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Abstract

This paper focuses on issues of financial sector liberalization in Ethiopia, with reference in particular to the Ethiopian banking sector. We identify two factors that may constrain Ethiopia's financial development. One is the closed nature of the Ethiopian financial sector in which there are no foreign banks, a non-competitive market structure, and strong capital controls in place. The other is the dominant role of state-owned banks. Our observations suggest that the Ethiopian economy would benefit from financial sector liberalization, especially from the entry of foreign banks and the associated privatization of state-owned banks.

JEL Classification Code: G21, G32, L33, O55
Key Words: foreign banks, state-owned banks, financial sector liberalization, Africa, Ethiopia

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1. Introduction

Ethiopia appears unique compared to its East African neighbors (namely Kenya, Tanzania, and Uganda) and many other developing countries in that it has not yet opened its banking sector to foreign participation.[1] The Ethiopian banking sector remains isolated from the impact of globalization. Although Ethiopian policy makers understand the potential importance of financial liberalization,[2] it is widely believed that liberalization may result in loss of control over the economy and may not be economically beneficial.[3]

While Ethiopia's financial sector has not been studied to any great extent, the benefits of financial sector liberalization for developing countries have been widely investigated, with conclusions suggesting that there may be significant positive effects involved. For example, Demirgüç-Kunt, Levine, and Min (1998) investigated the effects of foreign bank presence in 80 countries between 1988 and 1995. They found that liberalizing restrictions on foreign bank entry accelerated the efficiency of the domestic banking sector, and thereby contributed to long-run economic growth. Mattoo, Rathindran, and Subramanian (2006) examined the effects of financial liberalization on per-capita GNP growth in 59 countries between 1990 and 1999 and found that openness in financial services had positive and significant effects on economic growth.

Similarly, a number of studies have examined whether the level of development of financial intermediation and the degree of state ownership of banks were determinants of economic growth. Thus, for example, Levine, Loayza, and Beck (2000) examined the effects of financial intermediation on economic growth in 74 countries from 1960 to 1995 and found that greater financial intermediation development had a significantly positive impact on economic growth. La Porta, Lopez-de-Silanes, and Shleifer (2002) examined the ownership structure of banks in 92 countries and found that higher government ownership of banks resulted in lower per-capita GDP growth from 1960 to 1995, even when initial financial intermediation development had a positive and significant effect. They also found that higher government ownership of banks was associated with slower subsequent financial sector development and lower productivity growth. It is noteworthy that, because of data constraints, these studies did not include Ethiopia.[4]

What distinguishes our paper is that we take a close look at the Ethiopian banking sector to consider whether Ethiopia would benefit from allowing foreign participation. Our contribution is threefold. First, we utilize Ethiopian bank-level data to analyze the performance of state-owned vis-à-vis privately-held banks. Second, we identify the stakeholder opposition to financial sector liberalization. Finally, we address

the potential benefits and qualifications to liberalization for the Ethiopian economy.

In what follows, Section 2 provides background information on the Ethiopian economy and financial sector development. Section 3 compares Ethiopia's key economic, social, and financial indicators with those of other East and Sub-Saharan African (SSA) countries. Section 4 examines the performance of state-owned and private banks in Ethiopia. Section 5 outlines the stakeholder opposition to financial sector liberalization, and Section 6 considers the potential benefits and qualifications to liberalization. Section 7 concludes.

2. Historical Background: Ethiopian Economy and Financial Sector

Ethiopia has some notable historical differences compared to other countries in the region. Although occupied by the Italians for a short time in the 1930s, Ethiopia does not share the colonial legacy of its neighbors. Its population (now nearly 80 million) has historically been, and continues to be, almost evenly divided between Coptic Christians and Muslims, with a very small Jewish population still located in the Northwest of the country. The Ethiopian economy has been state controlled through a series of industrial development plans since the Imperial Government of Haile Selassie. It was managed as a Soviet-style centrally planned economy under a socialist government from 1976-1991. The post-1991 government led a transition to a more

market-based system, and subsequent governments have introduced further reforms. Although state control has been reduced and domestic and foreign (private) investment promoted, the state still plays a dominant role in the economy today.

Ethiopia's financial sector remains closed and is much less developed than its neighbors. Ethiopia has no capital market and very limited informal investing in shares of private companies. A series of financial sector reforms has been introduced since 1994, when private banks were allowed to be re-established. But the three large state-owned banks continue to dominate the market in terms of capital, deposits and assets. The current government is committed to alleviating poverty through private-sector development and through integrating Ethiopia into the global economy. However, the government does not at this time seem prepared to privatize large state-owned enterprises (or banks), allow for private ownership of land, or open the financial sector to foreign participation and competition.

