Financial Reforms and Interest Rate Spreads in the Commercial Banking System in Malawi

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This study investigates the impact of financial sector reforms on interest rate spreads in the commercial banking system in Malawi. The financial reform program commenced in 1989 when both the Reserve Bank Act and the Banking Act were revised with the easing of entry requirements into the banking system, and indirect monetary policy instruments were subsequently introduced in 1990. The adoption of a floating exchange rate in 1994 marked the end of major policy reforms in the Malawian financial sector. Using alternative definitions of spreads, our analysis shows that spreads increased significantly following liberalization, and panel regression results suggest that the observed high spreads can be attributed to high monopoly power, high reserve requirements, high central bank discount rates, and high inflation. [JEL E43, G21, L13]

Financial reforms have been a major component of structural adjustment programs in developing countries. Following the McKinnon (1973)-Shaw (1973) hypothesis, the conventional wisdom is that flexibility and efficiency of the financial system are critical to the growth and development of a market economy. The McKinnon-Shaw hypothesis postulates that government control and intervention in the financial system, which limit the operation of market mechanisms, lead to financial repression, and slow economic growth and development. There has been a large body of empirical work testing the positive relationship between financial

depth (financial liberalization) and economic growth, and the balance of the evidence tends to support the McKinnon-Shaw school of thought.[1]

In Malawi, as in many other sub-Saharan African countries, financial liberalization started in the mid-1980s, generally within the context of structural adjustment programs. Financial liberalization typically involved not only decontrolling interest rates and eliminating credit limits, it also entailed considerable institutional reforms, including new laws and regulations governing the financing sector, the restructuring and privatization of banks, and the adoption of indirect instruments of monetary policy (Mehran and others, 1998). One of the expectations from these financial sector reforms is an increase in the efficiency of the financial system, often reflected in the convergence of intermediation margins towards those observed in developed countries. Recent studies in Latin America and the Caribbean show that interest spreads remain high compared to those of developed countries (Barajas, Steiner, and Salazar, 2000; Randall, 1998) even after financial liberalization, although Barajas, Steiner, and Salazar, (2000) find evidence of marginal decline in bank spreads in Colombia following liberalization.

Our knowledge about bank behavior, pricing, and efficiency in liberalized financial systems in sub-Saharan Africa is limited. There is a clear gap in empirical work on whether financial reforms in sub-Saharan Africa have increased the efficiency of the banking system. This study attempts to contribute to the scanty empirical evidence on the behavior of bank spreads in sub-Saharan Africa by focusing on the pre-liberalization and post-liberalization periods in Malawi. Unlike most studies in the field, this study uses fairly detailed monthly panel data for commercial banks in Malawi, a country that has been under structural reforms since 1981. The main result from the study is that spreads remain high in the period after financial liberalization. Our econometric model shows that the high spreads in the Malawi banking system can be explained by high monopoly power, high reserve requirements, high bank discount rates, and high inflation.

I. Financial Liberalization and Bank Interest Rates in the Literature

A considerable body of literature has highlighted the importance of financial liberalization in facilitating economic development and growth. While there is no complete agreement on the McKinnon-Shaw paradigm that the removal of financial repression, usually characterized by control of interest rates, imposition of credit ceilings, and credit rationing, leads to significant amelioration of growth prospects, the dominant view is that financial liberalization and growth usually go together (Khan and Senhadji, 2000; Levine, 1997; King and Levine, 1993). In earlier studies, however, Agarwala (1983) and Khatkhate (1988) found no evidence supporting the McKinnon-Shaw hypothesis. The conventional view is that financial liberalization can lead to higher growth by increasing the supply of loanable funds through real interest rate increases that attract household savings to bank deposits,

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[1]Levine (1997) provides a comprehensive review of the relationship between financial development and growth. See also Rousseau and Wachtel (1998) and Khan and Senhadji (2000) for more recent empirical evidence.

and by increasing the efficiency of the banking system. Others, however, for example Taylor (1983) and van Wijnbergen (1983), have argued that high interest rates can actually lead to a reduction in economic growth by reducing the demand of businesses for credit.

The role of the financial system in economic development cannot be under-estimated. Banks, as financial intermediaries, play a key role in transforming deposits into financial assets. They channel funds from entities with surplus liquidity to those lacking it, thereby facilitating capital formation and trade. Banks also play a key role in filtering information by screening borrowers and monitoring their activities in financial systems characterized by incomplete and asymmetric information. Their improved efficiency is therefore quite crucial in ensuring the success of financial liberalization.

Banking efficiency is often characterized by the level of intermediation spreads, the difference between lending and deposit rates. Financial systems in developing countries typically show significantly high and persistent spreads (Fry, 1995; Barajas and others, 2000; Randall, 1998). These high intermediation margins have persisted even though most countries have undertaken financial liberalization over the past 15 years or so. Gelbard and Leite (1999) observe that in many sub-Saharan African countries the range of financial products remains extremely limited, interest rate spreads are wide, capital adequacy ratios are often insufficient, judicial loan recovery is a problem, and the share of nonperforming loans is large. Similarly, Brock and Rojas-Suarez (2000) remark that most policymakers in Latin America have been disappointed by the fact that spreads have failed to converge to international levels. The expectation is that the removal of government controls on interest rates and of barriers to entry into the financial system would lead to greater competition and lower profit margins or interest spreads of financial institutions.

Several arguments have been advanced for the failure of interest spreads in developing countries to converge toward those observed in developed countries. A number of authors argue that unless bank behavior changes, financial liberalization cannot be expected to lead to a significant improvement in the efficiency of the financial system, as measured by significant falls in interest spreads.[2] There are several explanations for limited changes in banking behavior, persistent high spreads, and inefficiency following financial liberalization.[3] First, following Bain's (1951) market structure, conduct, and performance (S-C-P) hypothesis in the industrial organization literature, high interest rate spreads may persist if financial sector reforms do not significantly alter the structure within which banks operate. Gibson and Tsakalotos (1994) note that competitive pressures that result from conditions of free entry and competitive pricing will raise the functional efficiency

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[2]The issue of whether interest rate spreads are a good indicator for measuring banking efficiency has been debated in the literature. Sarr (2000) gives an overview of arguments why spreads are not necessarily a good measure for efficiency.

[3]Some authors, while not in favor of high spreads, note the positive role of high interest spreads in developing countries. For instance, Barajas and others (2000) remark that high spreads can be used by banks to strengthen and solidify the banking system by protecting against an inherently high risk, usually related to high monitoring costs in most developing countries. Hence a lowering of spreads could make the banking system more fragile.

of intermediation by decreasing the spread between deposits and lending rates.[4] Although the empirical evidence of a positive and significant relationship between market structure and profitability or interest spreads in banking yields mixed results, there is compelling evidence that market structure plays an important role in altering the behavior of banks and in influencing bank spreads.[5] Most recent studies on bank spreads tend to support the hypothesis that intermediation margins are positively related to market power (Hannan and Liang, 1993; Barajas and others, 1999 and 2000).

