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Domestic Debt Markets in Sub-Saharan Africa

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This study discusses the role of domestic debt markets in sub-Saharan Africa (SSA) based on a new data set covering 27 SSA countries during the 20-year period 1980–2000. The study finds that domestic debt markets in these countries are generally small, highly short term, and often have a narrow investor base. Domestic interest payments present a significant burden to the budget, despite much smaller domestic than foreign indebtedness. The use of domestic debt is also found to have significantly crowded out private sector lending. Finally, the study identifies significant differences among the size, cost, and maturity structure of domestic debt markets in heavily indebted poor countries (HIPCs) and non-HIPCs. [JEL E43, E44, H63, O23, O55]

In the past decades, the external debt burden and its impact on fiscal sustainability and economic growth in low-income countries have been extensively debated. This debate has culminated in various debt reduction plans, such as the recent Heavily Indebted Poor Countries (HIPC) Initiative, which sought to reduce the external debt stocks in these countries and free up resources for pro-growth government spending. However, at least until recently, much less attention has been given to the issue of domestic debt in low-income countries, despite its potentially significant impact on government budgets, macroeconomic stability, private sector lending, and, ultimately, growth performance. Existing studies have been limited mostly to individual country assessments in the context of the joint World Bank and IMF Financial Sector Assessment Programs or theoretical

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analyses of domestic debt. Moreover, data on domestic debt are scarce and limited to a few African countries.

The main objective of this study is to discuss long-term developments and identify key characteristics of African domestic debt markets based on a newly collected database for 27 non-CFA[1] sub-Saharan African (SSA) countries for the period 1980–2000. The discussion will focus on the following issues: (1) the development in domestic debt markets over the period relative to various indicators, such as GDP, foreign debt, and broad money; (2) the investor base of the debt markets, especially the degree to which the bank and nonbank sectors hold domestic debt; (3) the development in real treasury bill interest rates in view of the significant financial sector reforms that have taken place over the period; (4) the maturity structure of the domestic debt portfolio in these countries, including a comparison with debt markets in more developed countries; and (5) the impact of domestic borrowing on government budgets and private sector credit.

Of particular interest is the difference between domestic debt markets in HIPCs and non-HIPCs. First, the paper examines to what extent HIPCs have relied on foreign versus domestic debt. Given that HIPCs have access to highly concessional foreign resources, it would be surprising if they had accumulated a significant amount of domestic debt, since domestic interest rates are higher than foreign ones. Finally, the relatively underdeveloped financial systems in many HIPCs may have been an obstacle to developing sound and well-functioning domestic debt markets compared with those of non-HIPCs.

I. Description of Database

This study is the first attempt to compile a comprehensive database on domestic debt for sub-Saharan African countries. While other databases exist, they are scarce and limited to only a few African countries. The most comprehensive database to date is the government financial statistics in the IMF's *International Financial Statistics.* However, it contains data for only 19 of 38 non-CFA countries, and the data for many of these countries are incomplete. Another source is the World Bank's *World Development Indicators,* but the problem of missing data is even larger in this case.

The database for this study contains information about the characteristics of domestic debt markets for the period 1980–2000. The study focuses on gross securitized domestic government debt, composed of treasury bills, development stocks, and bonds. Hence, the data set excludes domestic debt arising from domestic arrears accumulation and direct advances from the central bank and commercial banks.[2] While an attempt was made to collect information on outstanding stocks of central bank debt (since it represents a quasi-fiscal cost to the government), it was not possible to obtain information for all countries. In addition to the stock of domestic

[1]CFA denotes Franc de la Coopération Financière en Afrique.

[2]Most countries do not have significant stocks of direct advances, because governments generally clear these at the end of the year through issuance of treasury bills or transfers from other government accounts. However, a few of the countries in the database have accumulated significant stocks of direct liabilities to the banking system.

debt, the database also contains information on the maturity structure, holdings of debt by sectors, real treasury bill interest rates, and domestic interest burden on the budget.

The choice of countries was limited to non-CFA countries, since CFA countries until very recently did not have any domestic debt markets. Among the non-CFA countries, Angola, Botswana, the Democratic Republic of the Congo, Mozambique, and São Tomé and Príncipe did not have domestic government debt markets at the time of collection. Apart from these countries, it was possible to obtain complete series for all countries except Guinea. Information on domestic debt data was obtained primarily from individual IMF country reports, such as recent economic development reports and country desk databases. In cases where these were insufficient, central bank reports or IMF country desk economists helped to fill the gaps.

II. Important Aspects of Domestic Debt Management

The Need for Domestic Debt Issuance

The need to issue domestic debt can arise both from government deficits that are not fully foreign financed and from implementation of monetary policy. Generally, a deficit leads to a change in government net assets. Hence, a budget deficit can be financed by either drawing down assets or incurring new liabilities, either domestic or foreign. The use of assets entails selling property or reducing deposits. This type of financing, however, is constrained by the stock and attractiveness of assets (the feasibility of privatization), and governments, therefore, normally resort to domestic or foreign borrowing to finance large parts of fiscal deficits. The choice between foreign and domestic borrowing, in turn, depends on cost (interest rates), maturity structure, and risks. Most of the SSA countries have access to foreign financing at very low interest rates (well below market interest rates) and at very long maturity from international aid agencies or on grant terms. These terms are often more favorable than for domestic borrowing, since domestic debt instruments carry much higher interest rates and have shorter maturities. Another advantage of foreign borrowing is that it increases the supply of foreign exchange, which is critical to meet import requirements. One drawback to foreign borrowing is currency risk, which may increase along with foreign indebtedness, given that a growing foreign debt service increases the demand for foreign exchange. However, Beaugrand, Loko, and Mlachila (2002) found that highly concessional foreign loans—when available—are still the most attractive way to finance budget deficits, even if there are significant devaluation risks, given the high levels of domestic interest rates.

Despite the attractiveness of foreign borrowing, governments may still consider domestic borrowing for a number of reasons. First, the supply of foreign (concessional) financing may be determined by the aid agencies' budgets and their assessment of the economic performance of the recipient country. Second, international aid is very often linked to project financing and therefore cannot finance a government's recurrent expenditures or capital projects not supported by donors. Hence, governments with large recurrent budget deficits may be forced to tap domestic savings, including through issuance of domestic debt, to close their budget gaps.

Domestic debt can also be used to achieve monetary policy targets. This is particularly the case in countries with large balance of payment surpluses, created by large aid inflows or oil exports, for example. In those situations, the inflows of foreign exchange increase liquidity, which can undermine macroeconomic stability, and the central banks often decide to intervene by selling government or central bank bills to stem inflationary pressures from excess liquidity.