3. How Is Ethiopia Different from Other African Countries?

As noted, Ethiopia has a unique economic and social/historical background, but it is not clear how it is different from other African countries. To address this question, this section compares key economic, social, and financial indicators for Ethiopia with those of other African countries.

Table 1 summarizes the key indicators for four East African countries (Ethiopia, Kenya, Tanzania, and Uganda) and Sub-Saharan Africa (SSA) as a whole. Ethiopia has similar economic and social features compared to many other African countries, including historically low per-capita GDP growth rates, an underdeveloped infrastructure, and a legal system based on English law. But Ethiopia also has some differences from other African countries. In 2005, per-capita GDP was 140.6 U.S. dollars, the lowest level in East Africa. Agricultural dependency and rural population are 46.3 and 84.0 percent, respectively, both of which are among the highest in East Africa. Life expectancy is 42.7 years, the lowest in the region. Only 22.0 percent of the population has access to clean drinking water, which is the lowest in SSA. These characteristics clearly show that Ethiopia is one of the least developed countries in East Africa and among SSA countries.

=== Table 1 ===

Table 1 also includes key financial indicators. Following Levine et al. (2000), we utilize three financial intermediation variables. The first indicator is liquid liabilities, which is defined as M3 (currency plus demand and interest-bearing liabilities of banks and non-bank financial institutions) as a percentage of GDP. According to Levine et al., this is a typical measure of 'financial depth' and thus of the overall size of the financial

sector. The second indicator, commercial-central bank, is defined as commercial bank assets as a share of commercial bank plus central bank assets. This measure captures how the economy's savings are allocated to commercial banks. The third indicator is private credit, defined as credit extended to the private sector as a ratio to GDP. Levine et al. (2000) emphasize the key importance of private credit.

As previously noted, Levine et al. (2000) found a strong positive relationship between the development of financial intermediation and economic growth. Based on Ethiopia's poor economic and social indicators, one may expect Ethiopian financial intermediation to perform poorly. However, this is not borne out by all the financial intermediation indicators noted in Table 1. That is, in 2004, credit issued to the private sector in Ethiopia was 19.1 percent of GDP (the 2nd highest in East Africa and the 5th in SSA), and liquid liabilities were 44.6 percent of GDP (the largest in East Africa and the fourth in SSA).

However, on closer inspection, with respect to private credit to GDP, Ethiopia's GDP is relatively low, so this does not necessarily mean then that intermediation is stronger in Ethiopia on this dimension. Note also that Ethiopia's gross domestic saving rate is only 3.6 percent, the lowest in East Africa. This implies that much of the population does not have ready access to banking services, and it may also be the case

that the infrastructure for banking in rural areas is especially poor. It should also be noted that liquid liabilities (i.e., M3) can be increased by worker remittances rather than domestic saving. Hence, the credit issued and liquidity indicators noted may not reflect depth in Ethiopia's financial system.

It is further worth noting that the financial liberalization index, which measures banking security and independence from government control, on a scale of 10 to 100 (100 being the most liberal), is only 20 for Ethiopia (the lowest in SSA). This indicates that the Ethiopian financial sector is highly controlled by the government, a finding that is consistent with Dailami (2000), who ranked Ethiopia as the most closed country in the 96 countries for 1997 covered in his study.

Moreover, bank concentration, defined as the asset share of the three largest banks, is 87.9 percent in Ethiopia, which is the highest in East Africa. Indeed, the Ethiopian banking sector is dominated by one large state-owned bank, the Commercial Bank of Ethiopia (CBE). Table 2 presents the assets of Ethiopian banks for 1998-2006.[5] In 2004, there were three state-owned banks and six private banks. The asset share of the CBE was 66.3 percent, while the share of all three state-owned banks was nearly 80 percent. These results clearly indicate the dominant state control of the Ethiopian banking sector.

=== Table 2 ===

The foregoing observations have important implications. As discussed above, Demirgüç-Kunt et al. (1998) and Mattoo et al. (2006) found a positive relationship between financial sector openness and economic growth. Mattoo et al. emphasized that the key elements of financial openness are domestic market competition, foreign ownership, and limited capital controls, all of which are lacking in Ethiopia. That is, high bank concentration indicates a lack of competition in Ethiopia's banking sector. Foreign banks are not permitted to enter the market in any form, and the Ethiopian Government maintains strong control over international capital movements.

