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Pursuing Efficiency While Maintaining Outreach

Bank Privatization in Tanzania

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Abstract

Profitability improvements after the privatization of a large state-owned bank might come at the expense of reduced access to financial services for some groups, especially the rural poor. The privatization of Tanzania's National Bank of Commerce provides a unique episode for studying this issue. The bank was split into the "new" National Bank of Commerce, a commercial bank that assumed most of the original bank's assets and liabilities, and the National Microfinance Bank, which assumed most of the branch network and the mandate

to foster access to financial services. The new National Bank of Commerce's profitability and portfolio quality improved although credit growth was slow, in line with privatization experiences in other developing countries. Finding a buyer for the National Microfinance Bank proved very difficult, although after years under contract management by private banking consultants, Rabobank of the Netherlands emerged as a purchaser. Profitability has since improved and lending has slowly grown, while the share of non-performing loans remains low.

This paper—a product of the Finance and Private Sector Team, Development Research Group—is part of a larger effort in the group to study the effects of structural change in African banking sectors. Policy Research Working Papers are also posted on the Web at <http://econ.worldbank.org>. The author may be contacted at rcull@worldbank.org.

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**PURSuing EFFICIENCY WHILE MAINTAINING OUTREACH:
BANK PRIVATIZATION IN TANZANIA[°]**

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[°] The findings, interpretations, and conclusions expressed in this paper are entirely ours. They do not necessarily represent the views of the World Bank, its executive directors, or the countries they represent. We alone bear responsibility for any mistakes and inaccuracies. We thank Antonio David, Michael Fuchs, and Colin Xu who provided very helpful comments.

I. INTRODUCTION

On March 31, 2000, the Government of Tanzania sold 70 percent of the shares of the newly formed NBC (or National Bank of Commerce 1997, named after the predecessor bank)¹ for \$18.8 million to ABSA Group of South Africa. Roughly five years later, on September 30, 2005, 49 percent of the shares of National Microfinance Bank (NMB) were sold to Rabobank of the Netherlands for \$29 million. By themselves, these two transactions are not particularly newsworthy – the average sale value for 283 banking privatizations from 1985 to 2003 was roughly \$500 million (Megginson, 2005) – but, we argue, they are important because of the privatization method and the context in which it occurred. In Tanzania, as in other African countries, banking sectors tended to be highly concentrated throughout the 1990s (Table 1 and Figure 1), and often heavily influenced or even dominated by one or a handful of state-owned banks (Table 2 and Figure 2).² Such state-owned banks also tended to have the largest branch networks and thus support much of the payments system. Their privatization, therefore, presented a political dilemma because post-privatization performance improvements could have come at the expense of reduced access to financial services in less lucrative markets such as in rural areas.

What makes this privatization remarkable is that the Tanzanian government adopted a restructuring plan that split the original National Bank of Commerce into two banks, the ‘new’ NBC and NMB. NBC was designed to be a commercial bank with business lines targeted to commercial enterprises and to individuals, primarily in urban centers. NMB, on the other hand, was designed to continue providing access to financial services in Tanzania’s rural areas, as well as to relatively poor individuals in urban centers. In order for NMB to fulfill this mission, a majority of the vast branch network from the original National Bank of Commerce was assigned to NMB: 95 branches went to NMB, compared with only 35 for the new NBC. Whereas the new NBC attracted the

¹ Since the name National Bank of Commerce was used for the original bank prior to its split in 1997 and is also used for one of the successor banks, this article uses the acronym NBC only to refer to the successor bank formed in 1997. The bank’s full name is used to refer to the original institution prior to its split.

² These figures may understate the level of state influence in African banking because, in some cases, the government is able to remain in control of banks in which it owns less than a majority of shares. For example, Kenya Commercial Bank is 26 percent state owned, but the remaining shares are widely dispersed and thus the government in effect continues to appoint the bank’s board of directors.

ABSA Group as its purchaser, NMB initially attracted no interest from buyers. As described in more detail below, private banking consultants were contracted to manage NMB over a period of years, and only in 2005 was 49 percent of NMB's shares sold to Rabobank, a large Dutch cooperative bank with international experience in microfinance.

The original National Bank of Commerce, therefore, faced many of the difficulties associated with privatizations of large commercial banks in other countries. Entrenched interests that benefit from a state bank (e.g., through heavily subsidized loans, loans that are automatically renewed, or loans where repayment is not truly expected) have strong incentives to oppose the privatization process. Indeed, a growing body of evidence indicates that political influences help account for the under-performance of state-owned banks. Sapienza (2004) demonstrates that the interest rates charged on the loans of Italian state-owned banks are substantially lower than those charged by private banks, and are strongly negatively related to the local power of the political party that controls the bank. Dinc (2005) finds that government-owned banks increase their lending substantially in election years, significantly more than do private banks. Mian (forthcoming) shows that government largesse permits sustained under-performance on the part of state-owned banks: credit ratings data indicate that their deposits costs are lower because of the strong external support they receive from the government in times of trouble, and their balance sheets display much less sensitivity to macroeconomic shocks than those of private banks, presumably because they (and their borrowers) are insulated from such shocks by government financial support.

Moreover, there is growing evidence that political factors help determine the timing and nature of privatization, which could impact post-privatization performance. Boehmer, Nash, and Netter (2005) find that, in developing countries, bank privatization is more likely the more accountable the government is to the general electorate rather than to specific interest groups. Clarke and Cull (2002) find that higher levels of unemployment and a larger proportion of public sector employees reduced the probability that Argentine provinces privatized their banks. Clarke and Cull (2005) find that Argentine provinces with large fiscal deficits agreed to bank privatization contracts that allowed more layoffs and guaranteed a larger share of the privatized bank's portfolio, but in return received higher sales prices.

Although a substantial body of empirical research supports the notion that state-owned banks do not perform as well as privately-owned banks (for an overview see Megginson, 2005a),³ entrenched interests could conceivably derail the privatization process entirely or produce transactions with terms that render post-privatization performance improvement impossible. And, in fact, not all bank privatizations have resulted in improved performance. There is, however, an emerging pattern to the results from developing countries. Performance improvements have tended to be more pronounced when (1) government fully relinquishes control, preferably fully divesting its shareholding; (2) a bank is sold to a strategic investor, instead of via share issue privatization, which often results in dispersed shareholding; and (3) bidding is open to all, including foreign-owned banks (Clarke, Cull, and Shirley, 2005; Megginson, 2005a). These conditions were met in the sale to ABSA, and thus we would have expected the new NBC to have a reasonable chance for post-privatization performance improvement.

However, it is unlikely that the NBC privatization could have occurred had not NMB been created to help mobilize public support sufficient to overcome opposition from the entrenched interests that benefited from the original NBC. There have been other studies of bank privatizations in developing countries in which the authorities have pursued both efficiency and outreach objectives.⁴ But to our knowledge, this is the first case to be studied in which the access and efficiency objectives reside in separate post-privatization institutions. For these reasons, our narrative explaining the difficulties of achieving privatization when mandates are split, and the empirical analysis benchmarking NBC and NMB performance relative to other banks in Tanzania is of potentially broader

³ Using cross-level data, La Porta, Lopez-de-Silanes, and Shleifer (2002) find that the level of state ownership in banking in 1970 is negatively associated with financial development, real growth, and productivity in 1995. Barth, Caprio, and Levine (2001a, b; 2004) find that greater state ownership is associated with reduced bank portfolio quality and profitability, and with lower levels of financial sector development. Using bank-level data from over 1600 banks in 100 emerging economies, Mian (forthcoming) confirms that state-owned banks are significantly less profitable and have higher loan default rates than private banks, despite the fact that their deposit costs are substantially lower than private banks. There is also some evidence that state ownership is linked to higher probabilities of crisis, though the results are not highly robust (Beck, Demirguc-Kunt, and Levine, forthcoming). Significant or not, those results do not support the idea that state ownership fosters greater banking sector stability, a rationale that some proponents of state banks have relied upon.

⁴ For examples, see the analyses of the privatization of Uganda Commercial Bank (UCB) by Clarke, Cull and Fuchs (2007) and of the Agricultural Bank of Mongolia (now named Khan Bank) by Dyer, Morrow and Young (2004).

significance for developing countries, especially to policy makers considering the privatization of a large state-owned bank in a relatively concentrated banking system.

To analyze profitability-outreach tensions, our research strategy is first to test whether NBC improved its profitability after privatization relative to other Tanzanian banks using bank-level indicators (return on assets and the share of non-performing loans). We also do the same benchmarking exercise for NMB, but its long period under contract management and the short time since its sale to Rabobank might depress its profitability relative to other banks, or at least make profitability improvement difficult to detect in regressions. Next, on outreach, we perform similar tests using bank-level indicators for credit growth, the ratio of loans to deposits, and the share of assets devoted to government securities. Given its mandate, we might expect NMB to perform relatively well on these dimensions, while NBC might do less well. To the extent that we see improvements relative to other banks in profitability and declines in outreach for NBC, we will take it as evidence consistent with post-privatization profitability-outreach tensions. To the extent that NMB has achieved relatively deep outreach but is not highly profitable, we also see evidence of those tensions.

The remainder of the paper is organized as follows. Section II provides information on the development of the Tanzanian banking sector and on the context in which the privatization was carried out. Section III describes the privatization itself. Section IV briefly discusses our data and the empirical methods that we use, while section V summarizes our regression results. Section VI offers robustness checks of those regression results. Section VII concludes and attempts to draw policy lessons for bank privatizations in other developing countries.

II. CONTEXT IN TANZANIA AT THE OUTSET

From the mid 1960s onward Tanzania followed economic policies in the communist mold, with centralized controls and direct state investment in all sectors of the economy. After two decades, faced with increasingly inefficient parastatal companies and an economic crisis, the Government of Tanzania initiated a program of economic liberalization in the mid 1980s and began an on-off process of structural adjustment and policy reforms. Despite uneven domestic political support for the reforms, the

macroeconomic situation in Tanzania improved consistently. Inflation, as a key indicator of macroeconomic stability, fell throughout the late 1990s. Average inflation was 27.4 percent in 1995, fell to 7.9 percent in 1999 and has averaged about 4 percent since 2000, in line with the Bank of Tanzania's target (EIU 2005). However, despite an improvement in overall economic performance, Tanzania remained (and remains today) a very poor country even by the standards of Sub-Saharan Africa, particularly outside of the main urban centers.