Macroeconomic Risks Related to Domestic Debt Financing

Extensive use of domestic borrowing can have severe repercussions on the economy. Domestic debt service can consume a significant part of government revenues, especially given that domestic interest rates are higher than foreign ones. The interest cost of domestic borrowing can rise quickly along with increases in the outstanding stock of debt, especially in shallow financial markets. In such markets, given that financial resources are limited, expansions in domestic debt will more easily lead to higher domestic interest rates. The increase in interest rates may be even more pronounced if the investor base is relatively narrow, since the government may be held hostage by a particular group of investors (World Bank and IMF, 2001). A diverse investor base reduces the monopoly power of a particular group of investors, bringing down not only costs but also rollover risks. Hence, an important aspect of debt management is broadening the investor base. This can be achieved through a combination of efforts, including promoting investment by retail investors and developing and reforming pension and retirement funds to encourage their investment in government bonds.

Another risk concerns the crowding out of private investment. When issuing domestic debt, governments tap domestic private savings that would otherwise be available to the private sector. This is normally followed by an increase in domestic interest rates, if these are flexible, adversely affecting private investment. However, even when interest rates are controlled, domestic borrowing can lead to credit rationing and crowding out of private sector investment (Fischer and Easterly, 1990). The impact of government borrowing will, to some extent, be aggravated if there are capital account restrictions, since banks cannot as easily circumvent higher domestic interest rates through foreign borrowing. Last, but not least, an investor base that is dominated by commercial banks may exacerbate the above-mentioned effect. The crowding-out effect may, therefore, be more pronounced in the absence of nonbank investors, such as pension funds and retirement funds, to which the government could sell its debt without necessarily crowding out private sector credit. Hence, a diverse investor base prevents excessive reliance on commercial bank funds and thereby reduces the risk of crowding out (World Bank and IMF, 2001).

Maturity Structure

The government debt portfolio should adequately comprise short- and long-term paper. If the debt portfolio consists mainly of short-term debt, the government may face considerable risks. First, with more frequent rollovers, the government is highly

vulnerable to a sudden increase in interest rates, which can raise debt service significantly. This can lead to further deterioration in the market's confidence in government bonds, prompting even higher interest rates on government debt. Second, administrative costs tend to be higher with a short maturity structure, because the government must frequently roll over large parts of its debt, notably in countries without an automated book-entry system. Third, the maturity structure is important for investors as they seek to diversify their asset portfolios. In many African countries, government debt is the only investment opportunity besides lending to the private sector, since stock markets are either absent or highly illiquid (Gelbard and Pereira Leite, 1999). The provision of government longer-term paper is therefore highly important for investors to balance their long-term liabilities with long-term assets and for banks to increase profitability by taking on interest rate risk.

However, the government may experience several obstacles in pursuing a longer-term debt portfolio. First, the market may not be willing to hold long-term paper in view of significant inflation and default risks. Second, it may not be sufficiently advanced to demand long-term paper, especially in the absence of institutional investors (Impavido, Musalem, and Tressel, 2003). Finally, the government may hesitate to extend the maturity, since longer-term bonds can entail higher interest rates, in view of a rising yield curve, which would increase financing costs.

III. Characteristics of Domestic Debt Markets in Non-CFA SSA Countries

Developments in Domestic Debt: 1980–2000

Table 1 shows developments in domestic and external debt for 27 non-CFA SSA countries for the period 1980–2000. It is apparent that domestic debt is not a recent phenomenon in African countries; most of the countries have relied on domestic borrowing since the beginning of the observation period. However, the average ratio of domestic debt increased from 11 percent of GDP in the 1980s to 15 percent in the late 1990s, with the median increasing from 4 percent to 10 percent over the same period. An increasing number of countries became heavily domestically indebted, and the number of countries with debt-to-GDP ratios exceeding 20 percent rose from three at the beginning of 1980 to nine by 2000.

There are wide differences across the countries with respect to the size of government securities markets. One group of countries has relied extensively on domestic debt since the beginning of the period. This group includes Ethiopia, Kenya, Mauritius, Nigeria, South Africa, Tanzania, Zambia, and Zimbabwe. In contrast, countries such as Angola, Botswana, the Democratic Republic of the Congo, Mozambique, and São Tomé and Príncipe have not used or have only recently developed government securities markets.[3] Between these extremes, there is a vast group of countries that either have fairly small debt markets or have recently experienced a considerable increase in their domestic debt burden, including The Gambia, Ghana, Namibia, and Seychelles.

[3]Botswana and Mozambique have fairly developed markets for central bank notes.

Table 1. Domestic and External Debt, 1980–2000

(In percent of GDP, unless otherwise indicated)

Country	Type of Domestic debt[1]	Domestic debt			External debt			Total debt			Domestic/total debt (In percent)		
		1980–89	1990–94	1995–2000	1980–89	1990–94	1995–2000	1980–89	1990–94	1995–2000	1980–89	1990–94	1995–2000
Angola	. . .	0	0	0	158	113	81	158	113	81	0	0	0
Botswana	. . .	0	0	0	5	4	10	5	4	10	0	0	0
Burundi	TB, TC	3	2	6	40	96	138	44	98	144	8	2	4
Cape Verde	TB	0	11	34	42	42	40	42	53	74	0	20	46
Congo, Dem. Rep. of	. . .	0	0	0	50	126	254	50	126	254	0	0	0
Ethiopia	TB, B	16	19	10	31	115	109	47	134	120	34	14	9
Gambia, The	TB, DN, S	3	13	23	80	84	104	83	96	127	3	13	18
Ghana	TB	12	8	24	19	55	83	32	64	106	38	13	22
Guinea	TB	. . .	. . .	. . .	0	0	91	. . .	. . .	. . .	. . .	. . .	. . .
Kenya	TB, B, S	21	23	22	61	77	52	81	100	74	25	23	29
Lesotho	TB, B	8	8	5	40	49	58	48	58	62	17	15	8
Madagascar	TB	3	3	3	71	120	110	74	123	113	4	2	2
Malawi	TB, S	13	8	9	65	100	126	78	109	135	16	7	7
Mauritius	TB, S	27	29	33	39	21	15	66	50	48	41	57	69
Mozambique	. . .	0	0	0	75	207	121	75	207	122	0	0	0
Namibia	TB	0	8	19	0	4	2	0	12	21	. . .	69	89
Nigeria	TB, B, TC, S	28	29	16	49	93	80	77	122	97	37	24	17