We may also note the study by Beck et al. (2004), who concluded that increases in bank concentration were an obstacle to obtaining finance. They found that the constraining effects of bank concentration were exacerbated by more restrictions on bank activities, more government interference in the banking sector, and a larger share of government-owned banks. By the same token, these constraining effects were dampened by the presence of a large share of foreign banks. It would appear therefore that the highly closed nature of the in Ethiopian financial sector would serve to negate the positive effects that would otherwise come from greater financial intermediation.

4. State-owned Versus Private Banks

Several studies such as La Porta et al. (2002) have found that the performance of private banks is typically better than state-owned banks. The previous section suggests that the large asset share of state-owned banks may be a factor that inhibits growth. This section examines whether state-owned banks underperform relative to private banks.

Table 3 presents the total assets and return on assets (ROA) of Ethiopian state-owned and private banks from 1998 to 2006. It can be seen that the share of assets of private banks grew from 6.4 percent in 1998 to 30.4 percent in 2006. This in turn implies that the share of state-owned banks significantly declined. Note, however, that the values of total assets increased from 1998 to 2006 for both state-owned and private banks. This suggests that the Ethiopian banking sector has grown rapidly. The growth of private banks has been much faster than state-owned banks, although more than two-thirds of assets are still held by state-owned banks.[6] It is also evident that private banks show generally better performance than state-owned banks. In seven out of nine years, private banks had higher ROA than state-owned banks. Note, however, that the ROA of the private banks did not improve for the last three years, 2004-06.

=== Table 3 ===

Table 4 shows the interest-rate spreads between state-owned and private banks.

Three findings stand out from this table. First, these spreads increased from 1998 to 2006 for both state-owned and private banks, though it should be noted that since 2003, interest rate spreads of private banks have declined, suggesting that competition has increased. Second, private banks have higher interest-rate spreads than state-owned banks. Third, the deposit rate is the same for state-owned and private banks, implying that the differences in interest-rate spreads reflect differences in lending rates between banks. It may be noted that with the new entry of private banks, lending rates have consistently decreased since 2002. Deposit rates were still fixed by the National Bank of Ethiopia through 2005, and were therefore the same for state-owned and private banks. Although the entry of new banks contributed to the decline in the lending rate, it did not contribute to the decline in the interest-rate spreads. Combined with the fact that there are only 10 banks in Ethiopia, the results suggest accordingly that the banking sector reflects a non-competitive market structure, especially among private banks, although the market share of private banks is still small.

=== Table 4 ===

Next, we examine quantitatively the performance of state-owned and private banks, controlling for other factors such as market share. The model is similar to the one used in Berger, Clarke, Cull, Klapper, and Udell (2005). The left-hand-side variables are

bank-performance variables (y_{it}). The right-hand-side variable is a dummy variable (D_{it}) that takes the value one for state-owned banks and zero for private banks. Other control variables (Z_{it}) such as the scale of banks are also included in the regression. The regression equation is written as follows:

$$y_{it} = \alpha_0 + \alpha_1 D_{it} + \alpha_2 Z_{it} + \eta_i + \varepsilon_{it}, \qquad (1)$$

where η_i is a bank-specific random factor and ε_{it} is an error term. Unobserved bank heterogeneity is controlled for by the bank-specific random factor.

For our purposes, we focus on bank performance that includes: (1) the cost divided by total assets; (2) return on assets (ROA), defined as interest and non-interest expenses divided by total assets; (3) and the interest-rate spread, defined as lending rates minus deposit rates. Following Berger et al. (2005), we use market share and the scale of last year's assets as control variables. Market share is defined as the share of assets while last year's assets are included taking natural logs.

Table 5 indicates the regression results of equation (1) for the performance variables. Three findings are evident. First, the costs of state-owned banks are significantly higher (1.6 percentage points) than those of private banks. Second, the ROA of state-owned banks is 1.7 percentage points lower than private banks. These findings imply that state-owned banks are less efficient than private banks. Third, the

interest spread is 1.5 percentage points smaller for state-owned banks than private banks.