Starting in the early the 1990s, the Government of Tanzania implemented a series of reforms aimed at reducing its dominant role in the financial sector. With the passage of the Banking and Financial Institutions Act in 1991 private banks were permitted and the Bank of Tanzania was vested with supervisory and regulatory controls to ensure the development of prudent banking activities. The first privately-owned banks began operating in Tanzania in 1993. However, collectively the private banks occupied merely a niche of the market, offering financial services almost exclusively in and around Dar Es Salaam. The banking sector continued to be dominated by the original, state-owned National Bank of Commerce with over 80 percent of the market share in deposits.

In 1996, the Cooperative and Rural Development Bank (CRDB) became the first state-owned bank to be privatized. With around 5 percent market share in deposits, CRDB was far less politically controversial as a privatization candidate than the original National Bank of Commerce. CRDB was re-capitalized and its shares sold on the newly formed stock market.

Box 1: Privatization timeline

- 1991: Banking and Financial Institutions Act passed
- 1993: Foreign, privately-owned banks licensed
- 1996: First state-owned bank privatized through Dar Es Salaam Stock Exchange
- 1997: The state-owned National Bank of Commerce split, into NBC and NMB
- 1998: NBC and NMB offered for sale – no bids received for NMB
- 1999: ABSA agrees to buy NBC (sale finalized in 2000); management of NMB taken over by contracted consultants
- 2003: NMB Board replaced by President Mkapa
- 2005: 49 percent of NMB shares sold – Rabobank takes over day-to-day operations of NMB

III. THE BANK PRIVATIZATION

A. The Original National Bank of Commerce and ‘The Split’

The privatization of the original National Bank of Commerce was first discussed almost ten years before its eventual sale, following the report of the Presidential Banking Commission in 1990, which prompted the overall reforms in the financial sector. The possibility of splitting the dominant National Bank of Commerce into smaller component banks and privatizing them separately to different buyers was considered from the start. However, instead of splitting and privatizing the Bank, as the Presidential Commission’s report recommended (cited in Abt 1999), the government decided to retain full ownership and to attempt to restructure it for a possible later sale.

In order to turn the National Bank of Commerce around, the government was willing to invest considerable financial and political resources. Starting in 1991, several rounds of recapitalization and (arguably only tentative) restructuring were meant to reverse its fortunes. Before the National Bank of Commerce would be split and privatized six years later, over 20 branches were closed, all but 2000 employees of the original staff of almost 10,000 were fired, the balance sheet was cleared of non-performing loans several times, and the total amount of recapitalization reached \$183.6 million, at an annual servicing expense of \$20.1 million (Abt 1999). Nevertheless, these efforts failed to stop the ongoing losses. When the National Bank of Commerce failed to adhere to a stringent business plan throughout 1995, the Bank of Tanzania – increasingly in a position to carry out its regulatory functions – initiated the privatization. After prolonged and highly politicized deliberations that took almost two years, the government decided to split the original National Bank of Commerce into two banks, the new NBC and NMB. On September 30, 1997, the staff, assets, and liabilities of the original National Bank of Commerce were transferred to the two successor banks.⁵

It is useful to emphasize that the two successor banks to the original National Bank of Commerce were endowed with distinctly different missions. The new NBC was conceived as a bank in the conventional mold and as a direct competitor to the private (mostly foreign) banks already operating in Tanzania. To this end, all lending products of

⁵ The split of the original National Bank of Commerce also involved the creation of a third entity, a holding company, which did not impact the two successor banks significantly and is not further discussed here.

the original National Bank of Commerce were assigned to the new NBC. NMB, on the other hand, was to ensure access to financial services among the traditionally underserved population, primarily in rural areas of Tanzania and was given the majority of the branch network to do so. NMB's mandate was crucial. With Tanzania's history of direct state provision of services, much of the credibility of the privatization and of the financial sector reforms more generally, depended on the ability of NMB to carry out its mandate as well as, or better than, the original National Bank of Commerce had done. The leading advocates of reform were acutely aware that among Tanzanians the privatization's success would be judged primarily by the degree to which NMB would be able to continue providing financial services in rural areas.⁶

B. NBC Privatization

After the split of the original National Bank of Commerce into the new NBC and NMB in 1997, NBC was still a big bank with over 30 percent market share of total bank deposits in Tanzania. It compared favorably with the main (foreign) competitor banks, Stanbic, Citibank, and Standard Chartered. When the two successor banks were offered for sale in 1998, NMB did not attract any interest. For NBC, ABSA of South Africa was chosen as the buyer in the latter half of 1999, and the sale was completed on March 31, 2000.⁷

In line with what had worked best in other bank privatizations (as discussed above and analyzed in Clarke, Cull, and Shirley, 2005; Megginson, 2005a), bidding for NBC was open to banks with an interest in becoming a strategic investor committed for the long-term. Since no sufficiently large Tanzanian banks existed, this meant that only foreign banks could bid, which helped stir suspicion surrounding the privatization itself. Critics lamented a seemingly bargain sale of the economy's "fountainhead," as Tanzania's founding President Julius Nyerere used to call the original National Bank of Commerce, to foreigners. A sale of the bank to the public, analogous to CRDB's sale, would likely have been far more popular. Despite these political pressures, the sale of NBC was carried out as intended.

⁶ Based on several conversations with key players in the privatization process.

⁷ The Tanzanian government did not fully relinquish its shareholding, retaining 30 percent, though it did cede majority control of the bank. The International Finance Corporation partnered with ABSA taking 15 percent of the shares, which left ABSA with 55 percent.

ABSA replaced the senior management of NBC with expatriates and began investing heavily in building the IT infrastructure and the capacity of its own staff. The first order of business was to stop the losses that were a constant in NBC's history. The majority of the loan portfolio was written off when ABSA bought the bank and the government took over most of the non-performing loans.⁸ As our results below show in greater detail, ABSA managed to turn around NBC's profitability quite rapidly and has managed since then to keep both profitability and the level of non-performing loans on par with other private banks. While overall staffing decreased in the initial years after the sale, from about 1200 down to 800, NBC has begun to grow again more recently, with additional branches opening and staffing numbers increasing.⁹

C. Pre-privatization: NMB under Contracted Management

Compared to the sale of the newly formed NBC, the privatization of NMB was more challenging and its relative success to date all the more instructive. When the initial attempt to sell NMB in 1998 did not attract any interested parties, the government recognized that a successful sale of NMB would have to be preceded by the recruitment of professional bankers and microfinance experts to take over the management and transform NMB's basic business line to focus on small-scale financial services.

With the help of donor funding, a team of banking consultants were hired from Development Alternatives Inc. (DAI). They took over the management of NMB in July 1999 and remained at the helm until September 2005. The original contract with DAI was to prepare the bank for privatization within three years. It was not the intention to have the consultants manage the bank for more than six years, as they ended up doing. The management contract with DAI was extended as a result of unforeseen delays in the privatization, which are discussed below. The mission of the consultants was to stabilize NMB and return it to profitability. While considerable investments in IT and training were identified to achieve this end, the managers were at the same time contractually obliged to refrain from making additional investments that would limit the options of a

⁸ In order to engender payment discipline, NBC has attempted to collect the loans on behalf of the Government and charges a 10 percent success fee. About a third of the written-off loans has been or currently is being recovered.

⁹ Based partly on an interview with NBC management in February 2007.

potential buyer.¹⁰ This restriction therefore remained in place over six years. Had the sale been completed earlier, the new owners could have pursued IT improvements (and, perhaps, the bank's mandate to extend access to financial services) earlier.

At the outset, the management team insisted on a clear mandate and authority for management decisions from the Board of NMB and got it. Consultations with the labor unions ensured that they were not a disrupting factor at any point in the process. The consultants' priorities for turning around NMB and securing its survival in the short term were threefold. First was the modernization of treasury operations; second, the urgent upgrades of the money transfer business as the primary source of NMB's earnings; and third, the introduction of credit operations (i.e., microfinance products). To do this, investments in IT and in building the capacity of the staff were urgently needed. Among NMB's staff of around 1000 employees, no more than 50 of them had ever worked with a computer or even knew how to turn it on. With a continued focus on internal capacity building the management team pursued these priorities in the following months. Treasury operations were upgraded. The time for money transactions was brought down from 30 days to 1 day and, subsequently, NMB's government contract for handling payments nationwide was renewed. Without a single loan in its assets in 1999, an entirely new line of business and a corresponding corporate culture was introduced gradually. No loans at all were made in the first year. In the second year, lending was introduced at 9 NMB branches. In the third year, 18 NMB branches offered micro-loans, with the number of branches offering loans doubling every year after that. NMB loans have to be fully secured by collateral and are given out to individuals, mostly entrepreneurs with small or micro businesses. The loan amounts range from TZS 50,000 to TZS 5,000,000.¹¹

As the results from the quantitative analysis below show, NMB managed to keep the level of non-performing loans remarkably low, even as the loan portfolio expanded. Despite NMB's mandate of providing access to financial services in rural areas, its

¹⁰ In the privatization of Uganda Commercial Bank, the new owners (Stanbic Bank of South Africa) got rid of the IT upgrades that the government pursued while readying the bank for sale. Kasekende (2004) and Clarke, Cull, and Fuchs (2007) conclude that such decisions were best left to the purchaser and did not increase the attractiveness of the bank to bidders.

¹¹ Based on phone conversations in April 2007 with Tony Singleton, the first contracted CEO of NMB and head of the DAI team, and with John Giles, the third contracted CEO and DAI leader in Tanzania.

profitability was soon as good as other private domestic banks, a fact that would prove to be a mixed blessing for political reasons.

D. NMB Sale – Delays and Success

Political difficulties in maintaining support for the privatization led to delays and adjustments in the strategy for the privatization of NMB. The difficulties emerged on the government's side, especially once NMB's performance began to exceed expectations and profitability increased under the leadership of the hired consultants. The fundamental rationale behind the privatization did not always appear to be fully understood, either by the decision makers or by the public. The early privatizations were advertised as being a means to get rid of the "lemons" – the loss-making parastatal corporations – that were a drain on government resources. As NMB's profitability increased, this justification for privatizing NMB became more difficult to maintain.

In 2002, when privatization transaction consultants had already been hired to assist in the sale itself, the voices against the privatization of NMB became louder. The President, in an effort to maintain support for the privatization, insisted that the performance of NMB was sufficiently bad that its sale was necessary to save the state from further losses. At the height of the heated political debate, the Board of Directors of NMB, appointed by the President, publicly expressed its opposition to the privatization, calling for more local control of NMB than the government proposal allowed. The government (the Executive) responded by stating that the privatization would go forward without the Board. Finally, the President replaced the Board of Directors of NMB in its entirety. Although the replacement of the Board made sense from a corporate governance perspective, since the vocal opposition of the Board ran contrary to the wishes of the shareholders, President Mkapa ran a considerable risk by supporting the privatization so forcefully.