Table 1. *(Concluded)*

Country	Type of Domestic debt[1]	Domestic debt			External debt			Total debt			Domestic/total debt (In percent)		
		1980–89	1990–94	1995–2000	1980–89	1990–94	1995–2000	1980–89	1990–94	1995–2000	1980–89	1990–94	1995–2000
Rwanda	TB, B	8	9	5	17	55	70	25	65	75	31	14	7
São Tomé and Príncipe	. . .	0	0	0	155	422	643	155	422	643	0	0	0
Seychelles	TB, B, S	14	45	68	29	24	20	43	69	88	33	65	77
Sierra Leone	TB, B, S	13	5	7	34	94	143	47	99	150	28	5	5
South Africa	TB, B	30	37	45	0	0	0	30	37	45	100	100	100
Swaziland	TB, B, S	4	1	1	20	21	16	24	22	17	16	5	7
Tanzania	TB, S	26	6	12	71	131	100	96	137	112	27	5	11
Uganda	TB, S	2	1	2	0	73	57	2	74	59	100	1	4
Zambia	TB, B	25	9	6	134	178	196	159	186	202	16	5	3
Zimbabwe	TB, B, S	35	29	37	27	34	48	62	63	86	56	45	44
Average		11	12	15	49	87	103	62	102	118	25	19	22
HIPC		9	6	8	56	124	156	69	138	169	22	6	6
Decision point reached[2]		10	7	8	58	126	150	73	143	164	25	7	7
Eligible[3]		2	1	3	45	111	196	47	112	199	4	1	2
Non-HIPC[4]		14	18	23	39	40	35	53	59	59	30	35	40

Sources: IMF staff reports; and selected central bank statistics.

[1]TB=Treasury bills; TC=Treasury certificates; B=Bonds; S=Government stocks; DN=Discount note series; HIPC=Heavily Indebted Poor Countries.

[2]Includes Ethiopia, The Gambia, Ghana, Guinea, Madagascar, Malawi, Mozambique, Rwanda, São Tomé and Príncipe, Sierra Leone, Tanzania, and Uganda.

[3]Includes Burundi and the Democratic Republic of the Congo.

[4]Includes Angola, Botswana, Cape Verde, Kenya, Lesotho, Mauritius, Namibia, Nigeria, Seychelles, South Africa, Swaziland, and Zimbabwe.

Table 1 also shows that the domestic debt burden in HIPCs is much smaller than in non-HIPCs. HIPCs, which, almost by definition, have relied heavily on foreign financing, have not developed their domestic debt markets to the same degree as non-HIPCs. On average, domestic debt in HIPCs amounted to about 8 percent of GDP, although this ratio increased slightly in the latter half of the 1990s, mostly because of large increases in outstanding domestic debt in Ghana and The Gambia. However, other HIPCs have managed to obtain significant reductions in the ratio of domestic debt to GDP over the same period, notably Ethiopia and Zambia. In contrast, domestic debt markets have grown steadily in non-HIPCs, as the average ratio of domestic debt to GDP increased from 14 percent in the 1980s to 23 percent by the end of the 1990s.

Finally, Table 1 shows that while domestic debt stocks have grown in recent years relative to GDP, their size is still negligible compared with the size of foreign indebtedness. Domestic debt accounted for just over one-fifth of total debt in the latter half of the 1990s, slightly lower than in the 1980s. However, there are marked differences between HIPCs and non-HIPCs. While domestic debt financing has grown relative to foreign borrowing in non-HIPCs, domestic borrowing in HIPCs has been dominated by a huge accumulation of external debt in the 1990s. As a result, the ratio of domestic debt to total debt between the two groups diverged significantly in the 1990s, from relatively similar levels in the 1980s as the proportion of domestic debt fell to less than 10 percent of total debt in HIPCs while increasing to almost 40 percent in non-HIPCs by the end of the 1990s.

As mentioned above, the potential for expanding domestic debt depends on the depth of the financial sector. A useful indicator in that regard is the ratio of broad money to GDP. Table 2 shows that African financial sectors generally appear to be relatively small and, on average, they tend to be much smaller in HIPCs than in non-HIPCs. The "deepest" financial sectors were found in Cape Verde, Kenya, Mauritius, Seychelles, and South Africa, where broad money amounted to more than 50 percent of GDP in the late 1990s.

The small financial sectors in most countries limit the potential for expanding domestic debt. The ratio of domestic debt to broad money is shown in Table 2. A number of countries had very large ratios of domestic debt to broad money at the end of the 1990s, including The Gambia, Ghana, Nigeria, Seychelles, South Africa, and Zimbabwe. The ratio for Ghana was even larger than 100 percent. Interestingly, the average ratio is almost the same in HIPCs as in non-HIPCs, even though the former group has much less domestic debt. In other words, the potential for expanding domestic debt in HIPCs appears to be more limited, particularly in The Gambia, Ghana, Malawi, Sierra Leone, and Tanzania, compared with non-HIPCs, because further expansions of domestic debt in HIPCs would decrease the availability of commercial bank resources and, thereby, curb credit to the private sector.

The Investor Base

As mentioned above, a diverse investor base is crucial to lowering the cost of government debt and the volatility of market yields. Furthermore, a narrow investor base, consisting mainly of commercial banks, increases the risk of crowding out

Table 2. Financial Sector Depth and Domestic Debt, 1980–2000

	M2 (In percent of GDP)			Domestic Debt (In percent of M2)		
Country	1980–89	1990–94	1995–2000	1980–89	1990–94	1995–2000
Angola	107	72	18	0	0	0
Botswana	19	20	21	0	0	0
Burundi	18	18	19	19	11	30
Cape Verde	47	64	64	0	17	53
Congo, Dem. Rep. of	8	14	7	0	0	0
Ethiopia	28	41	41	57	47	25
Gambia, The	21	22	29	13	57	80
Ghana	15	16	22	83	47	106
Guinea	10	9	10	. . .	. . .	. . .
Kenya	29	38	50	71	63	44
Lesotho	49	34	31	18	25	16
Madagascar	21	22	21	15	13	12
Malawi	22	22	16	59	38	57
Mauritius	47	67	77	57	44	43
Mozambique	37	22	21	0	0	1
Namibia	12	30	42	0	25	44
Nigeria	27	21	17	106	137	95
Rwanda	13	16	17	62	59	30
São Tomé and Príncipe	59	31	32	0	0	0
Seychelles	32	42	78	43	107	86
Sierra Leone	19	12	14	71	38	50
South Africa	56	53	56	53	71	81
Swaziland	33	32	26	12	3	4
Tanzania	27	17	16	93	38	74
Uganda	9	8	13	24	7	16
Zambia	17	20	19	145	44	30
Zimbabwe	27	22	42	129	130	91
Average	31	30	32	39	39	42
HIPC	23	20	21	38	27	37
Decision point reached[1]	24	21	22	43	31	41
Eligible[2]	13	16	13	9	6	15
Non-HIPC[3]	41	41	43	41	52	46

Sources: IMF staff reports; and selected central bank statistics.