=== Table 5 ===

The inefficiency of state-owned banks in Ethiopia is consistent with the findings for other countries (La Porta et al., 2002). There is reason to believe that the inefficiency of state-owned banks may offset the positive effects of financial intermediation. Indeed, several studies have found positive effects of bank privatization in developing countries.[7] As a part of financial sector liberalization, the privatization of state-owned banks may be another important issue to consider in promoting competition in the banking sector.[8]

5. Ethiopian Government Concerns and Opposition to Liberalization

Given the evidence from the literature and our analysis discussed above of the importance of greater openness and foreign participation in enhancing financial intermediation and economic growth, it may be surprising that the Ethiopian government remains so strongly opposed to financial sector liberalization. It appears that the Prime Minister, his economic advisors, and the Cabinet of Ministers are particularly concerned about the potential impact of foreign bank entry on the development of the domestic banking sector, access to and the allocation of credit,

domestic savings mobilization, the country's capital account, and the ability of the central bank to supervise foreign banks and the new products and services that they introduce into the market.[9]

Ethiopia's Prime Minister, Meles Zenawi (2007), has expressed his personal views on financial sector reform and development in Africa in a partially completed manuscript entitled, *African Development: Dead Ends and New Beginnings*. His views on the past failures of financial reforms and the design of new reforms are of interest. In Section 17.2 of his Chapter 17, "Outcome of Economic Reform," he holds financial sector reforms responsible for the high incidence of non-performing loans and excess liquidity in many African countries. He attributes this failure to the pervasive lack of information in guiding bank operations (bank inability to assess credit), and the lack of demand for credit from private sector borrowers that has led to excess liquidity. He notes also that there have been high interest-rate spreads, high real rates of interest, and pervasive rent-seeking. Excess liquidity reflected the failure of banks to effectively mobilize savings and promote lending. In the case of Ethiopia, the Prime Minister and his government, as key stakeholders, have five main concerns, many of which are shared by other stakeholders, including the leadership of the private banks and the Ethiopian Bankers' Association:

- The government believes that the development of a viable domestic banking sector will be threatened by foreign banks, because they have more capital, more experience, and better reputations. They argue that the Ethiopian financial sector is too young and inexperienced to compete (the infant industry argument).
- Ethiopian government officials also believe that entry by foreign banks will further skew credit allocation towards large-scale industrial, real estate and service enterprises (including trade) and away from agriculture, small-scale and cottage/micro enterprises (sectors which are the priorities for the government's development strategy). They contend that foreign banks will concentrate lending in major urban centers using foreign funds, contributing little towards the development of rural banking. Furthermore, they contend that foreign banks will "cherry pick" the best companies and sectors.
- Domestic savings mobilization has been identified as an area of concern to Ethiopian officials, who have suggested that foreign banks would lend in their home or other foreign currencies and would not be interested in mobilizing domestic savings.
- There is concern that foreign banks may serve as conduits for the inward and outward flows of capital (e.g., through capital and money-market transactions;

credit operations; personal capital movements; etc.). This may cause foreign exchange and/or liquidity shortages, with potentially adverse effects on the country's capital account. The concern becomes more pronounced in view of the limited regulatory capacity of the central bank.

- Finally, it is strongly believed that the authorities will be unable at present to regulate and supervise foreign banks effectively.

6. Potential Benefits and Qualifications to Liberalization

While the Ethiopian government's concerns about financial liberalization are understandable, there is nonetheless a compelling case that can be made in our view to pursue liberalization. The following are some of the important potential benefits that may be realized from liberalization and some qualifications to be taken into account:[10]

- Financial liberalization may have positive effects on the efficiency of the banking sector in the host market. This is because domestic banks are forced to compete with more efficient foreign banks and because skills and technology levels improve.[11]
- The entry of foreign banks through financial liberalization may improve bank supervision through regulatory spillover. According to Goldberg (2007, p. 10): "The entry of foreign banks in emerging markets that are healthier than domestic banks

implicitly allows a country to import stronger prudential regulation and increase the soundness of the local banking sector."[12]

- The entry of foreign banks may also contribute to financial stability in host countries. This is because the cross-border flows are generally more volatile than locally generated claims by foreign branches and subsidiaries.
- As a part of financial sector liberalization, the privatization of state-owned banks may be an important option to further enhance the efficiency of the banking sector. As discussed in Section 4, numerous studies have confirmed that state-owned banks are less efficient than private banks and that privatization generally has positive effects on bank performance.
- The entry of foreign banks may have positive effects on employment and wages. While studies of manufacturing industries have confirmed that FDI generally had positive effects on employment and wages in host countries, since banks play an important role in financial intermediation, the effects of FDI for financial services on employment may be greater and broader than those of FDI for manufacturing sectors.[13]

By the same token, financial services liberalization carries certain economic risks and uncertainties, some of which are consistent with the stakeholders' concerns

noted above:

- Financial liberalization may cause financial fragility rather than financial stability. For example, Demirgüç-Kunt and Detragiache (2001) examined the relationship between banking crises and financial liberalization (defined as interest rate liberalization) for 53 countries between 1980 and 1995. They found that banking crises were more likely to occur in countries whose financial system was liberalized. This is especially true in developing countries where the institutional environment is weak.[14]
- In their survey article, Prasad, Rogoff, Wei, and Kose (2007) suggest that the positive relationship between financial liberalization and economic growth was rather weak in the case of developing countries. But they found that financial liberalization could be beneficial under the right circumstances such as high quality of governance.
- Mishkin (2007) has noted that if financial liberalization is not managed properly, it can lead to potentially highly disruptive financial crises. This was borne out in Tornell, Westermann, and Martínez (2003), who found that liberalization led to a higher incidence of crises. However, they also found that there was more rapid economic growth in countries in which there were severe credit market

imperfections.