The result of these political challenges, apart from the delay of one and a half years in the privatization, was an amended privatization strategy, as the government was unable to maintain support for the original plan of privatization. Instead of a sale of 70 percent of NMB shares to a strategic investor, analogous to the sale of NBC to ABSA, the amended plan called for a sale of only 49 percent of NMB shares, with 51 percent of

shares held by the government. 21 percent would be sold to Tanzanians at a later date. Notwithstanding the considerable difficulties in privatizing NMB, the consultants were able to hand over a bank with an established business model and a high level of outreach and profitability.

In the end, 49 percent of shares were sold to a banking consortium led by Rabobank of the Netherlands on September 30, 2005, and the government relinquished control over the day-to-day management of NMB. Management responsibility was transferred to Rabobank and there have been no indications that the government intends to reclaim any direct influence over the management of NMB. The sale price (\$29 million) was what earlier evaluations had estimated. Importantly, the bid documents did not contain any branch closure prohibition. This is at least partly due to a study commissioned for the sale itself that found, somewhat contrary to expectations, that the vast majority of NMB's branches were indeed profitable.

IV. DATA AND EMPIRICAL APPROACH

We use quarterly balance sheet and income statement data for the 42 banks that operated in Tanzania at any point between December 1998 and December 2006 to test whether the privatization of the two successor banks to the original National Bank of Commerce resulted in improved performance. Specifically, we use the following regression to summarize the evolution of NBC, NMB, and the banking sector as a whole in terms of profitability and portfolio quality:

$$Y_{it} = \alpha + \beta_1 \text{NBC(PRE)}_{it} + \beta_2 \text{NBC(POST)}_{it} + \beta_3 \text{NMB(Contract Management)}_{it} + \quad (1)$$

$$\beta_3 \text{NMB(Rabobank)}_{it} + \beta_5 \text{SIZE}_{it} + \beta_5 \text{FOREIGN}_{it} + \beta_6 \text{GOVT}_{it} + \beta_7 \text{LOAN SHARE}_{it} +$$

$$\beta_8 \text{Gov Securities SHARE}_{it} + \beta_9 \text{YEAR}_{it} + \beta_{10} \text{QUARTER}_{it} + \varepsilon_{it}$$

Y is one of the two bank performance measures mentioned above for bank i in quarter-year t. FOREIGN is a dummy variable equal to one if a bank is foreign-owned, while GOVT equals one if a bank is state-owned.¹² Private domestic ownership is

¹² Ownership is determined by the majority shareholder. Banks are considered government owned as long as the government holds 50.1% or more of the bank's shares as it did, for example, with NMB throughout the period (however, the NMB case is treated separately in the regressions via the NMB dummy variables in equation 1). Banks are considered foreign owned if 50.1% or more of shares are held by a foreign entity, such as a foreign bank, as was the case for NBC after its sale to ABSA.

therefore the omitted category in our regressions. See Table 3 for a summary of the number of banks by type in each year and their summary statistics (size, profitability, and non-performing loan share).

NBC(PRE) is a dummy variable equal to one for NBC observations throughout the period of study. Its coefficient measures the performance of NBC prior to privatization relative to banks in our omitted category, private domestic banks. NBC(POST) is a dummy equal to one for NBC observations after the sale to ABSA in December, 1999. The dummy set equal to one after privatization is a standard way to measure the effects of restructuring at the time of the transaction (thus the variable is labeled “NBC: at Privatization” in the tables) (See Berger *et al.* 2005). The NBC(POST) coefficient therefore measures performance differences relative to NBC’s pre-privatization performance.¹³ We also include a variable for the number of quarters since the privatization to pick up dynamic post-privatization performance effects. Its coefficient measures the average quarterly change in our performance indicators in the post-privatization period relative to NBC’s performance in the first post-privatization quarter.¹⁴

NMB(Contract Management) is a dummy equal to one for NMB observations throughout the period, since NMB was created prior to our period of study and contract management was already in place by mid-1999.¹⁵ NMB(Rabobank) is a dummy equal to one after the sale to Rabobank in December 2005. The coefficient for NMB(Contract Management) therefore measures performance relative to private domestic banks prior to the sale to Rabobank. The NMB(Rabobank) dummy measures performance differences relative to the period under contract management. As with the NBC privatization, in our final specifications we separate the post-privatization effects across two variables, NMB at the time of privatization to Rabobank and the number of quarters since the privatization to capture dynamic effects.

¹³ By summing the coefficients for the NBC ‘prior to privatization’ and ‘at privatization’ dummies, we can also benchmark the initial post-privatization performance of Stanbic relative to our control group, private domestic banks.

¹⁴ The coefficient (multiplied by the number of quarters since privatization) can also be added to the other two dummy variables to benchmark NBC’s post-privatization performance in a given quarter relative to our control group.

¹⁵ Qualitative results are almost identical if NMB(Contract Management) is set equal to one beginning in July 1999, when the consultants actually arrived.

SIZE is measured in total assets, and is included in the regression to control for potential scale economies. LOAN SHARE is the ratio of loans to total assets; Gov Securities SHARE is the ratio of government securities to total assets. These variables are included to control for banks' business orientation and asset allocation strategies. All models also include yearly and quarterly dummy variables to account for cyclical or seasonal factors that affected all banks. Summary statistics for all of the variables used in the regressions are found in Table 4.

V. RESULTS

In this section, we present results from regressions that use profitability, portfolio quality, and asset portfolio orientation as dependent variables. We also provide figures summarizing the yearly evolution of those variables for NBC, NMB, and the rest of the banking system to help place the regression results in context.

A. Profitability

We estimate our models using a robust clustering method that accounts for both heteroskedasticity and correlation across multiple observations from the same bank.¹⁶ Because observations from the same bank are likely to be correlated, OLS techniques can underestimate errors (thus overestimating significance levels). At the same time, the summary statistics in Table 4 indicate that there are some extreme values for some of the variables in our dataset. Therefore, as a robustness check we also present median

¹⁶ One might wonder why we do not incorporate bank-specific fixed effects in our regressions. Note that this is essentially what we are doing for NBC and NMB. Our 'NBC: Pre-privatization' variable captures the fixed effect, the 'NBC: At privatization' dummy variable and the 'time since privatization' variable capture changes relative to that fixed effect. Similarly, 'NMB: At creation' captures that bank's fixed effect. The variables for 'time since creation,' 'sale to Rabobank,' and 'time since sale to Rabobank' capture changes relative to NMB's fixed effect.

What we do not incorporate in our base regressions is fixed effects for banks other than NBC and NMB. We do this because we want to benchmark the performance of NBC and NMB relative to a group of banks (private domestic banks). In this way the coefficients for 'NBC: Pre-privatization' and 'NMB: At creation' provide information about how those banks were performing relative the rest of the banking sector prior to the ownership changes and restructuring that would later take place.

As a robustness check on our findings, we did run models that included fixed effects for all banks other than NBC and NMB. The effects of the changes in ownership were very similar to those presented in our based results in Table 5. For example, the results indicate that NBC improved its ROA at the time of privatization, and maintained that level thereafter, while NMB improved its profitability over time. NBC significantly reduced its NPLs at the time of privatization, and the median regression indicates that it continued to do so over time, while NMB maintained the same low level of NPLs throughout. In short, our conclusions are not altered by the inclusion of fixed effects for banks other NBC and NMB.

regressions, which give less weight to outliers than OLS techniques.¹⁷ We also lagged our explanatory variables one quarter to help address simultaneity problems. However, those results are not reported, since they are not substantively different (in terms of significance levels and the magnitude of significant coefficients) from the reported results without time lags.

In columns 1 and 2 of Table 5, the pre-privatization coefficient for NBC is negative (-0.021 and -0.016 relative to a sample mean of 0.035), indicating that NBC prior to its sale to ABSA was less profitable than private domestic banks. The NBC at privatization coefficient is positive, and of similar magnitude to the pre-privatization coefficient, indicating that the profitability deficit was erased upon privatization. Indeed, we cannot reject the hypothesis that the sum of the two coefficients (pre- and post-privatization) is zero, which implies no significant difference between private domestic banks and NBC after privatization. It is true that the coefficients for NBC are significant only in the median regressions, but the insignificance in the model with clustered standard errors is due to outliers for banks other than NBC and NMB.¹⁸ As shown in Figure 3, the ROA figures for NBC and NMB are slightly above the middle of the distribution described in Table 4.¹⁹ Note also that the time since privatization coefficient is insignificant in both columns 1 and 2 indicating that NBC's profitability has remained on par with other private banks since privatization.

The coefficients for NMB at creation are insignificant in models 1 and 2 indicating that its profitability was on par with private banks at its inception. This might not be so surprising given that NMB inherited none of NBC's portfolio problems in the split. However, the time since NMB creation variable is also insignificant in both models, which indicates that the bank maintained its profitability relative to private banks during its period under contract management. In the OLS model with clustered standard errors

¹⁷ A disadvantage of the median regression, of course, is that it does not deal with potential correlations between observations from the same bank. However, qualitative results are very similar to those for the median regression when we eliminate the top and bottom 5% of our observations and use the robust clustering method.

¹⁸ When we eliminate the top and bottom 5% of our ROA observations and run OLS with clustered standard errors, we obtain qualitative results and significance levels very similar to those for the median regression in Column 2. We prefer the median regression because we can use the entire data set, rather than dropping observations based on an arbitrary cut-off.

¹⁹ The median ROA value for NBC was .012, for NMB it was .013, and for the sample as a whole it was .008.

(column 1), NMB profitability is significantly lower than other private banks upon its sale to Rabobank, which could reflect some initial dislocation associated with new management.²⁰ Although similar coefficients and significance levels are found for the clustered errors model when we drop the top and bottom 5 percent of our ROA observations (not shown in Table 5), those coefficients are not significant in the median regressions (column 2). At the least, however, it is safe to draw the conclusion that NMB has been about as profitable as other private domestic banks since its inception, which is impressive given its mandate.