Notes: HIPC=Heavily Indebted Poor Countries; M_2=M2 money supply.

[1]Includes Ethiopia, The Gambia, Ghana, Guinea, Madagascar, Malawi, Mozambique, Rwanda, São Tomé and Príncipe, Sierra Leone, Tanzania, and Uganda.

[2]Includes Burundi and the Democratic Republic of the Congo.

[3]Includes Angola, Botswana, Cape Verde, Kenya, Lesotho, Mauritius, Namibia, Nigeria, Seychelles, South Africa, Swaziland, and Zimbabwe.

private investment, especially in SSA countries where private companies have to rely on bank financing, given the absence of corporate debt markets. As such, an important component of debt management is stimulating a diverse investor base and developing instruments, trading facilities, and distribution networks that best suit the needs of investors (World Bank and IMF, 2001). In most developed market economies, there are traditionally four general categories of potential investors

in government securities instruments: domestic and foreign and, for each of these categories, the banking sector (composed of commercial banks as well as central banks) and the nonbank sector, consisting of the contractual savings sector (pension funds), collective investment funds, and nonfinancial entities such as nonfinancial corporations and individual investors. The presence of foreign investors in African securities markets is generally limited. To date, only a few countries have had active participation of foreign investors in their debt markets, which may be a result of underdeveloped trading facilities, high country risk, and capital account restrictions.

Commercial banks are the main holders of government debt in the African debt market, holding half of all outstanding domestic debt (Table 3). While they enjoy a relatively high income from government debt, their large holdings of domestic debt may reflect some fundamental shortcomings in their commercial banking operations (World Bank and IMF, 2001). These shortcomings include institutional weaknesses that undermine lending to the private sector, given ineffective screening and monitoring capabilities of loans, little reliable information on creditworthy borrowers, and weak legal systems (such as a lack of commercial courts to settle payment disputes).[4]

The nonbank sector was found to be the second biggest holder, accounting for one-third of outstanding debt. The limited role played by the nonbank sector compared with commercial banks may be attributed to the absence of large-scale institutional investors in the nonbank sector. However, the nonbank sector has played an important role in Kenya, Madagascar, Mauritius, Rwanda, and South Africa. Insurance companies and pension funds were in these cases the most common investors, but building societies, post office savings banks, public enterprises, and the general public also played a role.

Finally, central banks accounted for a modest share of government debt, with the exception of Burundi, Nigeria, and Tanzania. While such holdings can be utilized for monetary policy purposes, central bank purchases of government debt are basically identical to monetizing budget deficits.

Real Treasury Bill Rates and Financial Sector Reforms

Financial systems in most African countries were highly controlled in the 1980s. However, many countries embarked on a series of financial sector reforms in the late 1980s aimed at liberalizing their financial sectors to improve financial intermediation. In many cases, these reforms included a move toward more liberal government debt markets based on flexible and market-determined interest rates, subject to the level of inflation, the amount of outstanding debt, and the risk of default. This replaced a system in which the government often had forced the state-controlled financial system to hold government debt despite minimal returns.

[4]A good measure of these shortcomings is the number of nonperforming loans (NPLs). Mehran and others (1998) found that the ratio of NPLs to total loans averaged 16 percent in 16 non-CFA countries. The ratio was significantly higher for HIPCs than for non-HIPCs, with almost one-fourth of total loans recorded as NPLs in the former group.

Table 3. Holdings of Government Debt Across Sectors
(In percent)

Country	Banking Sector			Nonbank Sector
	Total	Central bank	Commercial banks	
Burundi	77	55	22	23
Cape Verde	78	30	48	22
Ethiopia	81	24	57	19
Gambia, The	52	0	52	48
Ghana	66	27	39	34
Kenya	50	11	39	50
Lesotho	81	1	80	19
Madagascar	. . .	. . .	. . .	. . .
Malawi	100	0	100	0
Mauritius	45	5	40	55
Nigeria	96	66	30	4
Rwanda	21	0	21	79
Seychelles	86	0	86	14
Sierra Leone	63	4	60	37
South Africa	. . .	. . .	. . .	. . .
Swaziland	66	0	66	34
Tanzania	86	44	42	14
Uganda	90	17	73	10
Zambia	78	0	77	22
Zimbabwe	53	19	35	47
Average	70	17	54	30
HIPC	71	17	54	29
Decision point reached[1]	71	13	58	29
Eligible[2]	77	55	22	23
Non-HIPC[3]	69	16	53	31

Note: HIPC=Heavily Indebted Poor Countries.
[1]Includes Ethiopia, The Gambia, Ghana, Guinea, Madagascar, Malawi, Mozambique, Rwanda, São Tomé and Príncipe, Sierra Leone, Tanzania, and Uganda.
[2]Includes Burundi and the Democratic Republic of the Congo.
[3]Includes Angola, Botswana, Cape Verde, Kenya, Lesotho, Mauritius, Namibia, Nigeria, Seychelles, South Africa, Swaziland, and Zimbabwe.

Whereas real interest rates on bonds were often negative in the prereform period, in the early 1990s they needed to increase to more positive realms to make bonds attractive.

The positive impact of these reforms on financial development and liberalization is evident from the index numbers in the first two columns of Table 4. These numbers are drawn from Gelbard and Pereira Leite (1999) and comprise six subcategories, each based on the following additional subindicators: (1) market structure, (2) financial products, (3) financial liberalization, (4) institutional environment, (5) financial openness, and (6) monetary policy instruments. A higher index number corresponds to a more developed financial system. It can be

Table 4. Financial Development, Real Treasury Bill Rates, and Private Sector Lending, 1980–2000