Second, in many developing countries without bank deposit insurance, banks are still subject to high liquidity reserve requirements even after financial liberalization. In sub-Saharan Africa, Seck and El Nil (1993) underscore the role of high reserve requirements, which act as an implicit financial tax by keeping interest rates high. While reserve requirements may be designed with the aim of protecting depositors, the availability of a pool of resources allows for financing high fiscal deficits through the implicit financial tax, thereby creating an environment that can promote high inflation and persistent high intermediation margins. The opportunity cost of holding reserves at the central bank, where they earn no or little interest, increases the economic cost of funds above the recorded interest expenses that banks tend to shift to customers. Barajas and others (2000) find evidence of a positive and significant relationship between spreads and liquidity reserves in the Colombian banking system. Brock and Rojas-Suarez (2000) and Saunders and Schumacher (2000) find further evidence suggesting that reserve requirements still act as a tax on banks that translates into higher spreads in a number of Latin American and developed countries, respectively.

Third, the removal of credit controls during financial liberalization may worsen the quality of loans that may in turn lead to increased risks of systemic crises. Brownbridge and Kirkpatrick (2000) note that liberalization of interest rates and removal of credit controls may allow those banks with moral hazard (due to implicit or explicit safety nets or deposit insurance) and those that are not constrained by prudential regulations, to invest in risky assets in order to maintain larger market shares. This may reduce the quality of assets that, in turn, may result in a higher proportion of nonperforming loans and provision for doubtful debts. Banks tend to offset the cost of screening and monitoring due to bad loans and/or the cost of forgone interest revenue by charging higher lending rates (Barajas and others, 1999).[6] These responses are likely to widen the spread between lending and deposit rates. Randall (1998) finds support for the positive and significant association between spreads and provisions for doubtful debts in the Caribbean countries. Brock and Rojas-Suarez (2000), and Barajas and others (1999, 2000) further confirm that the

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[4]Critics of the S-C-P hypothesis, particularly proponents of the efficient market hypothesis following Demsetz (1973) and Peltzman (1977), argue that market concentration is a result of banks' superior efficiency, which leads to larger market shares and profitability.

[5]Among others, also see Gilbert (1984), Berger and Hannan (1989), Civelek and Al-Alami (1991), Molyneux and Forbes (1995), Maudos (1998), Demirgüç-Kunt and Huizinga (1999).

[6]However, most of the extensive literature on credit rationing (see, for example, Baltensperger, 1985, for a comprehensive survey) seems to indicate that banks generally prefer to curtail lending rather than raise interest rates.

cost of poor-quality assets is shifted to bank customers through higher spreads in the Colombian financial system. However, Brock and Rojas-Suarez (2000) find a significant negative relationship in the cases of Argentina and Peru and attribute this to poor provisioning for loan losses and deficiencies in supervisory practices.

Fourth, there is overwhelming evidence that high nonfinancial costs are also a source of persistent and wide intermediation spreads in developing countries. Nonfinancial costs reflect variations in physical capital costs, employment, and wage levels. High nonfinancial costs may result from inefficiency in bank operations that may also be shifted to bank customers, particularly in imperfect markets. Demirgüç-Kunt and Huizinga (1999) find evidence of a positive relationship between net interest margin and overhead costs. Similarly, Barajas and others (1999, 2000) and Brock and Rojas-Suarez (2000) also find significant evidence of the positive relationship between spreads and wages or nonfinancial costs. This may be justified in retail banking markets in order to provide services desired by customers at low fees (Sarr, 2000).

Fifth, Saunders and Schumacher (2000) also note that the capital that banks hold to cushion themselves against expected and unexpected risks may lead to high spreads. Arguably, banks often hold more capital above the regulatory minimum capital requirement for additional credit-risk exposure, and such holdings are relatively more expensive than debt because of taxation. The cost of high regulatory and/or endogenously determined capital ratios may be covered by widening the spread between lending and deposit rates. Saunders and Schumacher (2000) provide evidence in developed countries of the positive and generally significant relationship between spreads and capital ratios. For developing countries, where there are often inadequate rules and regulations governing the functioning of the financial system, Brock and Rojas-Suarez (2000) argue that capital to asset ratios mean very little due to inadequate accounting standards and inappropriate classification of the riskiness of loans.

Sixth, macroeconomic instability and the policy environment may also affect the pricing behavior of commercial banks. In order to capture the effects of the macroeconomic and policy environment, spreads equations include inflation, growth of output, and money market real interest rates as control variables. For instance, there is evidence in the literature on spreads that inflation is positively associated with intermediation spreads, particularly in developing countries where inflation is high and variable (Demirgüç-Kunt and Huizinga, 1999; Brock and Rojas-Suarez, 2000; Claessens and others, 2001).

In summary, while financial liberalization should generally lead to a lowering of spreads, whether they actually decline will depend on a number of factors. Generally, lending rates relative to deposit rates can increase or remain high depending on the level of reserve requirements, the competitiveness of the banking system, the cost structure of the market, the sophistication of the banking system, and the macroeconomic environment. If there are limited channels for raising capital, such as thin or underdeveloped equity markets, banks will be in a strong position to keep lending rates high. On the other hand, if the banking system is characterized by excess liquidity, deposit rates are unlikely to increase much following financial liberalization because the marginal cost of mobilizing resources is high, while the

marginal profit may be close to zero, or even negative. Indeed, banks may actively discourage deposits either by outright refusal of long-term deposits and/or having an inverted yield curve. Thus, the level of spreads may actually rise, rather than fall, after financial liberalization.

II. Financial Sector Reforms in Malawi

Financial sector reforms in Malawi were initiated in 1987 with the liberalization of lending rates, followed by the deregulation of deposit rates in 1988, following earlier periodic adjustments in interest rates and exchange rates (see Appendix Table 1). While this was done in the context of IMF-supported programs, there was relatively little systematic analysis nor a serious financial reform agenda until 1989. The World Bank (1989) in the analysis of the industrial sector in Malawi identified financial sector underdevelopment as a key impediment to economic growth and development. Following several financial sector studies and initiatives, the government undertook a systematic program of financial sector reforms (World Bank, 1991).

The effective start of financial reforms was in 1989, when the legal framework for the financial sector was overhauled. Both the Reserve Bank of Malawi (RBM) Act and the Banking Act were significantly revised in order to give more powers to the central bank to supervise and regulate the financial sector, to introduce indirect monetary instruments, and to deregulate entry of new banks into the financial system. Bank supervision was significantly enhanced in order not only to more effectively supervise existing institutions, but also to adequately and effectively assess applications for entry by new institutions, a process that had hitherto been ad hoc and nontransparent.