Bank size (total assets) is the only control variable that is significant in both models, a reflection of scale economies in Tanzanian banking. Foreign ownership is significant and negative in the median regression which has also been found in some other developing countries (Berger et al., 2005), though this is more common in developed countries (DeYoung and Nolle, 1996; Berger et al., 2000). The coefficient is, however, small in absolute value (-0.003). Also, foreign banks tended to be relatively large, especially at the tail end of the period (Table 3), so the negative foreign ownership coefficient is likely reflective of a handful of small unprofitable banks. Finally, the share of assets devoted to lending is positive and significant in the median regression indicating that firms that focused on lending tended to earn high returns during this period.

It should be noted that the R-squared is relatively low for the ROA regressions. Such a result is not surprising when a quarterly income statement variable (net income) that can fluctuate wildly is regressed on balance sheet variables (loans, assets, etc.) that tend to be more stable. When we run the regressions using yearly ROA data, the R-squared increases slightly though the results remain qualitatively the same as in the reported regressions.²¹

B. Portfolio Quality

In columns 3 and 4 of Table 5, the pre-privatization coefficient for NBC is positive and significant indicating that its share of non-performing loans was 20-30

²⁰ See Berger et al. (2005) for similar results for Argentina.

²¹ For the median regressions, we report the pseudo-R² statistic, which measures the proportion of the log-likelihood value explained by the model's non-intercept independent variables, i.e., $1 - (\log L_{\Omega})/(\log L_{\omega})$, where L_{Ω} denotes the likelihood value of estimation with all the exogenous variables and L_{ω} denotes the likelihood value of estimation with only the intercept. Pseudo R²-squared statistics are therefore not directly comparable to ordinary R² statistics, and in our experience, can be relatively low.

percent higher than that of the typical private domestic bank. After privatization, NBC's share of non-performing loans declined dramatically, though the median regression in column 4 indicates that a substantial portion of the decline occurred at the time of the privatization, while the regression with clustered standard errors in column 3 indicates that the decline occurred more gradually.²² The median regression results are more typical of those found in other developing countries, where non-performing assets are often removed from a state-owned bank's portfolio just prior to privatization.²³ Both models indicate that NBC's NPL share was on par with that of other private banks within five years of privatization.²⁴ This is also reflected in Figure 4, though convergence to private domestic banks' level appears to be a bit quicker than is indicated by the regression.²⁵

Both models indicate that NMB's share of non-performing loans was significantly lower than that of private domestic banks when it was created. Again, this is because NMB did not inherit any of NBC's problem assets in the split. However, both models also indicate that NMB maintained its relatively low share of non-performing loans in the post-privatization period. Moreover, the coefficients for the sale of NMB to Rabobank and the time since that sale are also insignificant, indicating that NMB still maintains its low NPL share. We speculate that this is because NMB makes collateralized microfinance loans which tend to instill high repayment rates (Armendáriz de Aghion and Morduch, 2005). Regarding the control variables, both models indicate that government ownership of bank is associated a higher share of non-performing loans, while one model

²² It is not uncommon for the "at privatization" and "quarters since privatization" variables to compete for explanatory power in these types of regressions. Although the OLS regression loads that source of variation onto the "quarters since privatization variable," most of the cleaning of the balance sheet did, in fact, occur at the time of the privatization.

²³ See Beck et al. (2005) for evidence of steep declines in non-performing loan shares at the time of privatization in Nigeria, Berger et al. (2005) for Argentina, and Haber (2005) for Mexico. Looking at 81 privatizations across 22 countries, Boubakri et al. (2005) also find evidence that credit risk declines after privatization, though some of these changes occur over time.

²⁴ For example, for the median regression model in column 4, NBC started with an NPL share .292 higher than private domestic banks, which was reduced by .127 to .165 at the time of privatization. From that point the share declined .008 per quarter, reaching zero in roughly twenty quarters.

²⁵ For NBC, as has been the case in other bank privatizations, the absorption of NPLs at the time of and subsequent to privatization was a matter of negotiation with the government, extending beyond the time of the sale. That is, the purchaser was able to give back to the government additional non-performing loans after the privatization. This partially accounts for the additional post-privatization declines summarized in the regressions and Figure 4.

indicates that foreign ownership is associated with a lower share. These results are also typical of those found elsewhere in the literature (e.g., in Barth, Caprio, and Levine, 2001b, 2004).

C. Composition of Assets

We lack detailed data on the composition of Tanzanian banks' loan portfolios by economic sector. We do however know the share of each bank's assets devoted to government securities and to loans, and these two variables shed light on the way NBC and NMB chose to deploy assets during the period of restructuring. Prior to the privatization, the coefficients for NBC indicate that it lent about as much as private domestic banks and held significantly fewer government securities. Upon privatization, both of those results were reversed: NBC's portfolio was infused with government securities (presumably to replace non-performing assets) and its share of lending declined to a level below that of private domestic banks. In the quarters after privatization, the share of government securities has remained more or less constant (see also Figure 5), and the share of loans relative to assets has climbed steadily (Figure 6).²⁶

Given the way NMB was created, it is little surprise that at its inception its balance sheet contained a high share of government securities relative to private domestic banks and a low share of loans. During the period of management by private banking consultants, the regressions indicate that the situation persisted. At the time of the sale to Rabobank, the share of assets comprised by government securities jumped higher, which is common in sales of public banks to private investors, as those investors are unwilling to buy a bank unless its balance sheet has been cleaned, and replacing non-performing assets with government securities is the most common method for doing so. Moreover, the increase in the ratio of government securities to total assets was relatively mild (12-13 percentage points), and our regressions indicate that this ratio declined at a rate of three percentage points per quarter as NMB's other assets (especially loans) started to grow in the period since 2005. These conclusions are also consistent with Figures 5 and 6.

In all, the base results indicate that NBC's experience was typical of successful commercial bank privatizations in other developing countries. First, the privatization

²⁶ Because we have relatively few pre-privatization observations, the NBC pre-privatization and NBC at privatization variables compete for explanatory power. Thus the relatively low level of loans/assets for NBC that in Figure 6 appears to be picked up by the NBC at privatization coefficient.

shared the main features of other successful transactions: sale was to a strategic investor (rather than via a broader share issue privatization); foreign bidders participated in the negotiations for the bank, and indeed ABSA of South Africa won; and the government relinquished the majority of its shareholding. Second, post-privatization performance followed patterns seen in other countries: profitability and portfolio quality improved after privatization, in large part because the government replaced NBC's non-performing loans with its own securities at the time of the privatization. NBC's post-privatization lending is more prudent than when the bank was under state ownership, but that prudence has also meant slower growth in lending than might otherwise be the case.

For NMB, the bank that received the bulk of NBC's pre-privatization branch network and was charged with a mandate to foster access to financial services, the regression results paint a different picture. The primary struggle was to find a buyer for the bank. Under a lengthy period of management by private banking consultants, the bank was as profitable as other private banks and had a lower share of non-performing loans. At the same time, the bank's assets tilted heavily towards government securities and away from loans. Once a reputable private owner was found, namely Rabobank, lending has begun gradually increasing (relative to assets). However, to achieve that sale the share of NMB's assets devoted to government securities increased somewhat, and remains high.²⁷ These results highlight the difficulties of pursuing both improved efficiency and expanded access in the privatization of a dominant state-owned bank.

VI. ROBUSTNESS CHECKS

In this section, we control for de novo entry and mergers of banks because changes in the composition of our omitted category (private domestic banks) could be driving our base regression results. We also use real credit growth as an explanatory variable to better benchmark the credit extended by NMB and NBC relative to the rest of the banking system.

²⁷ Note from Figure 5, however, that the increase in the share of government securities for NMB is about as large as that for the sector as a whole, so this was reflective of a sectoral trend. Accounting for this trend via the yearly dummy variables, the regressions indicate that NMB's ratio has been declining (i.e. the coefficient on "quarters since privatization" is negative and significant).

A. Controlling for Entry

The ideal empirical tests would benchmark the performance of NBC and NMB over time relative to that of a static group of banks of the same ownership type. However, a quick glance at Table 3 indicates that there was substantial net entry during our sample period for foreign and private domestic banks. Those figures mask other changes in the roster of banks: six small banks were liquidated, and two mergers were consummated involving five banks. All of these cases affect the composition of the group of private domestic banks, our omitted category, and thus potentially affect the comparisons that we make between private banks, NBC, and NMB in the base regressions.

We think this unlikely because the regression results and figures conform so well to the narrative description of the privatization, but it is possible. We therefore create new categories of banks to perform our robustness checks. The first three are for banks that appeared in the sample in all quarters, one for private domestic (*Private full sample*), foreign (*Foreign full sample*), and state banks (*State full sample*). The next three are for new entrants, one for each type of ownership (*private entry*, *foreign entry*, *state entry*). These dummy variables equal one from the time the bank enters the sample. For each type of entrant we also include a variable for the time since entry (e.g., *Quarters since Private Entry*) to capture dynamic performance effects. A seventh category is for banks that are liquidated; the corresponding variable (*Liquidated*) equals one until the bank leaves the sample.

The final category is for banks that were involved in mergers or acquisitions. We follow the method in Berger et al. (1998) by combining the pre-merger financial data for all banks that would eventually be party to the merger/acquisition to create a pro-forma bank.²⁸ We can therefore test whether the performance of the same pool of banking assets was managed better after merger/acquisition. We do so by including a dummy variable for the two pro-forma banks that equals one throughout the sample (*Selected for Merger*), another equal to one beginning at the time of the merger event (*At Merger*) to capture the initial effects of combining the banks and their balance sheets, and another equal to the number of quarters since the merger (*Time Since Merger*) to capture dynamic post-merger performance effects. These bank ownership categories therefore enable us to fully

²⁸ This reduces the number of observations in the regressions from 908 to 866.

summarize all of the structural changes that occurred in Tanzanian banking over this period. Comparing these results with those in the base regressions provides a test of whether a full characterization of ownership is necessary, as was demonstrated for the case of Argentina (Berger, et al., 2005).

Results appear in Table 6. We suppress the coefficients for the control variables to conserve space, since we now have so many more ownership variables. For all four of the dependent variables, the signs and significance levels for the coefficients in Table 6 that pertain to new NBC's or NMB's ownership are remarkably similar to those in the base results (Table 5). In many cases, the magnitudes of the coefficients are also quite similar across the two tables. Therefore, the performance of the new NBC and NMB is similar when compared either to that of a stable benchmark, *i.e.*, those private domestic banks that appear throughout our sample and were not involved in merger activity, or to that of all private domestic banks. This pattern indicates that our base results were not driven by the shifting composition of the omitted category. We speculate that including the full set of ownership variables has less effect on our results because there was less restructuring in Tanzania than in the Argentine episode studied by Berger, et al. (2005).