- Foreign banks may not address directly issues of poverty alleviation and the access of low-income and rural-based savers and borrowers to financial services. Although financial liberalization itself may have positive effects on economic growth, only wealthy people may gain from financial development. However, according to Mishkin (2007, p. 263): "In countries with better financial development, the income of the poorest fifth of the population actually grows faster than average GDP per capita." This is because financial development enables the poor to access credit more easily.

It is evident from the preceding discussion that there may be significant economic benefits to be derived from financial sector liberalization, in particular from the entry of foreign banks and the privatization of state-owned banks. However, attention needs to be paid to the possible detrimental effects that may occur in the case of developing countries like Ethiopia. The question then is how the Ethiopian authorities should address issues of financial liberalization.

In undertaking liberalization, it may be important to give particular attention to the mode of entry and time frame so that the Ethiopian banking sector can enhance the quality of governance and develop its institutional framework, thereby providing

insurance against financial crises. For example, government officials may choose to limit the degree of foreign ownership for a specified period of time in an effort to help domestic firms to prepare for future competition and enhance the quality of governance. Similarly, adjustment measures and regulatory monitoring of foreign bank branches, subsidiaries, and greenfield investments are essential in permitting foreign financial FDI.

It is also important for the Ethiopian economy to expand banking in rural areas through financial liberalization. It might be possible here to establish a specialized rural financial institution that would then take over rural lending activities from the state-owned banks through a privatization process.[15] Ethiopia can improve the environment for economic growth if it develops policies that promote successful financial development and financial liberalization, instead of adamantly resisting liberalization.[16]

7. Concluding Remarks

In our discussion, we noted especially the closed nature of Ethiopia's banking system in which there is no foreign participation, evidence of a non-competitive market structure, and strong capital controls. We also had occasion to examine the performance of Ethiopia's state-owned and private banks, noting that state-owned banks were

comparatively inefficient relative to private banks. The combination of the closed characteristics of Ethiopia's banking sector and its non-competitive market structure serves to weaken the link between financial intermediation and economic growth, the importance of which is borne out extensively in the literature.

The question thus arises as to whether and how the Ethiopian authorities should address issues of financial liberalization. Interviews conducted with stakeholders revealed widespread opposition to liberalization on a number of grounds. Some of this opposition is understandable in an economy that has been closed to foreign participation for several decades. But, in our view, there is a compelling case that can be made for liberalization and the significant benefits that it may induce. In pursuing liberalization, the stakeholders' concerns need to be acknowledged and addressed with reference especially to improvement of financial regulation and oversight. Finally, there are broader considerations that need to be taken into account, given that Ethiopia is among the poorest countries in SSA. These broader considerations involve questions of the overall strategy of economic development and how to improve the incomes and living standards especially of the rural poor. Financial liberalization is not a panacea for Ethiopia's broader economic problems. But it may nonetheless serve to ameliorate these problems by improving the efficiency of the banking system and providing the basis for

greater financial intermediation and economic growth.

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Notes

[1]While we focus on the banking sector, much of our analysis can be applied to Ethiopia's insurance and micro-finance activities, which are relatively small compared to banking.

[2]We interpret financial liberalization to include various forms of foreign participation in the financial sector as will be noted below, as well as privatization of state-owned banks.

[3]The official skepticism towards financial liberalization was manifested in a series of interviews that the authors conducted during February to April 2007 in the context of a consultancy about undertaking financial liberalization as a part of Ethiopia's application for WTO accession.

[4]However, there have been a few studies of selected financial issues that have included Ethiopia in the country cross-section observations. These include: Beck, Demirgüç-Kunt, and Maksimovic (2004), Crowley (2007), and Djankov, McLiesh, and Shleifer (2007). IMF (2006) addresses key macroeconomic issues in Ethiopia, but provides only limited information on the financial sector.

[5]The Ethiopian banking data used in this section come from the published annual reports of the individual banks.

[6]It should be noted that in absolute terms, the assets of state-owned banks grew by more than the assets of privately held banks, ETB 18 billions, compared to ETB 15 billions, respectively over the same time period.