Prior to the completion of financial sector reforms, the financial system in Malawi had only two commercial banks, two leasing finance institutions, one savings bank, and one building society (Chirwa, 2001). The changes in the legal framework resulted in the restructuring of existing institutions and entry of new institutions in commercial banking activities. Three existing nonbank institutions, two in leasing and one in trade finance, were granted corporate banking licenses, and two new institutions, one in leasing and corporate finance and another in trade finance, were licensed in corporate banking by 1991. The new entry in leasing finance in 1991 is a wholly owned subsidiary of one of the main commercial banks, as it diversified into leasing and corporate finance. Appendix Table 2 shows the existing commercial banks and nonbank financial intermediaries in the Malawian financial sector.

Since 1994, there have been three new commercial banks in the financial system, with the first incorporated in 1994, the second in 1995, and the third in 1998. The postal savings bank, hitherto a moribund part of the postal and telecommunications administration, was corporatized and converted into the Malawi Savings Bank and was incorporated as a merchant bank in 1995. The new commercial bank entries compete in the same markets as the two established commercial banks, offering demand, savings, and time deposit accounts to the public. New entry was also associated with the introduction of interest payments on demand deposits beyond a

certain level by existing commercial banks and newly established commercial banks. Nonetheless, the two well-established commercial banks still remain dominant with first-mover advantages and an established branch network across the country. Between 1989 and 1993 the two commercial banks controlled 86 percent, and this dominance only declined to 83 percent of the deposit market. This is not surprising since new entrants have only a few branches and operate only in the two main commercial centers. The effect of new entry in shaping the behavior of incumbent banks may therefore be marginal. Another feature of the banking system in Malawi is the interlocking ownership in the two well-established banks (National Bank and Commercial Bank) by governmental and quasi-governmental institutions as shown in Appendix Table 2, a structure that might facilitate collusive behavior.

In the monetary policy area, the central bank introduced indirect instruments to deal with excess liquidity, namely central bank bills and, later, treasury bills for open market operations. However, due to lack of confidence and the perceived high cost of monetary policy, the central bank has maintained the use of relatively high liquidity reserve requirements as an important lever of monetary policy. Changes in the reserve requirement were the main monetary policy instrument during the period 1990–92, with six adjustments, four of which occurred in 1990. The reserve requirement was introduced in 1989 at 10 percent, increased to 35 percent in 1994, and has since remained constant. The penalty for noncompliance was introduced in 1992 at 18 percent, with the reserve requirement at 20 percent, and reached a peak of 60 percent in 1995 until it dropped to 43 percent in 1997. Initially, liquidity reserves deposited with the central bank earned interest, but they ceased to earn interest at the end of 1990. The central bank reintroduced interest on liquidity reserves in 1997, although this was short-lived, with the liquidity reserves with the central bank ceasing to earn interest in August 1998.

Open market operations became the most active monetary policy instrument, with the introduction of Reserve Bank of Malawi bills[7] and treasury bills to mop up excess liquidity in the economy. In addition, the first discount house was established in 1997 and led to the intensification of operations within the interbank market. The interbank market is now playing an important role in financing the short-term liquidity needs of financial institutions and is a cheaper source of finance compared to the cost of borrowing from the discount window at the central bank.

Financial sector reforms in Malawi are almost complete, although there is a case for more far-reaching improvements. In a study of financial systems in sub-Saharan Africa using a survey-based index of financial development, Gelbard and Leite (1999) note that the financial system in Malawi improved from being under-developed (72.7 percent of the index for sub-Saharan Africa) in 1987 to being minimally developed (83.9 percent of the index for sub-Saharan Africa but 54 percent of South Africa) in 1997. This suggests that there is still work to be done in Malawi to catch up with the most financially developed country in sub-Saharan Africa, particularly in areas of financial liberalization, institutional environment, financial openness, and monetary policy.

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[7]After their abandonment in favor of treasury bills during most of the 1980s, RBM bills were reintroduced in August 2000.

Although policy adjustments continued in the late 1990s and many areas of further reform exist, arguably effective financial liberalization was almost complete in 1994 with the abandonment of the fixed peg regime for the Malawi kwacha in favor of a floating exchange rate regime in February and with the central bank curbing the use of periodic changes in the liquidity reserve requirement to control liquidity, preferring the use of the discount rate as the main instrument of monetary policy, augmented by systematized weekly treasury bill auctions. The period from 1994 also marked the first new commercial bank entry. This period coincided with considerable political liberalization, including the election of a democratic government. In this study, we use 1994 as a break year and characterize the period up to February 1994 as the pre-liberalization (flotation) period and the period from March 1994 as the post-liberalization period.

III. Methodology and Data

The determinants of bank interest spreads and bank profitability have often been modeled within the framework of a bank as a profit- or wealth-maximizing firm. The literature provides numerous models of the banking firm that deal with specific aspects of bank behavior, but no single model perfectly describes all bank behavior, although the portfolio theory has played an important role (Clark, 1986).[8] In the portfolio choice models, banks seek to maximize profits defined by a feasible set of assets and liabilities with interest rates set by the bank and per unit costs of producing each component of assets and liabilities incurred by the bank. These models have incorporated various aspects of the competitive process and scale economies and are a basis for the empirical testing of the S-C-P hypothesis, efficient market, and bank interest spreads models.[9]

The empirical specifications of determinants of bank spreads have been based on the accounting identity of bank balance sheets (for example, Demirgüç-Kunt and Huizinga, 1999) or on behavioral assumptions of the banking firm (Hannan and Liang, 1993; Randall, 1998; Barajas and others, 1999).[10] Barajas and others (1999) analytically derive a single equation specification from a behavioral model that explains the loan rate as a function of the deposit rate (adjusted for financial taxation), volume of loans, wages, and other factors. The coefficient of the adjusted deposit rate in the model indicates the relative market power in the deposit and loan markets.

Our central concern in this study is to assess the contribution of market characteristics and policy-driven factors to the behavior of commercial bank interest

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[8]Santomero (1984) provides an extensive survey of models of the banking firm. See Hannan (1991) for formalization of the relationship between market structure and bank loan rates, bank deposit rates, and bank profits. For a more recent, complete, and detailed analysis of banking firm literature and models, see Freixas and Rochet (1997).

[9]See surveys by Gilbert (1984), Smirlock (1985), Clark (1986), Evanoff and Fortier (1988), and more recent studies by Civelek and Al-Alami (1991), Agu (1992), Molyneux, Lloyd-Williams, and Thornton (1994), Molyneux and Forbes (1995), Goldberg and Rai (1996), Maudos (1998), and Chirwa (2001) for the S-C-P or efficient market hypotheses.