	Financial Development (Index)[1]		Real Treasury Bill Rates (In percent)			Credit to Private Sector (In percent of broad money)		
Country	1987	1997	1980–89	1990–94	1995–2000	1980–89	1990–94	1995–2000
Angola	9	21	. . .	. . .	. . .	. . .	. . .	14
Botswana	47	62	. . .	. . .	. . .	40	54	51
Burundi	. . .	. . .	. . .	. . .	. . .	42	63	72
Cape Verde	34	54	. . .	. . .	6	. . .	. . .	44
Congo, Dem. Rep. of	20	52	. . .	. . .	. . .	23	7	. . .
Ethiopia	9	23	(2)	(5)	2	11	9	46
Gambia, The	43	60	(4)	9	11	77	44	36
Ghana	31	75	(32)	5	5	19	26	38
Guinea	30	50	. . .	14	8	. . .	. . .	. . .
Kenya	44	75	5	8	15	68	57	60
Lesotho	20	44	(1)	(0)	5	26	48	53
Madagascar	38	63	. . .	(11)	(1)	103	79	48
Malawi	24	47	(6)	(2)	(4)	61	51	29
Mauritius	62	85	(2)	0	3	53	56	68
Mozambique	24	53	. . .	. . .	9	. . .	43	58
Namibia	42	72	. . .	3	8	. . .	90	96
Nigeria	27	61	(12)	(19)	(10)	52	47	65
Rwanda			. . .	. . .	. . .	49	43	53
São Tomé and Príncipe	22	30	. . .	. . .	. . .	. . .	. . .	25
Seychelles			8	11	6	36	18	19
Sierra Leone			(49)	(15)	(2)	22	25	19
South Africa	77	87	(2)	1	7	93	110	121
Swaziland	43	60	(4)	0	4	65	75	64
Tanzania	30	65	. . .	17	2	14	54	22
Uganda	36	64	(101)	2	4	29	40	38
Zambia	47	75	(27)	(71)	9	40	36	41
Zimbabwe	38	65	(5)	(4)	2	43	84	89
Average	34	58	(16)	(3)	4	46	50	51
HIPC	28	53	(32)	(6)	4	41	40	40
Decision point reached[2]	29	53	(32)	(6)	4	42	41	38
Eligible[3]	20	52	. . .	. . .	. . .	32	35	72
Non-HIPC[4]	40	62	(1)	(0)	4	53	64	62

Sources: IMF, *International Financial Statistics;* and Gelbard and Pereira Leite (1999).

Notes: Numbers in parentheses are negative; HIPC=Heavily Indebted Poor Countries.

[1]Numbers based on Gelbard and Leite (1999).

[2]Includes Ethiopia, The Gambia, Ghana, Guinea, Madagascar, Malawi, Mozambique, Rwanda, São Tomé and Príncipe, Sierra Leone, Tanzania, and Uganda.

[3]Includes Burundi and the Democratic Republic of the Congo.

[4]Includes Angola, Botswana, Cape Verde, Kenya, Lesotho, Mauritius, Namibia, Nigeria, Seychelles, South Africa, Swaziland, and Zimbabwe.

seen that the financial systems improved in virtually all countries, with the largest improvements observed in HIPCs (although they came from the lowest base).

The liberalization of the financial system appears to have been accompanied by a sharp rise in real interest rates (Table 4). At the end of the 1990s, all countries had positive real treasury bill rates except for Madagascar, Malawi, Nigeria, and Sierra Leone. In comparison, 13 of 15 countries for which data were available had negative real treasury bill rates during the 1980s. In contrast, real treasury bill rates in The Gambia and Kenya exceeded 10 percent at the end of the 1990s. As noted above, financial sectors in HIPCs developed more rapidly than in non-HIPCs, and this may also explain why they witnessed the largest increase in real treasury bill rates, from an average of −32 percent in the 1980s to 4 percent by the end of the 1990s. In contrast, securities markets in non-HIPCs were already relatively liberal in the 1980s, and only small increases were needed to achieve positive real treasury bill rates.

Maturity Structure

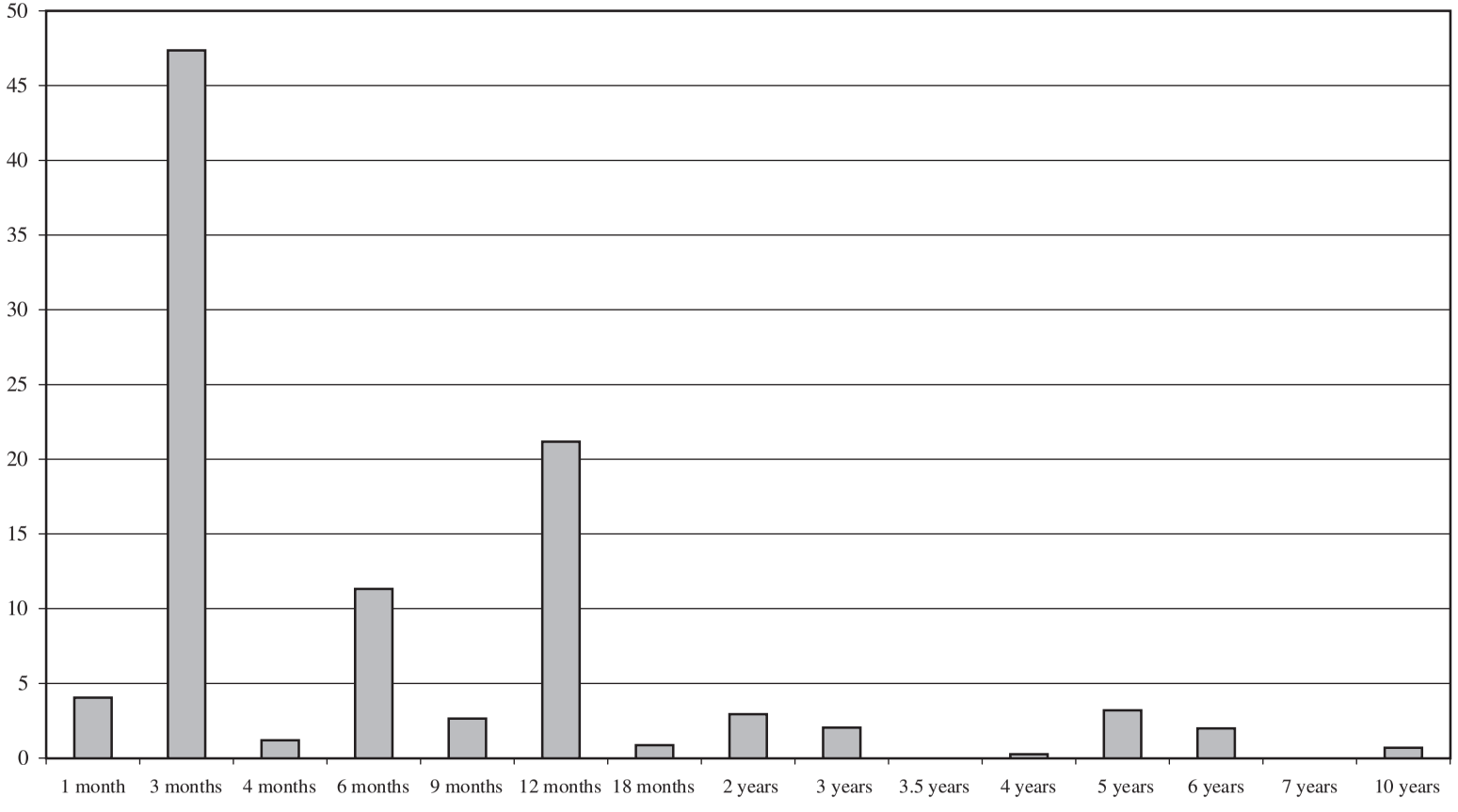
The maturity structure of government debt can affect both the costs and risks of using domestic debt instruments. In general, the government should attempt to issue debt whose maturity mirrors the maturity structure of short-term current and long-term capital expenditures. However, governments may be tempted to issue mainly short-term debt if the yield curve slopes sufficiently upward. Furthermore, while there are obvious benefits to extending the maturity structure, including a reduction in market and rollover risks, the market may not be ready to absorb long-term paper, especially if there is considerable macroeconomic instability. In addition, the absence of a contractual savings sector and mutual funds with sufficiently long investment horizons may also limit the ability of the government to extend the maturity structure. To some extent, the length of the maturity structure can be viewed as a measure of the degree of market development.