[7]For example, Beck, Cull, and Jerome (2005) for Nigeria, Bonin, Hasan, and Wachtel (2005) for Bulgaria, the Czech Republic, Croatia, Hungary, Poland and Romania, and Omran (2007) for Egypt.

[8]Mattoo et al. (2006) have pointed out the importance of the introduction of foreign ownership and domestic competition at the same time: "privatizing or introducing foreign ownership without introducing competition (or establishing a separate regulator), would simply transfer monopoly rents from the government to the private monopolist."

[9]These concerns were raised by government officials, senior bankers and representatives of the bankers' association in Ethiopia in February-April 2007 during interviews with the authors, who were preparing a study on the economic impact of WTO accession on Ethiopia's financial

sector.

[10]We assume, in discussing these benefits, that foreign entry will be subject to national treatment. For a comprehensive survey on the effects of financial FDI in developing countries, see Goldberg (2007).

[11]For example, Claessens, Demirgüç-Kunt, and Huizinga (2001) examined 7,900 banks in 80 countries for 1988-1995 and found that foreign entry reduced the profitability of domestic banks but improved the efficiency of the banking sector.

[12]Crystal, Dages, and Goldberg (2001) found that the entry of foreign banks had positive effects on the overall soundness of local banking systems partly because foreign banks screened and treated problem loans more aggressively.

[13]The effects may be different between greenfield investments and mergers and acquisitions (M&A). According to Goldberg (2007), greenfield investment is expected to have positive effects on employment while the effects of M&A are less transparent.

[14]However, we should note that there are various types of financial liberalization. In Demirgüç-Kunt and Detragiache (2001), the negative effect of financial liberalization comes from the liberalization of interest rates, rather than from the entry of foreign banks.

[15]Other countries, such as Indonesia and Kenya, have fostered specialized financial institutions to deal with rural lending. For more information, see Mwega (2002, Ch.10), Robinson (1997, p. 24), and World Bank (1999).

[16]Our view is closely related to the point made by Mishkin (2007, p. 287): "Bad policies are the reason that financial development does not occur and why financial globalization often leads to harmful financial crises. Instead of rejecting financial globalization, we can greatly improve the environment for economic growth if we develop policies that promote successful financial development and financial globalization."

Table 1. Key Economic and Social Indicators for Ethiopia and Other African Countries

	Ethiopia	Kenya	Tanzania	Uganda	Sub-Sahara Africa	Rank of Ethiopia in East Africa	Rank of Ethiopia in SSA
Economic and Social Indicators							
GDP (2005, US$ millions)	10,018	15,151	12,646	7,786	9,286	4 / 4	41 / 45
Per-capita GDP (2005)	140.6	442.3	329.9	270.2	898.7	4 / 4	41 / 45
Per-capita GDP growth (annual average, 1995-2005)	0.9	-0.1	1.6	3.0	0.5	3 / 4	17 / 45
Agriculture dependency (% of GDP, 2005)	46.3	27.9	46.2	32.2	28.2	1 / 4	6 / 43
Rural population (% of total population, 2005)	84.0	79.3	75.8	87.4	62.6	2 / 4	3 / 47
Life expectancy (years, 2005)	42.7	49.0	46.3	50.0	48.7	4 / 4	34 / 46
GINI index (average, 1990-2005)	35.0	50.0	34.2	45.7	47.3	3 / 4	28 / 30
Infrastructure							
Paved roads (% of total roads, 2003 or 2004)	19.1	14.1	8.6	23.0	24.2	2 / 4	10 / 24
Improved water source (% of population with access, 2004)	22.0	61.0	62.0	60.0	65.0	4 / 4	47 / 47
Legal origin	English	English	English	English	English = 14 / 33		
Religion	Muslim	Protestant	Muslim	Catholic	Muslim = 12 / 33		
Financial Indicators							
Liquid liabilities (%, 2004)	44.6	39.2	21.2	19.7	29.8	1 / 4	4 / 27
Commercial-central bank (%, 2004)	50.4	90.0	87.5	50.0	67.2	3 / 4	33 / 40
Private credit (%, 2004)	19.1	24.5	7.5	6.1	17.1	2 / 4	5 / 27
Gross domestic saving (% of GDP, 2005)	3.6	9.3	9.7	7.1	9.2	4 / 4	29 / 42
Financial liberalization index (10-100, 2007)	20.0	50.0	50.0	70.0	48.2	4 / 4	38 / 38
Dailami's financial openness index: 1.12 (closed) - 1.93 (free) (1997)	1.12	n.a.	n.a.	n.a.	1.44	n.a.	17 / 17
Bank concentration (%, 2004)	87.9	58.9	67.2	62.6	80.7	1 / 4	5 / 10

Note: For the list of Sub-Saharan African countries, see Table A1. For definitions of the indicators and sources, see Table A2.