[10]Also see Brock and Rojas-Suarez (2000), and Saunders and Schumacher (2000).

spreads. We therefore follow the approach used by Randall (1998), Demirgüç-Kunt and Huizinga (1999), and Barajas and others (2000), among others, in which interest spreads are a function of bank and market characteristics, operational expenses, the regulatory environment, and macroeconomic characteristics. We use monthly panel data from five Malawian commercial banks for the period 1989–99 and specify our empirical spread model as follows:

$$SP_{jt} = f(x_{jt}, y, z, \varepsilon_t), \tag{1}$$

where for time period t, SP is the annualized interest rate margin for bank j, x is a vector of bank-specific variables for bank j, y is a vector of banking industry variables, z is a vector of variables capturing macroeconomic characteristics, and ε is the error term.

Our dependent variables are bank interest spreads, using various definitions. The literature suggests alternative ways of measuring interest rate margins. The most common measure of bank spreads is the interest rate margin, which is calculated as the difference between interest income and interest expenses as a percentage of total earning assets. Brock and Rojas-Suarez (2000) distinguish between narrow and wide definitions of interest rate margins, by excluding and including fees and commissions relating to the loan and deposit transactions. The inclusion of fees and commissions reflects the full cost to borrowers and reduces the income of the depositors. As shown by Sarr (2000), margins can rise to allow for lower fees and vice versa. In order to be as broad as possible and capture all nuances in the definition of spreads, we use six alternative definitions of bank spreads in our econometric analysis. These could be further grouped analytically into

    (i) *narrow definition:*
        (1) SPN0 = (interest received on loans only/loans) − (interest paid on deposits only/deposits);
        (2) SPN1 = (interest received/loans) − (interest paid/deposits);
        (3) SPN2 = (interest plus commission received/loans) − (interest plus commission paid/deposits);

and

    (ii) *wide definition*
        (4) SPW0 = (interest received − interest paid)/total assets;
        (5) SPW1 = (interest received/all interest-bearing assets) − (interest paid/ interest-earning liabilities);
        (6) SPW2 = (interest plus commission received/all interest-bearing assets) − (interest plus commission paid/interest-earning liabilities).

Interest rate margins are hypothesized to be a function of bank-specific variables, bank industry-specific variables, and the macroeconomic environment. We include three commercial bank-specific variables. First, the annualized ratio of the provision for doubtful debts to total loans (PDL) as an inverse indicator of the quality of assets. We expect a positive relationship between PDL and spreads, reflecting the argument that banks tend to push the cost of nonperforming loans to customers. Secondly, we include nonfinancial costs estimated as the annualized ratio of operating cost (including the wage bill) to total assets (NFC) and expect a positive

relationship with our measures of interest spreads. Thirdly, we include the market share of each commercial bank in the deposit market (MS), as an indicator of size to test the efficient market hypothesis or existence of economies of scale. If economies of scale are important, then we should expect spreads to fall with increasing market shares.

While the number of commercial banks is small in the Malawian banking industry, they face competition mainly in the deposit market from nonbank financial institutions, particularly in urban markets. Financial sector reforms that commenced in 1988 have led to an increase in the licensing of financial institutions that accept deposits from the public and the corporate sector, directly competing with commercial banks on the deposit side. In order to capture the competitive effect of nonbank financial institutions, we include the Herfindahl-Hirschman index of deposit concentration in the market (HERF).[11] Despite several weaknesses associated with the index, notably in merger analysis,[12] we use HERF as our best proxy for market concentration in this paper. Our own calculation of HERF is broader in that it encompasses nonbank financial institutions (which are outside the sample). In this context, high deposit concentration should lead to potential exercise of monopoly power by commercial banks and hence to the widening of interest rate spreads.

Financial sector reforms also brought the introduction of the required liquidity reserve ratio (LRR) since 1989. The reserve ratio acts as a financial tax on the banking industry.[13] We also include the central bank discount rate (BDR) to capture monetary policy developments.

The economic environment in Malawi since the economic crisis in 1981 has been characterized by considerable macroeconomic instability throughout the adjustment period. To capture the effect of the macroeconomic environment on interest rate spreads in our econometric models we include the change in the consumer price index (INFL) and the change in the industrial production index (GRIP). A dummy variable, FLOAT, is included to capture the effects of financial sector reforms. FLOAT takes a value of zero during the pre-flotation period (1989:01–1994:02) and a value of one for the period after flotation (1994:03–1999:12). The dummy variable FLOAT also captures the unobservable or unmodeled effects of reforms, such as the democratic political environment and uncertainty in the policy environment.

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[11]The Herfindahl-Hirschman index is calculated as the sum of the squared market shares for firms competing in the same industry. The index has a value ranging between zero (0 percent) representing a perfectly competitive market and one (100 percent) representing a monopolist. The index has been extensively used in the analysis of the competitive effects of mergers, notably by the U.S. Department of Justice and the Federal Reserve Board (Rhoades, 1993). The index also has been widely used in the literature on the relationship between bank profits and market structures (see Hannan, 1991).

[12]Farrell and Shapiro (1990) show theoretically that traditional analysis can be misleading in the use of the Herfindahl-Hirschman index since a merger can lead to an increase in welfare. They show that in a Cournot equilibrium, where larger firms have lower marginal costs, welfare can be enhanced if a fixed total output, X, is shifted toward them and away from smaller, less efficient firms. However, this situation does not arise in this paper since there have been no mergers in the Malawian banking industry, nor do we analyze potential effects of mergers.

[13]This is the case when the funds held in the LRR account earn no interest or a lower interest rate than the opportunity cost of the funds.

IV. Empirical Results

Financial Reforms and Performance in the Banking System

Earlier studies on the Malawian banking system find evidence of a positive impact of financial liberalization on financial development and performance. For instance, Chirwa (1998, 1999, and 2001), using annual data between 1970 and 1994, observed an increase in financial depth, a decline in monopoly power, the reallocation of credit to nonpreferential sectors, and an increase in the share of deposits of nonbank financial institutions. Although indicators of financial depth have improved, some signs of financial repression are still evident. In particular, there is evidence that the share of loans to total assets fell, the liquidity reserve requirement increased, the share of credit to the private sector declined, and intermediation margins increased in the period after 1989. However, during the post-liberalization period in the study by Chirwa (1998 and 2001), the reform program was at its critical stage, and the analysis provides an initial assessment of financial liberalization and bank profitability. Aryeetey and others (1997) also find evidence of improvements in financial depth, but they observe that the banking sector remains highly concentrated and the financial system is still segmented.