Short-term paper dominates debt markets in Africa (Figure 1). Three-month bills are the most frequently used, accounting for almost 50 percent of outstanding debt stocks (implying that African governments, on average, must roll over half of their debt portfolio four times a year). The second most common maturity is 12 months, accounting for about one-fifth of the bonds, while one-tenth of all bonds have a 6-month maturity.

The average maturity for the African countries is 231 days, or about 10 months (Table 5). Domestic debt markets in HIPCs appear to have the shortest maturity structure: 177 days. Burundi has the shortest average maturity, with 77 days, closely followed by Uganda, with 93 days. In contrast, non-HIPCs benefiting from more sophisticated markets have longer maturities: South Africa and Swaziland top the list with an average maturity length of 1,748 and 1,145 days, respectively.

As mentioned above, the dominance of short-term paper in African securities markets greatly increases rollover and market risk, especially in countries with large outstanding debt stocks. Financial liberalization has led to more interest rate flexibility and made countries with a large amount of short-term debt vulnerable to changes in market conditions. Some governments must roll over debt amounting to one-fourth of GDP three or four times a year (on average).

Figure 1. Average Maturity Structure of Domestic Debt in 14 Non-CFA SSA Countries



Source: Author's calculations.
Note: SSA = Sub-Saharan Africa

Table 5. Average Maturity of Domestic Debt for Selected African Countries and Emerging Market Countries

Country	Domestic Debt/GDP (In percent)[1]	GDP Per Capita (In U.S. dollars)[2]	Maturity (In days)
Burundi	9	141	77
Uganda	2	348	93
Gambia, The	31	371	112
Ghana	29	413	122
Malawi	11	169	177
Sierra Leone	10	147	190
Lesotho	11	551	203
Nigeria	21	254	228
Cape Verde	26	1,519	256
Zambia	5	392	296
Rwanda	6	242	351
Kenya	22	328	382
Namibia	19	2,408	859
Swaziland	1	1,476	1,145
South Africa	41	3,985	1,748
Average	15	850	231
HIPC	13	293	177
Non-HIPC	17	1,089	512
Memorandum items:			
Mexico	23	3,819	720
Brazil	. . .	4,624	1,085
Italy	105	20,885	1,376
Lithuania	. . .	2,056	1,715
India	. . .	459	3,050
New Zealand	35	17,548	3,720
Average	54	8,232	1,945

Sources: Selected country staff reports; World Bank and IMF (2001).
Note: HIPC=Heavily Indebted Poor Countries.
[1]Data for 2000.
[2]GDP per capita (at constant 1995 U.S. dollars) in 2000.

The short-term nature of African debt markets is even more evident compared with debt markets in more developed countries. In six developed and emerging market countries for which data were available, the average maturity was about five and half years, or seven times longer than in African countries. Roughly speaking, maturity length seems to be more closely related to general economic development (in terms of per capita income) than to the size of debt markets (relative to GDP). As a country gains wealth (with the exception of India) and the demand for more sophisticated economic arrangements expands, the need for longer-term savings instruments increases. This implies that as African countries continue to develop, their debt markets may be expected to become more advanced and long term. This would help reduce the significant risks of portfolios that are dominated by short-term debt. A word of caution may be necessary in that some fairly poor countries

have expanded their debt markets significantly in relatively undeveloped financial market settings—thereby ending up with sizable amounts of short-term debt, causing a significant burden on, and risk to, the budget.

IV. The Impact of Domestic Debt on the Budget and Private Sector Credit

Budget Implications

A key concern regarding domestic debt management is the cost, in terms of amortization and interest payments, to the budget. This section will focus on interest, since most African governments have been net borrowers in domestic markets, rolling over existing debt. Two issues deserve attention: (1) the interest burden on the budget and (2) the relative cost of domestic versus foreign borrowing.

Domestic interest payments are sizable compared with revenues and GDP (Table 6). Average interest payments, as a percentage of revenues, increased in both HIPCs and non-HIPCs over the period 1980–2000. However, there are large variations among countries—Ethiopia, Lesotho, Madagascar, Nigeria, and Rwanda have cut their interest payments significantly as their debt stocks have fallen. In contrast, The Gambia, Ghana, Malawi, Sierra Leone, and Zimbabwe have witnessed a sharp increase in domestic interest payments, to more than 15 percent of their revenues. Relative to GDP, domestic interest payments, on average, account for more than 2 percent of GDP in these countries. The ratio is slightly higher in non-HIPCs than in HIPCs.

Surprisingly, domestic interest payments are as large as foreign ones, despite much lower levels of domestic than foreign debt. In fact, domestic interest payments exceeded foreign interest payments in 10 (half of which were HIPCs) of the 22 countries for which data were available. Despite the drastic decline in domestic-to-total-debt ratio in HIPCs, domestic interest payments as a percentage of total interest payments remained relatively constant at about 40 percent throughout the period. Furthermore, domestic interest payments in HIPCs account for almost the same share of total interest payments as in non-HIPCs, despite much smaller domestic debt relative to foreign debt in HIPCs. Hence, in addition to the large foreign interest burden, recently highlighted by the HIPC Initiative, African governments have to pay a significant part of their revenues to service domestic debt.

The significant domestic interest burden is a result of relatively high domestic interest rates. Various comparisons of the cost of domestic versus foreign borrowing suggest that domestic interest rates are much higher than foreign ones (Table 7). To measure the cost of borrowing, the average implicit interest rates for both domestic and foreign borrowing were calculated by dividing the interest payments in the budget by the actual debt stock.[5] At the end of the 1990s, the implicit domes-

[5]A more common approach is to look at the uncovered interest rate parity. However, using foreign market interest rates for African countries may overstate the cost, since most of their borrowing is on highly concessional terms with interest rates well below market rates. The implicit interest rate calculates the average interest rate, which takes into account (ex post) exchange rate depreciation.