Some of the results for the additional ownership variables, however, are worthy of note. For example, banks that were selected to be part of mergers or acquisitions tended to have lower profitability, lend more, and hold fewer government securities than banks in the omitted category. Somewhat surprisingly, they also had lower NPL shares. At the time of the merger, their NPL shares increased and their loans (relative to assets) declined, reflecting perhaps write-offs that accompanied the merger process (see coefficients for "Merged" in columns 4, 7, and 8). These adjustments left the merged banks no worse off than banks in the omitted category on these measures since the "Selected for Merger" and "Merged" coefficients are of opposite signs and similar magnitudes.²⁹ After merger, there was a gradual improvement in profitability (see "Quarters Since Merger" coefficient in column 2) and increased holding of government securities (columns 5 and 6). Entrants, both foreign and private domestic, began with low profitability and few loans relative to assets. In the quarters since entry, profitability has

²⁹ That is, we cannot reject the hypothesis that the sum of the selected for merger and merged coefficients is equal to zero.

gradually improved as lending has expanded. Moreover, NPL shares have remained about the same as for banks in the omitted category.

B. Real Credit Growth

Figure 6 and the regression results indicate that the ratio of loans to assets was increasing for NMB and the new NBC. However, Figure 7 shows that the bulk of the increase in total loans was attributable to banks other than NMB and the new NBC, while Figure 8 shows their decline in the share of total loans in 1998-99 (especially for NBC), shares which remained low throughout the rest of the period. To get a more precise estimate of the respective contributions of NMB and the new NBC to Tanzanian credit growth, Table 7 offers regressions in which the dependent variable is *Real Credit_t/Real Credit_{t-1}*. The subscript *t* refers to years. Credit growth measured at year-end was more stable than quarterly measures, though this choice did eliminate over three-quarters of the observations in the base regressions. We also use the full set of ownership variables that were used in the robustness check in Table 6 to better identify which banks were responsible for the growth in lending summarized in Figure 7.

The new NBC's coefficients are insignificant, indicating that its credit growth was and is comparable to private domestic banks that are part of the sample for the full period. For NMB, credit growth rates declined precipitously at the time that contract management took over and the time of the sale to Rabobank. NMB credit growth rates did increase after those events, though the result is only significant for the period under contract management. The bulk of the credit growth is attributable to the private domestic entrants, whose growth rates in their first full year of operations were 0.7 points higher than banks in the omitted category. For reference, the median value for the dependent variable is 1.21, meaning 21% growth in real credit. After the first year, those credit growth rates declined by 0.03 points per year, but the gap between the private entrants and other banks remains wide.³⁰ Liberalizing entry was therefore the key to credit growth. Had the Tanzanian authorities focused only on restructuring and selling the old NBC, credit growth would likely have been much more modest.

³⁰ The coefficients for state-owned entrants also indicate explosive credit growth, but there is only one small bank in that category, Dar Es Salaam Community Bank, which entered in 2001.

VI. CONCLUSIONS

The split of the original National Bank of Commerce and the privatization of its two successor banks spanned more than a decade of reforms in the financial sector in Tanzania. The privatization is noteworthy for its partition of the original bank's mandate (efficiency and access to services) to two separate banks. We have argued that despite considerable setbacks, the relative success of the two successor banks in carrying out their mandates could be instructive for privatizations elsewhere. Typically, there are tensions between pursuing profitability and extending the outreach of a bank after its privatization. In other words, access to banking services, especially among the relatively poor, might be sacrificed for the sake of improved efficiency. The case of NBC is similar to successful privatizations in other developing countries. Sale to a foreign strategic investor resulted in improved profitability and reductions in non-performing loans. NBC's ratio of loans to assets was low at the time of privatization and is slowly increasing, while its rate of credit growth is now on par with that of other banks. In that sense, NBC's outreach is not disappointing, though it is far from extraordinary on that dimension.

Unlike NBC, NMB was explicitly created to pursue outreach and its struggles and successes are instructive. Finding a private investor proved elusive, and so the bank operated under private management consultants for six years. During that time, the bank was reasonably profitable but was not able to pursue its mandate aggressively. Since the recent sale of a large share of the bank to a foreign investor (Rabobank of the Netherlands), profitability has been maintained and the ratio of loans to total assets has begun to increase. This is encouraging, though sufficient time has not elapsed for us to draw a firm conclusion about whether the outreach objectives will be achieved.

Beyond our analysis of bank-level data, there are concrete indications that outreach to the rural population has increased and is continuing to do so. Rural deposits (those in non-urban bank branches) increased by over 80 percent between 1998 and 2006. Outstanding NMB microfinance loans grew to TZS 117 billion (US\$ 89.1 million) in September 2006 with more than 165,000 borrowers since lending started in August 2000 (*i.e.*, from a basis of zero). NMB's network grew from 95 branches in 1997 to 115

branches in 2006, reaching 750,000 depositors.³¹ The privatization of the original National Bank of Commerce therefore provides an example of how the privatization of a large state-owned bank can contribute to sustained improvement of access to financial services in rural areas.

Although it is difficult to assign a precise weight, the enabling environment no doubt played a role in the success of the privatization. As noted above, macroeconomic stabilization was achieved, with inflation rates falling throughout the late 1990s and remaining low thereafter. The privatization also occurred within the context of broad parastatal reform. Finally, and as noted above, the Bank of Tanzania permitted substantial new entry in the banking sector, which fueled recent growth in credit and other services. The influx of private capital into the banking system and rapid growth in the balance sheets of the new entrants also speaks to the bankers' trust in Bank of Tanzania's management of the system.

Although they have become less important in terms of size (asset share), NBC and NMB show additional signs that they are thriving in their new niches. NBC has been expanding its branch network, also after the ABSA Group was bought by Barclays in 2005. At NMB, there appears to be strong commitment on the part of the new management (Rabobank) to the original mission, even as products are added for enterprises and individuals who demand more sophisticated financial services. At the same time, new approaches are being pursued to expand access beyond NMB branches using Savings and Credit Cooperatives (SACCOs) as intermediary customers. For example, NMB has begun offering free training courses to SACCOs in order to improve their capacity and thus their ability to do business with NMB. A continued focus on expanding access and improving service quality has secured the extension of the contract with the government for payments transactions. In 2007, NMB added more than 100 ATMs country-wide to its services and ended the year as the most profitable bank in Tanzania.³² Though the last chapter has yet to be written on the privatization of the original National Bank of Commerce, some ten years into the process, and despite numerous hiccups, much has been achieved.

³¹ Source: Bank of Tanzania.

³² Source: NMB website: www.nmbtz.com as of March 14, 2008

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Table 1: Share of Banking Sector Assets Held by Three Largest Banks

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Sub-Saharan Africa	88.8%	85.8%	85.1%	85.5%	82.3%	82.6%	82.4%	81.3%	80.4%	78.5%	78.4%	82.1%
Angola						100.0%	95.6%	80.4%	77.6%	75.2%	74.1%	
Benin	100.0%	81.7%	79.5%	85.2%	86.6%	88.7%	81.1%	89.6%	78.2%	87.9%	90.4%	100.0%
Botswana	96.9%	97.2%	97.6%	100.0%	98.6%	93.7%	92.8%	90.6%	83.8%	78.0%	78.4%	94.4%
Burkina Faso		100.0%	94.9%	96.5%	74.6%	69.5%	71.5%	77.1%	75.5%	57.4%	54.7%	
Burundi		100.0%	90.3%	87.6%	93.4%	92.5%	89.1%	85.7%	93.0%	100.0%	100.0%	
Cameroon	100.0%	100.0%	84.6%	82.2%	74.0%	70.7%	75.6%	71.6%	62.8%	60.6%	57.1%	
Cape Verde						100.0%		100.0%	96.7%	100.0%	100.0%	100.0%
Chad						100.0%	100.0%					
Congo, Rep.		100.0%	100.0%			93.0%	88.7%		85.9%	80.2%	67.9%	76.1%
Cote d'Ivoire	92.7%	91.6%	86.8%	85.4%	78.7%	77.2%	77.2%	79.3%	71.8%	75.1%	77.1%	
Ethiopia	100.0%	100.0%	97.4%	84.2%	75.9%	69.3%	94.1%	89.8%	88.6%	87.9%	85.7%	83.7%
Gabon		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	93.7%	91.8%	98.7%	100.0%
Gambia, The									100.0%	100.0%	100.0%	
Ghana	91.7%	87.6%	88.9%	92.1%	91.6%	87.9%	84.4%	81.8%	77.2%	72.2%	64.6%	64.3%
Kenya	58.1%	53.4%	50.7%	56.1%	57.5%	59.8%	60.8%	58.4%	57.4%	52.9%	49.0%	54.3%
Lesotho	100.0%					100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
Madagascar	100.0%			100.0%	89.2%	85.6%	84.8%	85.6%	86.0%	89.2%	89.5%	
Malawi		94.8%	90.3%	96.5%	91.3%	89.8%	88.7%	85.4%	80.4%	90.1%	86.9%	97.2%
Mali	81.0%	81.3%	80.9%	97.3%	87.5%	75.1%	71.7%	86.6%	84.0%	82.8%	95.6%	
Mauritania		83.9%	86.7%	100.0%		94.8%	100.0%	82.3%	72.1%	74.9%	78.2%	
Mauritius	96.4%	90.7%	85.3%	91.0%	92.5%	84.4%	89.9%	82.1%	72.7%	72.5%	65.8%	95.9%
Mozambique		86.5%	81.3%	82.5%	76.6%	74.8%	79.6%	79.1%	85.9%	82.2%	81.2%	93.5%
Namibia	100.0%	83.3%	82.4%	82.4%	78.1%	79.7%	83.3%	91.3%	86.3%	91.3%	77.5%	
Niger			94.3%			100.0%	100.0%	84.7%	82.4%	81.3%	80.6%	
Nigeria	64.7%	47.8%	45.1%	38.6%	40.8%	41.4%	38.8%	39.1%	38.7%	38.8%	44.5%	51.1%
Rwanda		100.0%	100.0%	93.2%	100.0%	93.6%	93.5%	91.0%	75.6%	72.5%	77.5%	
Senegal	92.5%	72.3%	75.8%	75.0%	70.1%	67.4%	66.7%	63.1%	61.7%	61.5%	64.1%	
Seychelles									100.0%	100.0%	100.0%	
Sierra Leone	100.0%	100.0%	100.0%	100.0%	92.2%	93.3%	91.7%	92.8%	92.0%	92.5%	92.1%	
South Africa	94.0%	94.9%	91.0%	94.1%	92.6%	92.6%	93.5%	98.9%	99.3%	93.5%	92.0%	98.5%
Sudan			75.1%	74.4%	69.5%	55.9%	65.4%	57.3%	66.2%	73.5%	79.9%	
Swaziland			100.0%		100.0%	91.9%	90.5%	80.2%	76.2%	77.1%	91.5%	
Tanzania			83.3%	100.0%	100.0%	96.4%	98.6%	95.2%	95.9%	49.6%	51.1%	69.1%
Togo	84.0%	83.1%	100.0%	100.0%				100.0%	100.0%			
Uganda	69.1%	46.5%	48.4%	58.5%	63.7%	62.6%	57.9%	65.2%	64.6%	62.6%	58.7%	68.2%
Zambia	80.6%	77.2%	86.1%	65.8%	69.0%	65.8%	62.1%	60.3%	58.0%	59.9%	58.8%	67.1%
Zimbabwe	73.7%	78.0%	75.2%	74.8%	77.9%	61.0%	50.8%	57.3%	73.2%	83.0%	81.1%	
DEVELOPING COUNTRIES	72.5%	72.9%	73.2%	72.1%	70.1%	71.7%	70.5%	68.5%	68.5%	68.0%	68.7%	70.9%
East Asia & Pacific	66.8%	64.4%	70.2%	66.3%	74.5%	78.3%	75.0%	68.6%	64.4%	61.4%	57.3%	63.0%
Europe & Central Asia	74.2%	75.8%	74.4%	72.2%	69.3%	70.0%	68.3%	64.7%	62.1%	63.0%	62.6%	75.7%
Latin America & Caribbean	61.6%	61.2%	61.4%	60.3%	58.0%	58.8%	57.0%	57.6%	62.8%	62.7%	66.2%	59.3%
Middle East & North Africa	66.3%	69.3%	68.3%	71.2%	68.8%	70.1%	70.7%	69.0%	68.5%	72.4%	74.6%	81.3%
South Asia	66.9%	63.2%	62.8%	59.9%	57.5%	57.6%	56.2%	52.7%	49.4%	47.5%	47.3%	50.6%