Table 1 presents descriptive statistics of the variables used in the econometric analysis. Overall, interest spreads in Malawi are quite high, ranging from an average

Table 1. Descriptive Statistics, 1989–99

Variables	Full Sample (1989:01–1999:12)		During Liberalization/ Pre-Flotation (1989:01–1994:02)		After Liberalization/ Post-Flotation (1994:03–1999:12)		Mean Change	Means F-test
	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	Mean	p-value
SPN0	16.744	10.368	8.489	1.920	20.348	10.493	11.859	0.000
SPN1	17.991	10.732	9.175	2.056	21.840	10.719	12.665	0.000
SPN2	22.197	12.676	12.305	2.340	26.517	12.927	14.212	0.000
SPW0	8.031	4.765	4.960	1.510	9.372	5.072	4.413	0.000
SPW1	12.690	8.315	8.556	1.946	14.496	9.329	5.940	0.000
SPW2	16.119	9.351	11.526	2.044	18.125	10.520	6.598	0.000
PDL	0.566	1.707	0.248	0.644	0.704	1.987	0.456	0.013
NFC	5.461	3.378	5.379	1.226	5.497	3.969	0.118	0.746
MS	28.108	20.696	43.013	12.698	21.600	20.152	−21.413	0.000
HERF	37.496	3.568	41.041	4.480	35.949	1.293	−5.092	0.000
LLR	23.106	10.143	14.406	6.080	30.786	5.937	7.680	0.000
BDR	25.042	11.898	14.710	5.508	34.193	7.815	9.151	0.000
INFL	29.772	23.327	17.010	8.328	41.076	26.772	11.304	0.000
GRIP	0.589	9.573	0.797	10.060	0.405	9.149	−0.184	0.851

Source: Computed by the authors.

Notes: All variables are measured as percentages. The means test is the F-test from the analysis of variance (ANOVA) for the difference between the mean values during liberalization and after liberalization.

of 8.03 percent (SPW0) to 22.20 percent (SPN2). Comparing the period during financial reforms and after reforms, all alternative definitions of bank interest spreads show that spreads have more than doubled, and the test between means indicates that the average spreads between the two periods are statistically different at the 1 percent level. It is also apparent from the data that not only are average spreads higher in the period after reforms, but the volatility reflected by the standard deviation has also increased substantially.

Financial reforms are also associated with the decline in the quality of loans (increase in the provision for doubtful debts (PDL)), an increase in nonfinancial costs (NFC), and a decrease in the average market share (MS). The relationship between financial reforms and decline in quality of loans is somewhat paradoxical, and is most likely due to improved bank supervision over time leading to better loan classification. Competition in the commercial banking system has also increased following financial reforms. During the reform period, the index of market concentration (HERF) averaged 41 percent compared with the average of 36 percent in the period after financial reforms and flotation of the Malawi kwacha. Both the liquidity reserve requirement and the bank discount rate increased after liberalization by nearly 20 percentage points. The instability in the macroeconomic environment is reflected in the increase in the level and volatility in inflation and a decline in the growth of industrial output.

The trend in the spreads and market characteristics are shown in Figure 1.[14] Figure 1a shows that narrowly defined interest spreads were stable before 1994 and differences between alternative definitions were marginal, but substantial increases occurred immediately after liberalization. Once we define spreads more widely (Figure 1b), the differences between alternative definitions are clear, but, similar to the narrow definitions, spreads are much lower during liberalization than after liberalization, particularly for SPW1 and SPW2. The gap between SPW0 and SPW1/SPW2 widens after liberalization. In terms of other costs, there is an upward trend in nonfinancial costs, particularly in the period after liberalization, while no systematic trend is observed for the provision for doubtful debts (Figure 1c).

Figure 1d shows that average market share and monopoly power have been declining since the introduction of financial sector reforms in 1989. Since both market share and market concentration are measured in terms of the deposit market, the declining trend reflects the importance of nonbank financial institutions and new commercial banks in deposit mobilization, with substantial reductions in market power occurring between 1991 and 1994. This period is associated with active entry in deposit-taking activities through licensing of existing nonbank financial institutions under the new Banking Act of 1989.[15]

The monetary policy variables in Figure 1e—the liquidity reserve requirement and the bank discount rate all show periodic adjustments and upward trends,

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[14]Spreads and bank-specific characteristics are weighted averages with total assets as weights.

[15]While the trend in market power seems to be a declining one, the simple correlation coefficients between spreads and HERF show negative correlations (−0.34 to −0.003) in the pre-1994 period and positive correlations (0.15 to 0.29) in the post-1994 period, suggesting "quiet life" behavior in the former (Nyong, 1990).

Figure 1. Malawi: Evolution of Commercial Bank Spreads
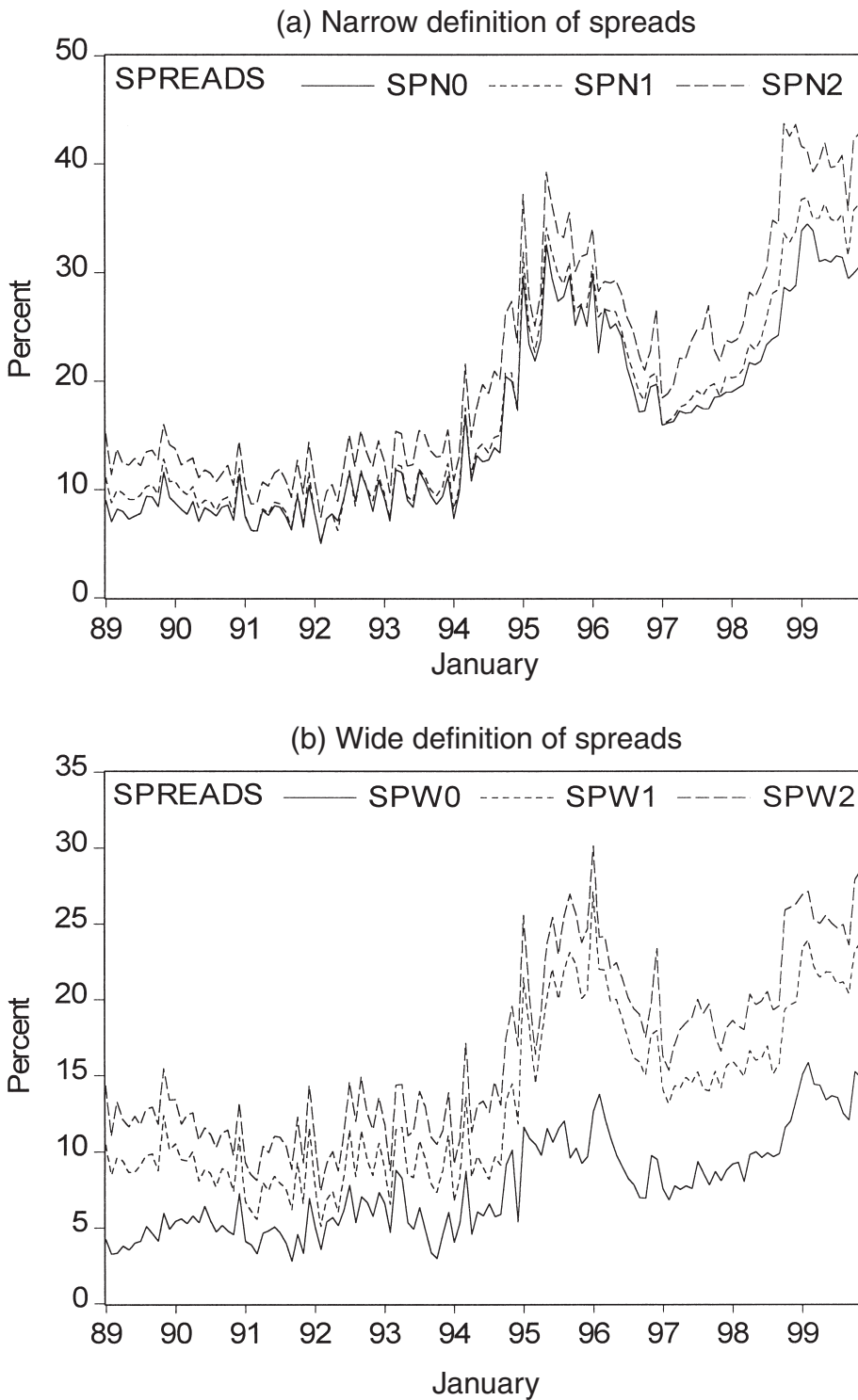and Market Characteristics, 1989–1999

