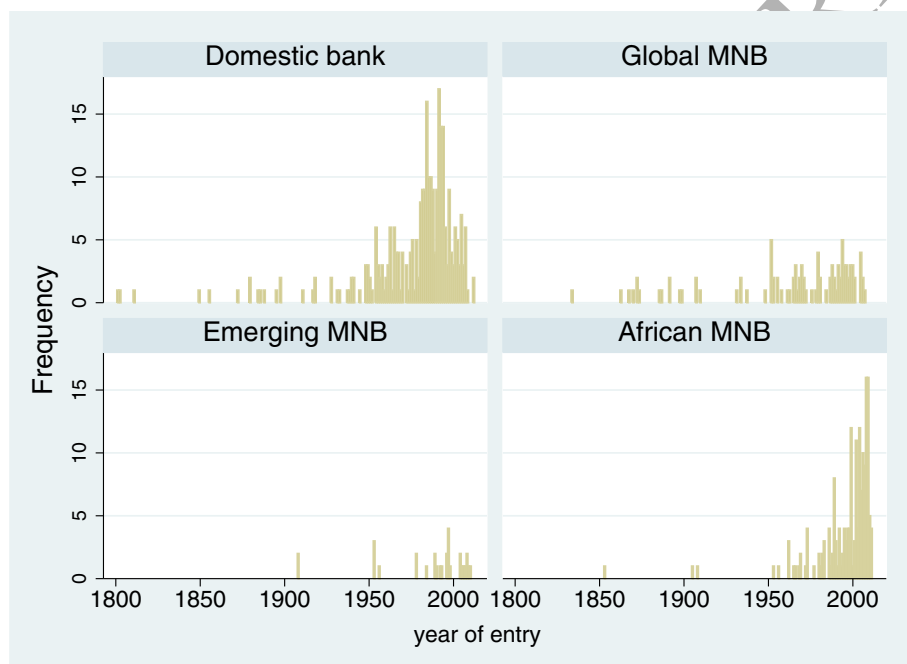
Table A.3: Summary statistics for banks' financial variables by category of bank

Variable	Obs.	Mean	Std Dev.	25%	Median	75%
Global Banks						
ROE	546	28.89	26.64	16.55	28.68	40.85
Cost income Ratio	532	61.68	32.66	45.35	56.90	71.37
Interest income/avg earning assets	482	11.38	7.19	7.95	10.16	13.18
Interest expenses/avg int bearing liabilities	477	3.30	2.19	1.78	2.84	4.33
Non-Performing Loans to Gross Loans	315	6.36	6.35	1.83	4.39	8.58
Impaired loans to equity	318	32.99	36.40	8.25	21.74	45.43
Total Assets (US\$ mns)	553	2951.15	12600.00	169.38	408.18	886.92
Market share	553	0.17	0.17	0.06	0.14	0.23
Solvency ratio	546	11.80	7.51	7.82	10.11	13.31
Loan to deposit ratio	551	0.57	0.24	0.39	0.57	0.75
Year incorporation	543	1968.39	35.88	1959.00	1978.00	1997.00
Government ownership	553	0.07	0.26	0.00	0.00	0.00
Listed	553	0.20	0.40	0.00	0.00	0.00
African MNB						
ROE	828	8.68	58.49	2.86	18.56	33.15
Cost income Ratio	802	85.49	89.55	53.43	64.50	84.12
Interest income/avg earning assets	717	10.68	4.67	7.43	9.83	12.83
Interest expenses/avg int bearing liabilities	719	3.71	2.56	1.90	3.17	4.87
Non-Performing Loans to Gross Loans	432	8.10	9.99	1.63	5.16	10.49
Impaired loans to equity	458	43.81	68.84	6.62	22.81	53.96
Total Assets (US\$ mns)	836	295.57	477.10	56.06	131.54	338.91
Market share	836	0.17	0.22	0.03	0.09	0.22
Solvency ratio	836	12.95	11.90	7.25	10.05	14.53
Loan to deposit ratio	827	0.59	0.25	0.44	0.60	0.72
Year incorporation	823	1991.57	21.48	1988.00	1998.00	2004.00
Government ownership	836	0.03	0.18	0.00	0.00	0.00
Listed	836	0.10	0.30	0.00	0.00	0.00

Summary statistics (continued)

Variable	Obs.	Mean	Std Dev.	25%	Median	75%
Domestic Banks						
ROE	1109	19.23	24.92	8.91	19.21	30.25
Cost income Ratio	1078	66.26	39.54	49.07	60.89	75.47
Interest income/avg earning assets	977	13.28	15.05	7.94	10.87	14.52
Interest expenses/avg int bearing liabilities	975	5.20	6.94	2.37	4.02	6.22
Non-Performing Loans to Gross Loans	624	11.32	14.03	2.49	5.99	14.57
Impaired loans to equity	637	39.77	90.10	8.70	21.69	48.13
Total Assets (US\$ mns)	1129	2325.21	10500.00	92.37	231.57	797.91
Market share	1129	0.13	0.17	0.01	0.06	0.19
Solvency ratio	1129	16.17	16.18	8.93	12.41	18.00
Loan to deposit ratio	1099	0.95	2.97	0.46	0.62	0.78
Year incorporation	1121	1980.22	27.83	1971.00	1989.00	1996.00
Government ownership	1129	0.16	0.37	0.00 0.00	0.00	
Listed	1129	0.22	0.41	0.00 0.00	0.00	
Emerging MNB						
ROE	131	17.30	14.70	8.16	15.55	29.38
Cost income Ratio	130	63.26	35.15	41.74	61.72	76.40
Interest income/avg earning assets	112	10.86	5.49	7.48	10.93	13.66
Interest expenses/avg int bearing liabilities	109	4.40	2.61	2.43	4.52	6.04
Non-Performing Loans to Gross Loans	60	5.03	7.26	0.39	3.29	4.94
Impaired loans to equity	60	11.37	13.79	1.80	8.42	15.32
Total Assets (US\$ mns)	131	267.44	633.69	49.78	105.87	210.96
Market share	131	0.03	0.04	0.01	0.02	0.03
Solvency ratio	131	20.53	20.02	10.19	13.87	20.16
Loan to deposit ratio	122	0.44	0.23	0.30	0.41	0.55
Year incorporation	124	1978.19	30.04	1967.00	1989.00	1996.50
Government ownership	131	0.36	0.48	0.00	0.00	1.00
Listed	131	0.07	0.25	0.00	0.00	0.00

Figure A.1: Banks' entry by year



Source: BankScope database and banks' websites.

Note: Banks' incorporation date for banks active during the period 2003-2012. Information available for 609 banks out of 657.

Appendix B

The development of the survey questionnaire was done in several steps. The questionnaire was first developed through literature review and theory development. It was subsequently reviewed by academicians with specific experience in the topic of multinational banking or in firm survey methodology. I then proceeded to the pretesting of the questionnaire through face-to-face interviews with three managers of a foreign affiliate of an emerging multinational bank in London to clarify the phenomenon of interest and identify any relevant issue not addressed in the preliminary questionnaire.

ACCEPTED MANUSCRIPT