Table 2: Share of Banking Sector Assets Held by Majority State-Owned Banks

	1995	1996	1997	1998	1999	2000	2001	2002
Sub-Saharan Africa	33.6%	31.1%	26.9%	25.8%	22.0%	13.9%	14.3%	13.9%
Angola							59.3%	54.8%
Benin		0.0%	0.0%	0.0%	0.0%		5.3%	4.5%
Botswana	3.6%	4.1%	4.3%	3.6%	0.0%	0.0%	0.0%	0.0%
Burkina Faso				20.7%	18.6%	22.0%	21.1%	23.0%
Burundi	18.6%	18.4%	16.7%	17.2%	16.5%	5.2%	5.1%	4.7%
Cameroon			13.9%	13.8%	14.0%	3.1%	0.0%	3.2%
Cote d'Ivoire	61.7%	63.0%	61.5%	57.7%	7.3%	8.5%	8.3%	8.1%
Ethiopia	98.7%	98.1%	94.9%	93.1%	89.5%	86.7%	84.9%	82.6%
Ghana	67.6%	46.5%	24.9%	25.1%	23.0%	11.7%	16.3%	15.8%
Kenya	15.4%	15.1%	14.1%	10.7%	11.2%	10.4%	9.0%	8.0%
Lesotho						0.0%	0.0%	0.0%
Madagascar	42.4%				20.0%	18.5%	17.9%	18.7%
Malawi		9.2%	9.1%	9.2%	9.7%	0.0%	0.0%	0.0%
Mali	38.3%	38.2%	37.4%	37.5%	37.8%	16.9%	15.3%	16.8%
Mauritius	39.4%	24.9%	23.3%	19.3%	14.7%	16.5%	16.9%	20.3%
Mozambique		45.8%	29.0%	27.7%	24.8%	25.3%	13.1%	11.3%
Namibia	0.0%	0.0%	5.5%	6.0%	0.0%	6.3%	6.5%	8.1%
Niger						0.0%	0.0%	0.0%
Nigeria	0.0%	0.0%	0.0%	0.0%	0.0%	3.9%	5.3%	1.7%
Rwanda		23.4%	23.1%	24.4%	21.6%			
Senegal		0.0%	0.0%	0.0%	0.0%	3.1%	3.2%	3.1%
Seychelles		78.4%	79.4%	79.7%	79.9%			
Sierra Leone			70.6%	66.8%	68.1%	48.5%	46.4%	49.6%
South Africa	1.8%	2.0%	2.2%	2.7%	2.3%	2.7%	2.3%	2.6%
Sudan			23.4%	27.5%	22.9%	14.6%	11.3%	9.6%
Swaziland						2.8%	3.2%	2.1%
Tanzania		74.0%	50.8%	43.9%	37.7%	10.1%	9.4%	8.8%
Uganda	47.4%	38.0%	38.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Zambia	43.1%	44.9%	2.8%	36.0%	32.8%	22.6%	22.9%	23.7%
Zimbabwe	26.0%	29.9%	21.3%	22.8%	18.3%	21.8%	17.2%	9.1%
DEVELOPING COUNTRIES	40.4%	36.6%	32.8%	30.2%	27.8%	24.1%	21.1%	20.0%
East Asia & Pacific	43.2%	43.3%	43.8%	43.2%	41.8%	41.1%	40.0%	33.8%
Europe & Central Asia	53.7%	42.2%	39.5%	35.2%	29.9%	23.7%	20.7%	18.1%
Latin America & Caribbean	33.4%	32.7%	26.4%	22.9%	23.3%	19.8%	16.3%	15.8%
Middle East & North Africa	31.4%	29.1%	27.4%	25.5%	25.3%	34.4%	24.1%	29.9%
South Asia	56.9%	55.1%	52.3%	51.5%	50.5%	50.7%	46.9%	43.7%

Table 3: Banking Sector Structure

Ownership Type	# banks beginning	#banks end	Assets	NPL Share	ROA
Private Domestic	8	12	TZS 55 billion Dec 97: 32.5 bn Dec 06: 108bn	7.08% Dec 97: 3.12% Dec 06: 3.71%	0.71% Dec 97: 0.62% Dec 06: 1.93%
Foreign-owned	10	14	TZS 109 bn Dec 97: 26.6 bn Dec 06: 213 bn	6.31% Dec 97: 6.55% Dec 06: 5.12%	-0.02% Dec 97: 1.20% Dec 06: 1.12%
State-owned	7	6	TZS 100 bn Dec 97: 122 bn Dec 06: 154 bn	15.50% Dec 97: 30.41% Dec 06: 6.30%	0.55% Dec 97: 0.81% Dec 06: 3.01%

Table 4: Summary Statistics

variable	mean	median	25 th pctl	75 th pctl	high	Low
ROA	0.35%	0.81%	0.05%	1.77%	12.32%	-25.96%
NPL Share	8.31%	3.19%	1.25%	9.38%	97.55%	0%
Government Securities/Assets	15.26%	9.58%	2.62%	22.79%	76.81%	0%
Loans/Assets	40.73%	40.68%	26.50%	53.21%	112%	0.02%
Total Assets	88.2 bn	18.2 bn	5.8 bn	60 bn	898 bn	0
Private domestic	35%	-	-	-	-	-
Foreign-owned	45%	-	-	-	-	-
State-owned	20%	-	-	-	-	-

Table 5: Regression Results

<i>Explanatory Variable</i>	<i>Dep Var: ROA</i>		<i>Dep Var: NPL</i>		<i>Dep Var: Govt Securities/Assets</i>		<i>Dep Var: Loans/Assets</i>	
	OLS		OLS		OLS		OLS	
	Clustered SE	Median Regression	Clustered SE	Median Regression	Clustered SE	Median Regression	Clustered SE	Median Regression
NBC: Pre-Privatization	-0.021 (0.98)	-0.016** (2.38)	0.204** (2.64)	0.292*** (14.12)	-0.319** (2.61)	-0.274*** (3.82)	0.022 (0.18)	0.044 (0.50)
NBC: At Privatization	0.026 (1.57)	0.024*** (2.87)	0.109 (1.48)	-0.127*** (5.04)	0.297*** (3.01)	0.404*** (4.60)	-0.182* (1.94)	-0.195* (1.87)
NBC: Time Since Privatization	-0.0003 (0.68)	-0.0001 (0.48)	-0.017*** (10.38)	-0.008*** (8.83)	0.003** (2.39)	-0.002 (0.56)	0.013*** (6.56)	0.010*** (2.71)
NMB: Creation, Contract Management	-0.003 (0.25)	-0.004 (0.79)	-0.184** (2.31)	-0.094*** (6.10)	0.337*** (3.71)	0.307*** (5.42)	-0.283*** (3.69)	-0.193*** (2.85)
NMB: Time Since Creation	-0.0001 (0.18)	0.0005 (1.54)	0.001 (0.54)	0.0002 (0.21)	-0.003 (1.05)	0.0002 (0.07)	0.008** (2.57)	0.004 (0.88)
NMB: Sale to Rabobank	-0.016** (2.60)	-0.003 (0.22)	0.011 (0.55)	0.002 (0.08)	0.126*** (9.46)	0.102* (1.78)	0.006 (0.26)	-0.008 (0.06)
NMB: Time Since Sale to Rabobank	0.003*** (3.87)	0.002 (0.59)	-0.002 (0.51)	0.0003 (0.03)	-0.029*** (7.41)	-0.031** (2.11)	0.012*** (2.70)	0.023 (0.59)
Loans/Assets	0.015 (0.53)	0.009*** (3.23)	0.324** (2.45)	0.101*** (12.24)				
Govt. Securities/Assets	0.023 (0.93)	-0.001 (0.25)	0.157 (1.52)	0.038*** (3.48)				
Total Assets (Trillions)	0.037* (1.84)	0.014*** (3.50)	0.080 (1.41)	0.056*** (4.81)	0.165 (1.28)	0.161*** (4.09)	-0.362*** (2.77)	-0.277*** (5.74)
Foreign-Owned	-0.008 (1.36)	-0.003*** (3.50)	0.002 (0.09)	-0.019*** (6.49)	-0.004 (0.13)	0.010 (1.00)	-0.038 (0.80)	-0.064*** (5.07)
Govt-Owned	-0.003 (0.36)	0.001 (0.75)	0.141* (1.79)	0.053*** (12.89)	0.097 (1.14)	0.114*** (8.14)	-0.130* (1.87)	-0.180*** (10.58)
1999	0.006 (1.07)		-0.005 (0.27)		-0.017 (0.72)		0.034 (0.94)	
2000		-0.001 (0.68)		0.004 (0.65)		0.010 (0.50)		-0.013 (0.53)
2001	-0.010 (1.31)	-0.005*** (2.89)	0.028 (1.43)	0.012** (2.20)	-0.004 (0.26)	0.012 (0.61)	0.0005 (0.02)	-0.011 (0.48)
2002	-0.015 (1.50)	-0.008*** (4.61)	0.014 (0.53)	0.005 (0.91)	-0.037* (1.77)	-0.040** (2.14)	0.023 (0.75)	0.026 (1.14)
2003	-0.006 (0.85)	-0.007*** (3.97)	-0.004 (0.14)	-0.012** (2.29)	-0.069*** (2.99)	-0.052*** (2.79)	0.052* (1.87)	0.060*** (2.65)
2004	0.005 (0.76)	-0.005** (2.54)	-0.038 (1.52)	-0.019*** (3.61)	-0.083*** (3.50)	-0.058*** (3.12)	0.085** (2.67)	0.110*** (4.85)
2005	0.006 (0.98)	-0.002 (1.40)	-0.069** (2.14)	-0.023*** (4.34)	-0.072** (2.59)	-0.054*** (2.90)	0.099** (2.66)	0.133*** (5.83)
2006	0.005 (0.74)	-0.002 (0.88)	-0.065** (2.14)	0.014*** (2.57)	-0.063* (1.95)	-0.045** (2.33)	0.111*** (2.86)	0.105*** (4.46)
Constant	-0.004 (0.22)	0.012*** (4.93)	-0.089 (1.19)	0.002 (0.30)	0.147*** (5.29)	0.080*** (4.36)	0.441*** (9.51)	0.443*** (19.76)
# Observations	908	908	908	908	908	908	908	908
R-Square	0.1	0.07	0.29	0.11	0.33	0.19	0.23	0.18