(a) Narrow definition of spreads

(b) Wide definition of spreads

Figure 1. (*Continued.*)

(c) Doubtful loans (PPL) and nonfinancial costs (NFC)

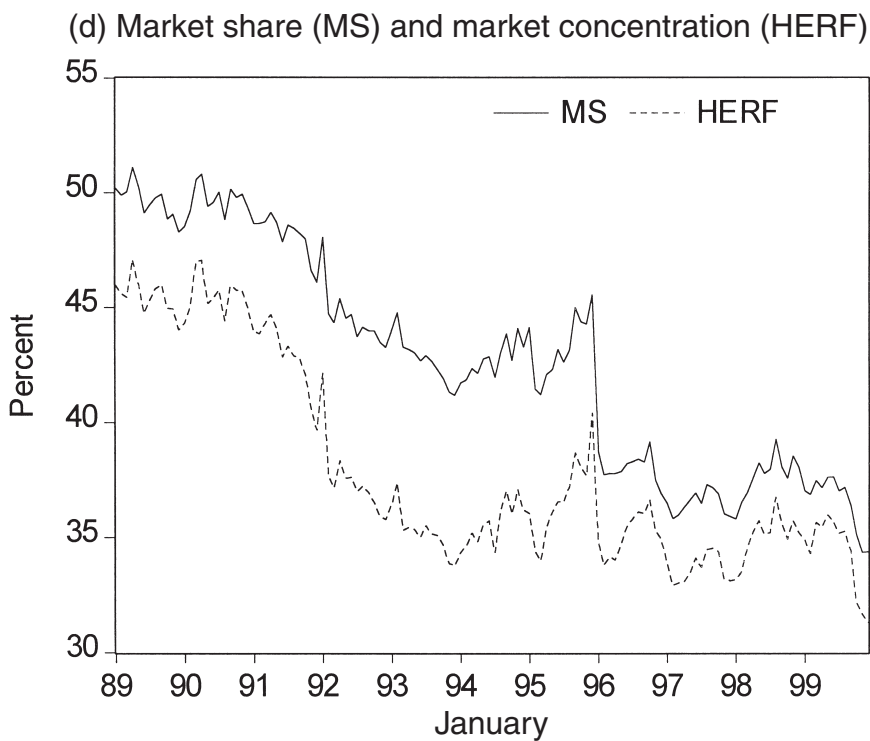(d) Market share (MS) and market concentration (HERF)
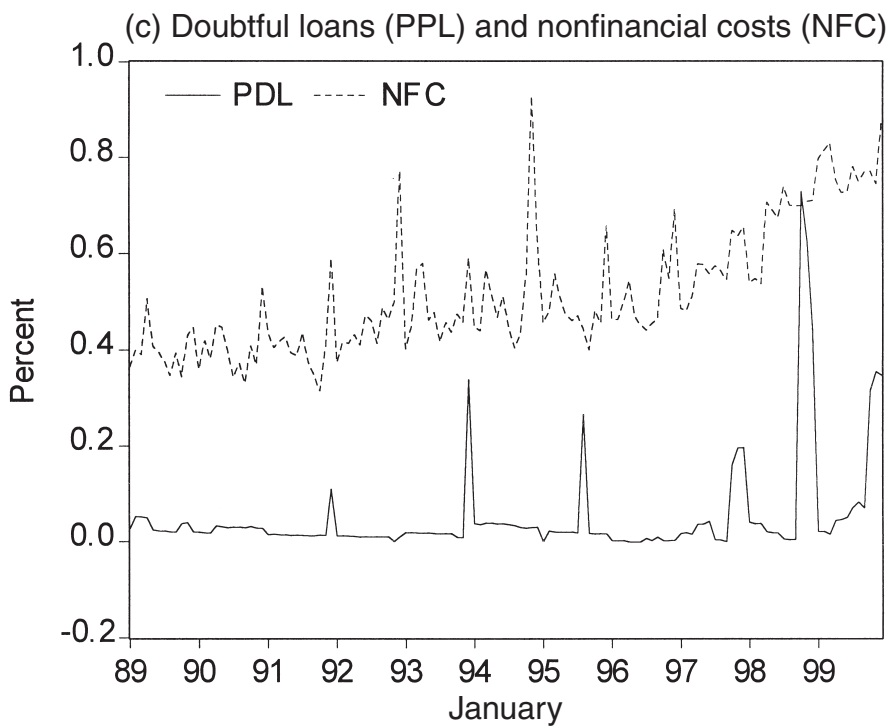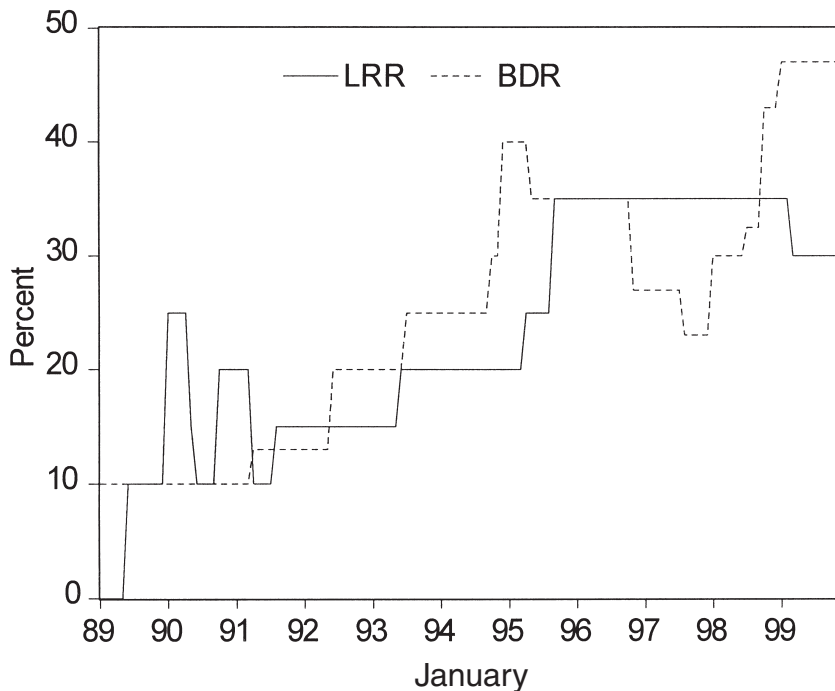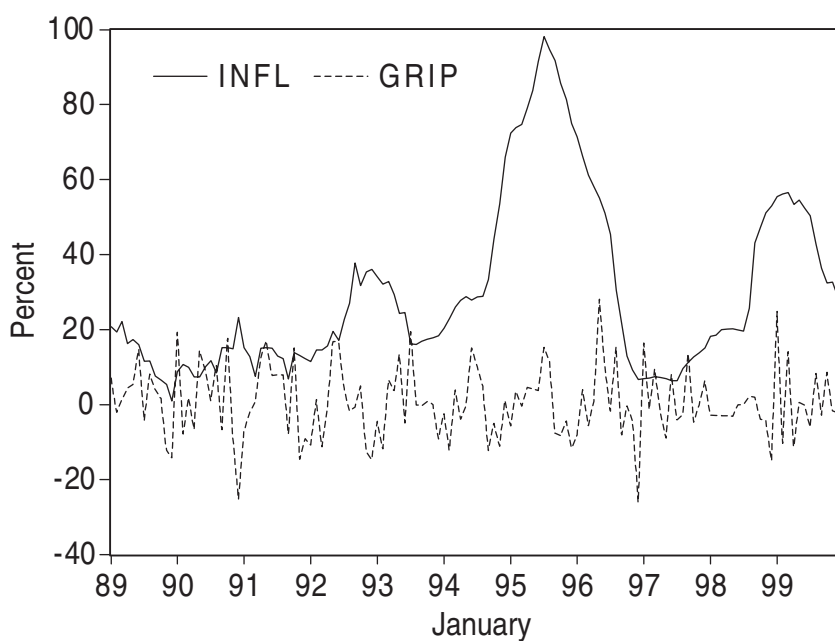
Figure 1. (*Concluded.*)