Table 2. Assets of Ethiopian Banks, 1998-2006

Value (Millions of ETB)	1998	1999	2000	2001	2002	2003	2004	2005	2006
State-owned banks	19,732	19,936	23,417	25,035	25,673	27,697	33,113	35,001	37,646
Commercial Bank of Ethiopia	17,503	17,434	19,828	21,489	22,146	24,200	27,975	33,169	35,849
Development Bank of Ethiopia	2,229	2,502	2,615	2,578	2,569	2,555	4,081	n.a.	n.a.
Construction and Business Bank	n.a.	n.a.	974	968	958	942	1,057	1,832	1,797
Private banks	1,354	2,040	3,157	4,036	5,234	6,968	9,093	12,253	16,443
Dashen Bank	511	674	865	1,100	1,486	1,991	2,677	3,420	4,546
Awash International Bank	452	536	759	907	1,112	1,401	1,770	2,226	2,954
Bank of Abyssinia	206	388	718	896	1,142	1,333	1,585	2,057	2,834
Wegagen Bank	185	366	514	583	646	889	1,140	1,616	2,259
United Bank	n.a.	76	143	214	314	469	674	1,073	1,599
Cooperative Bank of Oromia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	129	224
Nib International Bank	n.a.	n.a.	158	336	534	885	1,247	1,732	2,027
Total	21,086	21,976	26,574	29,071	30,907	34,665	42,206	47,254	54,089
Share (%)	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
State-owned banks	93.6	90.7	88.1	86.1	83.1	79.9	78.5	74.1	69.6
Commercial Bank of Ethiopia	83.0	79.3	74.6	73.9	71.7	69.8	66.3	70.2	66.3
Development Bank of Ethiopia	10.6	11.4	9.8	8.9	8.3	7.4	9.7	n.a.	n.a.
Construction and Business Bank	n.a.	n.a.	3.7	3.3	3.1	2.7	2.5	3.9	3.3
Private banks	6.4	9.3	11.9	13.9	16.9	20.1	21.5	25.9	30.4
Dashen Bank	2.4	3.1	3.3	3.8	4.8	5.7	6.3	7.2	8.4
Awash International Bank	2.1	2.4	2.9	3.1	3.6	4.0	4.2	4.7	5.5
Bank of Abyssinia	1.0	1.8	2.7	3.1	3.7	3.8	3.8	4.4	5.2
Wegagen Bank	0.9	1.7	1.9	2.0	2.1	2.6	2.7	3.4	4.2
United Bank	n.a.	0.3	0.5	0.7	1.0	1.4	1.6	2.3	3.0
Cooperative Bank of Oromia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.3	0.4
Nib International Bank	n.a.	n.a.	0.6	1.2	1.7	2.6	3.0	3.7	3.7

Note: n.a. (not available)

Sources: Annual Reports of the individual banks.

Table 3. Total Assets and Return on Assets (ROA) for State-Owned and Private Banks, 1998-2006

	Total assets				ROA	
	Value (millions of Birr)		Share (%)			
year	State-owned	Private	State-owned	Private	State-owned	Private
1998	19732	1354	93.6	6.4	0.015	0.005
1999	19936	2040	90.7	9.3	0.007	0.016
2000	23417	3157	88.1	11.9	0.011	0.014
2001	25035	4036	86.1	13.9	0.005	0.020
2002	25673	5234	83.1	16.9	-0.004	0.012
2003	27697	6968	79.9	20.1	-0.002	0.011
2004	33113	9093	78.5	21.5	0.005	0.021
2005	35001	12253	74.1	25.9	0.013	0.021
2006	37646	16443	69.6	30.4	0.027	0.022

Notes: 1) Total assets are sum of assets for state-owned and private banks.
2) ROA is average for public and private banks.
Sources: Annual Reports of the individual banks.