*, ** and *** represent statistical significance at the 10, 5 and 1 percent levels. All models include quarter dummies.

Table 6: Robustness Checks

Explanatory Variable	Dep Var: ROA		Dep Var: NPL		Dep Var: Govt Securities/Assets		Dep Var: Loans/Assets	
	OLS		OLS		OLS		OLS	
	Clustered SE	Median Regression	Clustered SE	Median Regression	Clustered SE	Median Regression	Clustered SE	Median Regression
NBC: Pre-Privatization	-0.028 (1.58)	-0.016* (1.90)	0.361** (7.30)	0.362*** (13.35)	-0.230*** (2.80)	-0.190*** (6.25)	-0.075 (0.99)	-0.053 (0.79)
NBC: At Privatization	0.019* (1.92)	0.017 (1.62)	-0.024 (0.75)	-0.221*** (6.83)	0.194*** (4.87)	0.289*** (7.85)	-0.126*** (3.18)	-0.138* (1.71)
NBC: Time Since Privatization	0.0003 (0.49)	0.00002 (0.05)	-0.019*** (9.61)	-0.008** (6.54)	0.003** (1.79)	-0.002 (1.19)	0.014*** (7.33)	0.012*** (4.14)
NMB: Creation, Contract Management	-0.007 (0.69)	-0.005 (0.79)	0.003 (0.06)	-0.046** (2.21)	0.400*** (8.21)	0.404*** (16.77)	-0.396*** (8.89)	-0.357*** (7.03)
NMB: Time Since Creation	0.0004 (0.79)	0.0006 (1.61)	-0.002 (1.11)	0.0002 (0.17)	-0.002 (0.72)	0.0004 (0.29)	0.008*** (3.07)	0.005 (1.60)
NMB: Sale to Rabobank	-0.009 (1.62)	-0.010 (0.64)	0.006 (0.30)	0.002 (0.04)	0.131*** (7.95)	0.123* (2.33)	0.023 (1.21)	0.042 (0.51)
NMB: Time Since Sale to Rabobank	0.003*** (3.52)	0.003 (0.82)	-0.003 (0.75)	0.001 (0.08)	-0.030*** (7.78)	-0.032** (2.40)	0.017*** (4.02)	0.022 (1.16)
Loans/Assets	0.013 (0.56)	0.011*** (2.81)	0.376** (2.65)	0.080*** (6.11)				
Govt. Securities/Assets	0.004 (0.16)	-0.004 (0.93)	0.166 (1.52)	0.042*** (2.75)				
Total Assets (Trillions)	0.025 (1.50)	0.012** (2.20)	0.128* (1.89)	0.037** (2.14)	0.106 (0.80)	0.112*** (5.92)	-0.358*** (3.70)	-0.393*** (9.43)
Foreign: Full Sample	-0.003 (0.62)	-0.003** (2.04)	-0.005 (0.24)	-0.023*** (4.27)	-0.006 (0.11)	0.024*** (3.96)	-0.061 (1.38)	-0.092*** (6.97)
State: Full Sample	-0.001 (0.07)	-0.004 (0.20)	0.184** (2.02)	0.078*** (11.87)	0.081 (0.77)	0.091*** (12.59)	-0.141* (1.97)	-0.208*** (13.20)
Selected for Merger	-0.021*** (5.07)	-0.009** (2.41)	-0.047* (1.69)	-0.040*** (3.31)	-0.140*** (2.97)	-0.083*** (6.33)	0.158*** (5.22)	0.202*** (6.91)
Merged	0.007 (0.38)	-0.006 (0.92)	0.048 (1.35)	0.044** (2.16)	0.053*** (4.97)	0.018 (0.77)	-0.159** (2.36)	-0.236*** (4.66)
Quarters Since Merger	0.001 (1.26)	0.002*** (2.88)	-0.002 (0.93)	-0.003* (1.66)	0.008*** (4.57)	0.009*** (4.37)	-0.002 (0.58)	-0.003 (0.72)
Foreign Entry	-0.040** (2.10)	-0.025*** (7.28)	0.091 (0.92)	-0.035*** (3.24)	-0.022 (0.34)	-0.058*** (4.91)	-0.255*** (2.90)	-0.281*** (10.77)
Quarters Since Foreign Entry	0.002* (1.97)	0.001*** (3.50)	-0.007 (1.26)	0.001 (0.98)	-0.004 (1.20)	-0.003 (0.37)	0.020*** (3.12)	0.019*** (9.94)
Private Entry	-0.028*** (3.14)	-0.015*** (4.67)	0.070 (1.47)	-0.003 (0.32)	-0.068 (1.04)	-0.096*** (8.58)	-0.091 (0.75)	-0.074*** (2.97)
Quarters Since Private Entry	0.002*** (2.74)	0.001*** (3.75)	-0.005** (2.25)	0.00001 (0.01)	-0.002 (0.97)	0.0005 (0.69)	0.012*** (3.35)	0.010*** (6.65)
State Entry	-0.121*** (13.53)	-0.043*** (5.66)	0.022 (0.43)	-0.027 (1.09)	-0.075 (1.35)	-0.008 (0.29)	-0.266*** (6.67)	-0.168*** (2.90)
Quarters Since State Entry	0.009*** (11.69)	0.003*** (4.03)	-0.006* (1.70)	-0.0005 (0.23)	0.001 (0.46)	-0.002 (0.87)	0.026*** (9.36)	0.016*** (3.24)
Failed	-0.054 (1.53)	-0.016*** (4.55)	0.181* (1.83)	0.109*** (9.81)	-0.139*** (2.93)	-0.112*** (9.33)	0.227** (2.34)	0.224*** (8.36)
Constant	0.001 (0.08)	0.007** (2.05)	-0.160* (1.78)	0.007 (0.68)	0.152*** (3.42)	0.103*** (11.92)	0.490*** (14.48)	0.531*** (28.38)
# Observations	866	866	866	866	866	866	866	866
R-Square ^a	0.26	0.11	0.40	0.18	0.42	0.28	0.45	0.30

^aPseudo R-square is reported for the median regressions in columns 2, 4, 6, and 8. *, ** and *** represent statistical significance at the 10, 5 and 1 percent levels. All models include year and quarter dummy variables.

Table 7: Credit Growth

<i>Explanatory Variable</i>	<i>Dep Var: Real Credit Growth</i>	
	OLS	Robust
	Clustered SE	Regression
NBC: At Privatization	-0.214 (1.23)	-0.174 (0.73)
NBC: Time Since Privatization	0.008 (0.92)	0.003 (0.27)
NMB: Creation, Contract Management	-1.155*** (4.88)	-2.310*** (6.74)
NMB: Time Since Creation	0.096*** (7.74)	0.133*** (6.77)
NMB: Sale to Rabobank	-2.000*** (21.28)	-1.950*** (3.95)
NMB: Time Since Sale to Rabobank	0.053 (1.64)	0.006 (0.05)
Loans/Assets	0.288 (0.63)	0.306 (1.48)
Govt. Securities/Assets	0.234 (0.76)	0.153 (0.71)
Total Assets (Trillions)	0.002 (0.01)	0.263 (1.30)
Foreign: Full Sample	0.017 (0.13)	-0.031 (0.46)
State: Full Sample	-0.060 (0.42)	0.009 (0.10)
Selected for Merger	-0.254** (2.20)	-0.142 (0.85)
Merged	-0.056 (0.52)	-0.102 (0.34)
Years Since Merger	0.019*** (3.08)	0.019 (0.84)
Foreign Entry	0.666 (1.16)	-0.011 (0.05)
Years Since Foreign Entry	-0.030 (1.09)	-0.006 (0.47)
Private Entry	0.781* (1.98)	0.688*** (3.99)
Years Since Private Entry	-0.025 (1.62)	-0.025*** (2.77)
State Entry	2.192*** (10.84)	2.967*** (6.02)
Years Since State Entry	-0.116*** (9.37)	-0.152*** (4.25)
Failed	-0.159 (0.69)	-0.111 (0.06)
Constant	1.007*** (3.53)	0.839*** (6.30)
# Observations	197	197
R-Square	0.29	0.48

., **, and *** represent statistical significance at the 10, 5 and 1 percent levels. All models include yearly dummy variables.