Table 6. Domestic Interest Payments, 1980–2000

Country	In Percent of Total Debt Service			In Percent of Revenues[1]			In Percent of GDP		
	1980–1989	1990–94	1995–2000	1980–1989	1990–94	1995–2000	1980–1989	1990–94	1995–2000
Angola	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Botswana	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Burundi	54.8	28.0	34.5	2.9	2.9	5.1	0.5	0.5	0.9
Cape Verde	20.4	38.8	69.2	1.8	2.4	11.0	0.3	0.5	2.2
Congo, Dem. Rep. of	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Ethiopia	74.6	68.8	64.9	4.1	11.6	8.1	0.8	1.5	1.5
Gambia, The	33.4	53.9	72.8	6.7	9.1	18.1	1.4	2.0	3.3
Ghana	. . .	66.6	73.6	. . .	11.9	24.4	. . .	1.8	4.3
Guinea	. . .	4.0	14.4	. . .	0.6	2.0	. . .	0.1	0.2
Kenya	64.1	71.7	74.5	13.4	22.2	15.9	3.1	5.7	4.2
Lesotho	. . .	70.2	40.6	5.0	6.3	1.7	1.8	2.6	0.7
Madagascar	21.0	32.5	20.7	2.5	9.4	5.9	0.3	0.9	0.6
Malawi	92.1	54.8	64.4	24.1	10.5	17.4	4.6	2.0	2.9
Mauritius	62.8	80.6	85.8	14.7	13.2	14.9	3.3	3.0	2.9
Mozambique	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Namibia	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Nigeria	54.7	38.1	37.4	20.6	25.4	9.7	2.2	3.3	1.6
Rwanda	63.9	71.4	41.0	4.1	25.1	7.4	0.6	1.6	0.6
São Tomé and Príncipe	. . .	. . .	2.5	. . .	. . .	1.3	. . .	. . .	0.2
Seychelles	. . .	. . .	85.7	. . .	. . .	16.8	. . .	. . .	7.5
Sierra Leone	42.9	31.2	48.7	17.4	11.7	24.9	1.3	1.3	2.0
South Africa	95.5	97.9	96.1	12.4	19.1	22.1	2.9	4.4	5.3
Swaziland	32.5	16.8	25.1	1.8	0.5	0.5	0.5	0.1	0.1
Tanzania	78.3	51.9	54.5	11.9	8.8	10.6	1.6	1.1	1.4
Uganda	. . .	14.4	29.4	. . .	3.2	2.6	. . .	0.2	0.3
Zambia	33.4	29.7	31.5	11.0	11.3	10.2	2.4	3.0	2.0
Zimbabwe	72.1	72.3	73.7	9.9	12.9	21.7	2.7	3.4	6.0
Average	56.0	49.7	51.9	9.7	10.9	11.5	1.8	2.0	2.3
HIPC	54.9	42.3	42.5	9.4	9.7	10.6	1.5	1.3	1.6
Decision point reached[2]	54.9	43.6	43.2	10.2	10.3	11.1	1.6	1.4	1.6
Eligible[3]	54.8	28.0	34.5	2.9	2.9	5.1	0.5	0.5	0.9
Non-HIPC[4]	57.5	60.8	65.3	9.9	12.7	12.7	2.1	2.9	3.4

Sources: IMF, staff reports and *International Financial Statistics.*

Note: HIPC=Heavily Indebted Poor Countries.

[1]Excluding grants.

[2]Includes Ethiopia, The Gambia, Ghana, Guinea, Madagascar, Malawi, Mozambique, Rwanda, São Tomé and Príncipe, Sierra Leone, Tanzania, and Uganda.

[3]Includes Burundi and the Democratic Republic of the Congo.

[4]Includes Angola, Botswana, Cape Verde, Kenya, Lesotho, Mauritius, Namibia, Nigeria, Seychelles, South Africa, Swaziland, and Zimbabwe.

Table 7. The Cost of Domestic and Foreign Borrowing

	Nominal Treasury Bill Rate[1]			Implicit Domestic[2]			Implicit Foreign[2]		
Country	1980–89	1990–94	1995–2000	1980–89	1990–94	1995–2000	1980–89	1990–94	1995–2000
Angola	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Botswana	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Burundi	. . .	. . .	12	16	25	16	2	1	1
Cape Verde	. . .	. . .	8	. . .	2	6	2	2	2
Congo, Dem. Rep. of	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Ethiopia	3	7	6	5	9	14	1	1	1
Gambia, The	13	17	14	32	16	15	3	2	1
Ghana	17	28	37	. . .	31	19	. . .	2	2
Guinea	. . .	18	12	. . .	. . .	. . .	. . .	. . .	1
Kenya	12	33	22	13	24	20	3	3	3
Lesotho	13	13	13	11	29	18	2	2	2
Madagascar	. . .	14	16	9	31	26	2	2	2
Malawi	12	18	35	36	24	38	2	2	1
Mauritius	10	9	10	13	10	9	5	3	3
Mozambique	. . .	. . .	17	. . .	. . .	. . .	. . .	. . .	. . .
Namibia	. . .	15	15	. . .	. . .	. . .	. . .	. . .	. . .
Nigeria	9	17	13	7	12	10	5	6	4
Rwanda	8	. . .	. . .	8	17	12	1	1	1
São Tomé and Príncipe	. . .	. . .	. . .	. . .	. . .	. . .	. . .	2	2
Seychelles	12	13	9	. . .	. . .	8	. . .	. . .	6
Sierra Leone	14	50	20	17	31	27	3	3	1
South Africa	13	14	14	10	12	12	. . .	. . .	. . .
Swaziland	11	11	12	13	13	13	2	3	3
Tanzania	. . .	47	17	8	17	12	1	1	1
Uganda	21	27	10	. . .	35	16	. . .	2	1
Zimbabwe	8	22	37	8	12	18	4	4	3
Average	12	22	18	14	21	17	3	2	2
HIPC	12	28	20	16	25	21	2	2	1
Decision point reached[3]	12	28	20	16	25	21	2	2	1
Eligible[4]	. . .	. . .	8	. . .	2	6	2	2	2
Non-HIPC[5]	11	16	15	11	14	12	3	3	3

Sources: IMF, *International Financial Statistics* and country reports; and author's calculations.

Note: HIPC=Heavily Indebted Poor Countries.

[1]Nominal treasury bill rates.

[2]The implicit interest rate was calculated by dividing the interest payments in the budget by the actual debt stock and multiplying by 100.

[3]Includes Ethiopia, The Gambia, Ghana, Guinea, Madagascar, Malawi, Mozambique, Rwanda, São Tomé and Príncipe, Sierra Leone, Tanzania, and Uganda.