Table 4. Interest-Rate Spreads between State-Owned and Private Banks, 1998-2006

	Interest rate spread		Lending rate		Deposit rate	
year	State-owned	Private	State-owned	Private	State-owned	Private
1998	4.5	5.0	10.5	11.0	6.0	6.0
1999	4.5	5.0	10.5	11.0	6.0	6.0
2000	4.5	5.3	10.5	11.3	6.0	6.0
2001	4.5	5.4	10.5	11.4	6.0	6.0
2002	5.0	6.4	8.0	9.4	3.0	3.0
2003	5.0	6.5	8.0	9.5	3.0	3.0
2004	5.0	6.4	8.0	9.4	3.0	3.0
2005	5.0	6.0	8.0	9.0	3.0	3.0
2006	5.0	6.0	8.0	9.0	3.0	3.0

Note: Figures are average for state-owned and private banks.
Sources: Annual Reports of the individual banks.

Table 5. Differences in Performance of State-Owned and Private Banks

	Cost-asset ratio	ROA	Interest rate spread
State-owned bank dummy	0.016*	-0.017*	-0.015***
	[0.009]	[0.009]	[0.005]
Market share	0.004	-0.002	-0.001
	[0.005]	[0.005]	[0.003]
Lag of log of assets	-0.008***	0.005**	0.003**
	[0.002]	[0.002]	[0.001]
Constant	0.104***	-0.013	0.040***
	[0.014]	[0.014]	[0.009]
R-squared	0.224	0.189	0.207
N	66	66	62

Notes: 1) Random-effect model is used for the estimation.
2) ***, **, and * indicate statistically significant at 1%, 5%, and 10% levels, respectively.
3) Standard errors are in brackets.

Sources: Annual Reports of the individual banks.

Table A1. Sub-Saharan African Countries

Angola	Madagascar
Benin	Malawi
Botswana	Mali
Burkina Faso	Mauritania
Burundi	Mauritius
Cameroon	Mayotte
Cape Verde	Mozambique
Central African Republic	Namibia
Chad	Niger
Comoros	Nigeria
Congo, Dem. Rep.	Rwanda
Congo, Rep.	Sao Tome and Principe
Cote d'Ivoire	Senegal
Equatorial Guinea	Seychelles
Eritrea	Sierra Leone
Ethiopia	Somalia
Gabon	South Africa
Gambia, The	Sudan
Ghana	Swaziland
Guinea	Tanzania
Guinea-Bissau	Togo
Kenya	Uganda
Lesotho	Zambia
Liberia	Zimbabwe

Table A2. Definitions and Sources of Indicators

Variables	Definitions	Sources
Macroeconomic and social indicators		
Per-capita GDP (2005)	Real per-capita GDP in 2005 (2000 Constant US dollars)	World Bank (2007)
Per-capita GDP growth (annual average, 1990-2005)	Real per-capita GDP growth from 1995 to 2005	World Bank (2007)
Agriculture dependency (% of GDP, 2005)	Value added of agricultural sector in 2005 (% of GDP)	World Bank (2007)
Rural population	Population in rural area in 2005 (% of total population)	World Bank (2007)
Life expectancy (years, 2005)	Life expectancy	World Bank (2007)
GINI index (average, 1990-2005)	Average of GINI index from 1990 to 2005 (0 = perfect income equality; 100 = perfect income inequality)	World Bank (2007)
Infrastructure		
Paved roads (% of total roads, 2003 or 2004)	Paved roads in 2003 or 2004 (% of total roads)	World Bank (2007)
Improved water source (% of population with access, 2004)	Improved water source in 2004 (% of population with reasonable access to an adequate amount of water from an improved source)	World Bank (2007)
Financial intermediary indicators		
Liquid liabilities (%, 2004)	Ratio of liquid liabilities to GDP in 2004 (% of GDP)	Beck and Al-Hussainy (2007)
Commercial-central bank (%, 2004)	Ratio of deposit money bank claims on domestic nonfinancial real sector to the sum of deposit money bank and Central Bank claims on domestic nonfinancial real sector in 2004	Beck and Al-Hussainy (2007)
Private credit (%, 2004)	Private credit by deposit money banks to GDP in 2004	Beck and Al-Hussainy (2007)
Gross domestic saving (% of GDP, 2005)	Gross domestic saving (GDP less total consumption) in 2005 (% of GDP)	World Bank (2007)
Dailami's financial openness index: 1.12 (closed) -1.93 (free) (1997)	The composite index of coding of rules, regulations, and administrative procedures affecting capital flows for a total of 27 individual transactions in the current and capital accounts of the balance of payments (1.12 = the most closed; 1.93 = the most opened)	Dailami (2000)
Financial Freedom Index (10-100, 2007)	A measure of banking security as well as independence from government control (0 = the lowest freedom; 100 = the highest freedom)	Kayne, Holmes, and O'Grady (2007)
Bank concentration (%, 2004)	Assets of three largest banks as a share of assets of all commercial banks in 2004 (%)	Beck and Al-Hussainy (2007)