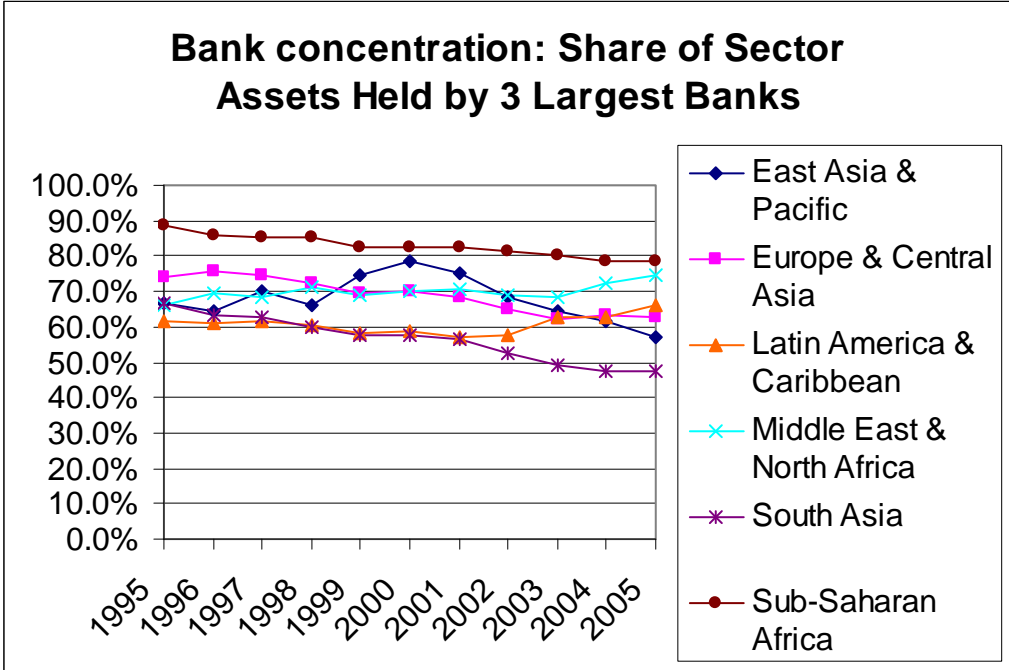


Figure 1

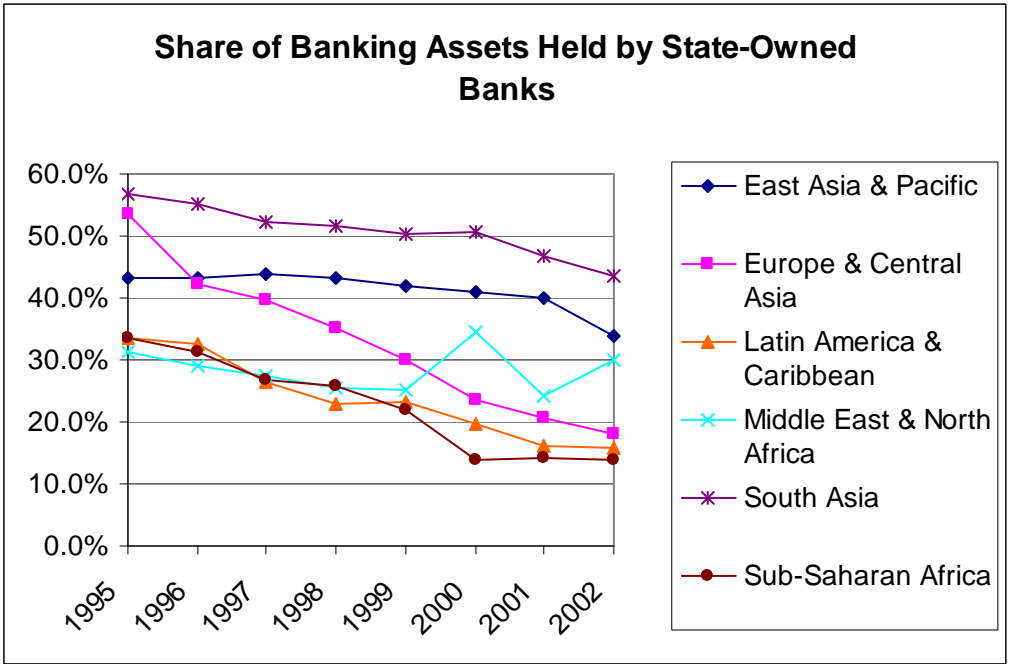


Figure 2

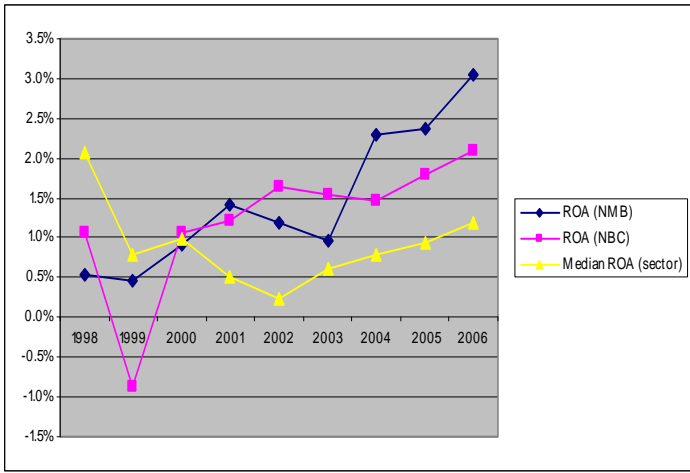


Figure 3: Profitability

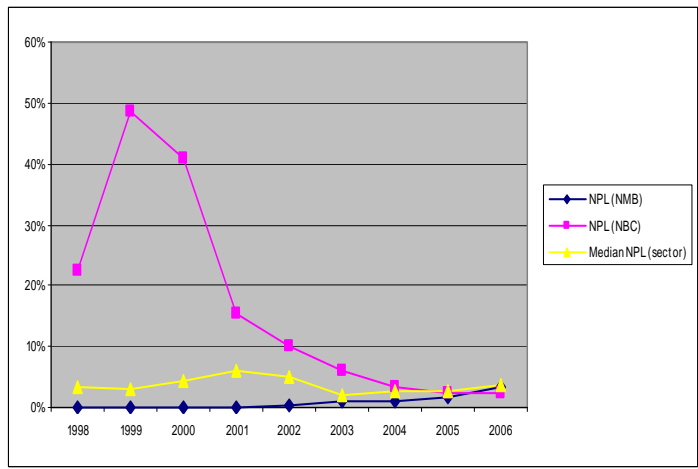


Figure 4: NPL Share

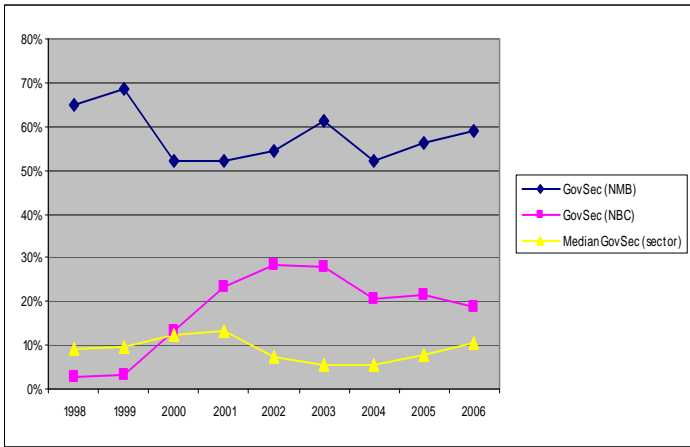


Figure 5: Government Securities/Assets

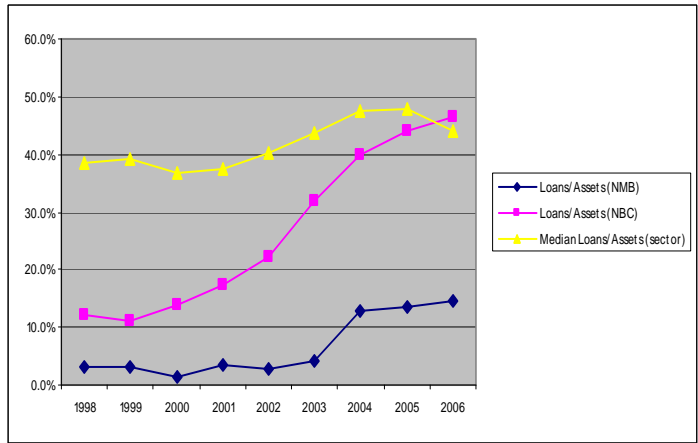


Figure 6: Loans/Assets

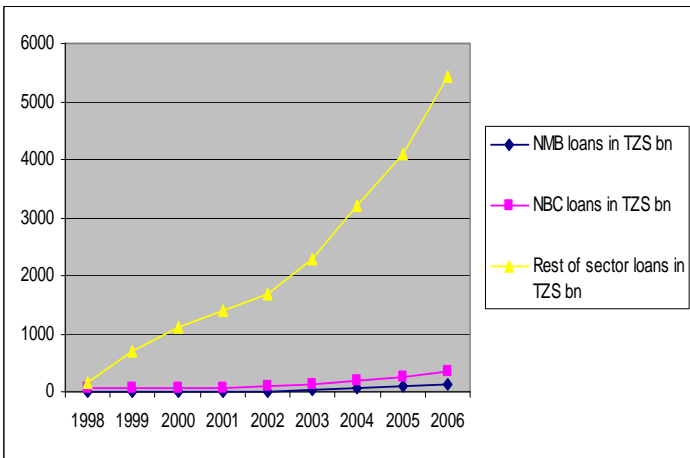


Figure 7: Total Loans

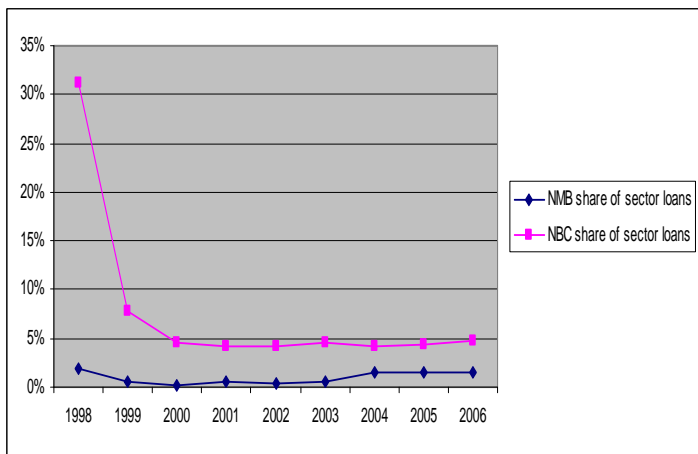


Figure 8: Share of Total Banking Sector Loans