(e) Liquidity reserve requirement (LBR) and discount rate (BDR)

(f) Inflation rate (INFL) and industrial production growth (GRIP)

although the former has been maintained at 35 percent since the second half of 1995. Financial sector reforms in Malawi were implemented amid macro-economic instability, as Figure 1f shows. Although inflation was below 20 percent during the liberalization period, substantial increases are observed immediately after liberalization, partly due to the flotation of the Malawi kwacha early in 1994, leading to the depreciation against the U.S. dollar of more than 240 percent by the end of that year. Two further larger depreciations took place in 1997 and 1998, leading the Malawi kwacha to depreciate by 180 percent against the U.S. dollar, imposing further pressure on the price level for an import-dependent economy. The growth rate in industrial output has also been low and unstable, creating uncertainty in the business environment.

The descriptive and graphical analyses suggest that poor loan quality,[16] nonfinancial costs, the concentrated market structure of the financial system, the high reserve requirements, the high discount rate, and high inflation are important factors in explaining the high interest spreads in spite of financial liberalization. It can be argued that as long as the macroeconomic situation is characterized by considerable instability, the institutional environment is minimally supportive, monetary policy instruments are minimally developed, and the financial system is still characterized by monopolistic practices, financial liberalization is not likely to lead to much improvement in the efficiency of banks.

Empirical Findings from Panel Regression

The results from panel regression analyses on the factors that influence the level of interest spreads in the Malawian commercial banking system are reported in Table 2.[17] Panel regression analyses were carried out using TSP Version 4.4 econometric computer software (Hall and others, 1997). Since we could not reject the hypothesis of the presence of first order autocorrelation in the original models, we therefore corrected for first order autocorrelation by transforming all the variables by the autocorrelation coefficient (ρ) from the original fixed effect models, following the procedure in Greene (2000).[18] The Hausman test for the suitability of the random effect model over the fixed effect model was used for the choice of the reported models. In SPN1, SPN2, and SPW0 equations, the Hausman test is in favor of the random effect model, while the fixed effects model can not be rejected in the SPN0, SPW1, and SPW2 equations. The explanatory power of the models ranges from 20 percent to 42 percent. Brock and Rojas-Suarez (2000) argue in favor of SPW2 among the six definitions of spreads as the best proxy to represent the true opportunity cost for depositors and

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[16]The spikes in provisions for doubtful debt denote periodic increases in provisions, usually at the end of the financial year, or as required by bank supervision authorities.

[17]Following the concern of one of the anonymous referees on the validity of HERF as a measure of competition, we also ran models without HERF. The results are available from the authors. However, the likelihood ratio test supported the inclusion of HERF in all the models except for SPW0.

[18]Using the AR1 (TSCS) command in TSP on the original data in each equation, we obtained the autocorrelation coefficient (ρ) that we used to transform the variables in the second stage. The first observation for each firm in the panel was lost as a result of this procedure.