[4]Includes Burundi and the Democratic Republic of the Congo.

[5]Includes Angola, Botswana, Cape Verde, Kenya, Lesotho, Mauritius, Namibia, Nigeria, Seychelles, South Africa, Swaziland, and Zimbabwe.

tic interest rate was found to average about 17 percent, compared with 2 percent for foreign borrowing. At the same time, implicit domestic borrowing costs were found to be higher in HIPCs than in non-HIPCs. Implicit domestic interest rates are similar to nominal treasury bill rates.

What makes a government borrow domestically when the interest rates are much higher? First, amortization on external borrowings requires foreign exchange. Hence, external vulnerability may increase dramatically if external indebtedness rises significantly. In contrast, the authorities can, at least in the short run, roll over domestic debt without major macroeconomic implications. Second, to limit external vulnerability, many Fund-supported programs in poor countries include a cap on nonconcessional borrowing. Thus, if the governments in these countries cannot obtain sufficient concessional foreign assistance to meet their financing requirements, they must resort to relatively expensive domestic borrowing rather than filling the financing gap by more favorable nonconcessional foreign borrowing.

Impact on Private Sector Credit

As mentioned above, domestic debt can crowd out private sector credit with adverse consequences for private investment. To examine this effect, a simple panel data model was estimated, regressing private sector lending on domestic debt (both variables were in percentage of broad money) for the 27 countries over the period 1980–2000. The results from this regression (shown in Table 8) yielded significant support for the crowding-out hypothesis: on average across countries, an expansion in domestic debt of 1 percent relative to broad money causes the ratio of private sector lending to broad money to decline by 0.15 percent.

The Gambia showed one of the strongest decreases in the ratio of private sector lending to broad money, dropping from about three-fourths to about one-third during the 20-year period from 1980 to 2000. This coincided with a strong expansion in domestic borrowing as the ratio of domestic debt to broad money rose to 106 percent by the end of the 1990s from an average of 13 percent in the 1980s. Another interesting case is Malawi, which witnessed a sharp reduction in private sector lending in the latter half of the 1990s. Despite a relatively small ratio of domestic debt to GDP, domestic debt assumed a relatively large proportion of broad money, given the relatively underdeveloped financial sector (see Table 4). One exception is South Africa, where the ratio of credit to the private sector increased despite expansion in domestic debt. This can be attributed to the small

Table 8. Regression Results

	Domestic Debt		Constant			
	Coef.	Std. error	Coef.	Std. error	Observations	R^2
Private Sector Credit	–0.15	(0.03)	52.7	(1.54)	492	0.0007

Note: Both variables in percent of M2.

commercial bank holdings of government debt, which helped reduce the negative impact of debt expansion on private sector lending.

V. Conclusion, Policy Implications, and Need for Reforms

This study has examined different features of domestic debt markets in non-CFA sub-Saharan African countries. Overall, the use of domestic debt instruments is not a recent phenomenon; 19 out of 27 countries had domestic debt markets in 1980, a number that had increased to 21 by the year 2000. The ratio of domestic debt increased from 11 percent in the 1980s to 15 percent of GDP by the end of the 1990s. However, the domestic debt burden is still small compared with foreign indebtedness.

Even though the ratio of domestic debt to GDP is modest, domestic borrowing still assumes a large part of financial resources, given the thin and shallow financial markets in the countries. The ratio of domestic debt to broad money was constant at about 40 percent throughout the period, although some countries had ratios of almost 100 percent. Because commercial banks hold more than half of the outstanding domestic debt, expansion in domestic debt has had a significant negative impact on private sector lending. The nonbank sector plays a limited role, given a relatively underdeveloped institutional investment sector in many of the countries. In addition, domestic markets were mainly short term, with the most common maturity being three months; the average maturity for 15 SSA countries for which data were available was only 231 days, far shorter than in selected emerging market countries.

Domestic debt financing was found to be much more expensive than foreign borrowing. This may be explained by the ongoing financial liberalization, which has resulted in sharply rising real treasury bill rates, but also by the fact that most countries borrow externally on highly concessional terms. Consequently, domestic interest payments present the same burden to the budget as the foreign debt does, even though the domestic debt burden comprises only a fraction of the total debt burden. While domestic interest payments, on average, assumed about one-tenth of total revenue, some countries, such as The Gambia, Ghana, Kenya, Malawi, Seychelles, Sierra Leone, South Africa, and Zimbabwe, have to set aside more than 15 percent of their revenues to pay interest on domestic debt.

The study also identified marked differences in the size, cost, and maturity of domestic debt markets between HIPCs and non-HIPCs. Given the significant reliance on external financing, HIPCs have accumulated less domestic debt, although some face a significant domestic debt burden in addition to their large stock of foreign debt. Despite the lower domestic-debt-to-GDP ratio, HIPCs have an almost identical ratio of domestic debt to broad money, given the smaller degree of financial intermediation than in non-HIPCs. Thus, further expansions in domestic debt are more likely to crowd out private investments in HIPCs. HIPCs embarked on comprehensive financial liberalization in the first part of the 1990s, and real interest rates surged considerably as a result. This, combined with a high degree of concessional foreign borrowing, explains why domestic interest payments almost equal foreign ones in these countries, despite smaller amounts of

domestic debt. Further, governments in HIPCs face a much higher market risk as a result of the shorter maturity structure of domestic debt than do governments in non-HIPCs.

The significant debt problems in many countries, both domestic and foreign, raise considerable concern about fiscal sustainability. In the worst case, these debt problems may call for reforms. One option would be to pursue debt reduction schemes for domestic debt similar to the HIPC Initiative. However, an outright reduction in domestic debt would increase liquidity in the system and thereby endanger macroeconomic stability. Instead, one might consider a debt reduction scheme similar to that enacted in Cape Verde, whereby a donor-financed trust fund was established. The foreign exchange from this fund was used to retire domestic debt without injecting liquidity into the system, because the foreign exchange transaction essentially absorbed the liquidity.

Another consideration is that countries could benefit from extending the maturity structure of domestic debt, since Africa's debt markets tend to be of an extremely short duration. While this might entail greater debt-service costs to governments, since bonds with longer terms may carry higher interest rates, it would lower the significant market and rollover risks that they currently face. In light of these countries' nascent capital markets, such reforms should be accompanied by broader reforms that promote long-term paper and strengthen and expand the insurance and pension sectors as well as corporate governance and institutions.

Finally, domestic debt markets would greatly benefit from improved foreign access to holdings of domestic debt. In addition to strengthening competition, which would reduce financing costs, a strong foreign investor presence would contribute to the introduction of financial technology and innovation, thereby leading to higher market efficiency.

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