Table 2. Panel Data Regression Estimates of Determinants of Interest Spreads

Variables	SPN0 (1) FE	SPN1 (2) RE	SPN2 (3) RE	SPW0 (4) RE	SPW1 (5) FE	SPW2 (6) FE
PDL	−0.0129	**0.3741**	**0.5237**	0.1232	**0.4345**	**0.4919**
	(−0.131)	(2.223)*	(2.197)*	(1.527)	(2.767)**	(1.952)*
NFC	0.2864	**0.5100**	**0.3949**	**0.4242**	0.0923	−0.0922
	(1.366)	(3.677)**	(2.051)*	(5.954)**	(0.639)	(−0.401)
MS	−0.0076	**0.1070**	**0.1144**	−0.0127	−0.0813	−0.0975
	(−0.070)	(2.485)*	(2.003)*	(−0.429)	(−1.133)	(−1.212)
HERF	**0.3948**	**0.5011**	**0.5753**	−0.0020	**0.3254**	**0.3850**
	(1.979)*	(2.970)**	(2.435)*	(−0.020)	(1.9075)+	(2.231)*
LRR	**0.1240**	0.1144	0.1369	0.0070	**0.1518**	**0.1714**
	(1.762)+	(1.309)	(1.116)	(0.143)	(2.737)**	(2.837)**
BDR	**0.4266**	**0.5228**	**0.6549**	**0.0971**	**0.1499**	**0.2261**
	(4.350)**	(7.121)**	(6.363)**	(2.262)*	(2.260)*	(2.021)*
INFL	**0.0698**	**0.0558**	0.0534	**0.0435**	0.0379	0.0338
	(1.881)+	(1.926)+	(1.317)	(2.407)*	(1.418)	(1.219)
GRIP	−0.0114	−0.0278	**−0.0618**	0.0039	−0.0173	−0.0416
	(−0.401)	(−1.513)	(−2.362)*	(0.480)	(−0.974)	(−1.635)
FLOAT	**1.7514**	**1.9099**	1.6270	0.3634	**1.7770**	**1.6800**
	(2.105)+	(2.031)*	(1.214)	(0.941)	(2.863)**	(1.859)+
Intercept	–	**−12.141**	**−13.229**	0.2388	–	–
		(−3.856)**	(−2.939)**	(0.210)		
Adjusted R^2	0.2950	0.4184	0.3341	0.1963	0.3812	0.3014
DW	2.0445	2.1337	1.9025	2.2283	2.2618	2.0056
Hausman test	10.039	7.6958	0.3611	1.5892	9.1983	32.559
[p-value]	[0.074]	[0.174]	[0.986]	[0.811]	[0.056]	[0.000]
N	403	403	403	403	403	403
Rho	*0.6202*	*0.5872*	*0.5788*	*0.7440*	*0.5931*	*0.5729*
	(15.87)**	(14.56)**	(14.25)**	(22.35)**	(14.79)**	(14.12)**

Notes: The figures in parentheses are *t*-statistics with + denoting significance at the 10 percent level, * denoting significance at the 5 percent level, and ** denoting significance at the 1 percent level. *Rho* is the autocorrelation coefficient from the original fixed effect model residuals. FE represents the fixed effects model, and RE represents the random effects model.

borrowers in that it includes fees and commissions and all interest-earning assets and interest-bearing liabilities.

The performance of bank-specific variables is sensitive to the definition of interest rate spreads. First, with respect to the inverse indicator of loan quality, the coefficient of PDL is positive except when spreads are defined as SPN0, but is statistically significant at the conventional levels in four of the six definitions of spreads. The positive relationship implies that commercial banks tend to shift the risks associated with nonperforming loans to customers, supporting the argument in Barajas and others (1999) with respect to the Colombian banking system. In contrast to industrial country findings, however, Brock and Rojas-Suarez (2000)

do not find that nonperforming loans have a significant impact on spreads in their sample of Latin American countries and argue that this is probably due to inadequate provisioning for loan losses and deficiencies in bank supervision.

Second, the coefficient of nonfinancial costs is positively associated with spreads, as expected, except where SPW2 is used, in which we observe a negative relationship. However, the coefficients of NFC are only statistically significant in three definitions of the spreads: SPN1, SPN2, and SPW0. Third, the performance of the market share variable is also sensitive to the definition of interest spreads, with the expected negative relationship obtaining in four of the six definitions and only statistically significant at the 5 percent level in models where the coefficients are positive in equations for SPN1 and SPN2.

More robust results emerge for bank market characteristics, with the three variables being largely consistent regardless of the definition of spreads used in the estimation. With respect to market structure, the coefficient of the index of market concentration, HERF, is positive and statistically significant at conventional significance levels, although a negative but insignificant relationship obtains in the SPW0 equation. These results suggest evidence that commercial banks potentially use monopoly power in setting their lending and deposit rates in the Malawian banking system. Moreover, there is a high incidence of interlocking ownership or directorship in the Malawian banking system that could stifle effective competition, regardless of the increase in the number of financial institutions (Chirwa, 2001).

The coefficient of the liquidity reserve requirement, LRR, is consistently positive but is statistically significant at the 1 percent level in the SPW1 and SPW2 equations and at the 10 percent level in the SPN0 equation. Reserve requirements are a form of financial taxation on the commercial banking system, and commercial banks respond to increases in reserve requirements by increasing the margin between lending and deposit rates. Since the introduction of financial sector reforms, the bank discount rate and open market operations are the only active monetary policy instruments in Malawi. The coefficients of the discount rate are positively associated with interest spreads and statistically significant at the 1 percent level in the equations with narrow definitions of spreads and at the 5 percent level in the equations with wider definitions of spreads. These results suggest that commercial banks respond to the upward adjustments in the discount rate by widening the spread, hence shifting the cost of refinancing their liquidity requirements to customers.

Price instability, represented by inflation, is also positively associated with interest spreads regardless of the definition used in the estimations. The coefficient of inflation is statistically significant at the 1 percent level in four of the six models, suggesting that commercial banks respond to increases in the price level by widening the spread between lending and deposit rates. The growth of industrial production does not seem to influence significantly the level of spreads in all six equations.[19]

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[19]The growth in the index of industrial production may be an imperfect measure of gross domestic product as it captures only developments in the manufacturing sector, which is about 12 percent of gross domestic product. This may be the reason for its poor performance in the regression models. However, the index includes electricity production, which may be highly correlated with developments in other sectors of the economy, and it is the only indicator of output available as a monthly series that we could use to control for demand and supply conditions.

The dummy variable representing financial liberalization is positively associated with interest spreads in all six models. However, only in three of the six alternative definitions of spreads does the evidence confirm our statistical analysis that spreads are significantly higher after financial liberalization compared with the period during financial liberalization. This is contrary to the expectation. Barajas and others (2000) argue that in a liberalized financial sector, the liberalization dummy would capture the effect of strengthening prudential regulation and the possible announcement effects of the opening of the banking sector to domestic and foreign competition, arguments that are supported in the Colombian banking system. In the case of the Malawian banking system, two reasons may explain the persistence of high spreads after financial liberalization even after controlling for costs and loan risks. First, the structure and regulatory system are still basic and have not reached the effective implementation level (Mehran and others, 1998). Secondly, although the number of commercial banks had increased to five by 1998 from two in 1993 and corporate and leasing finance institutions to five from three in 1989, the new entrants were relatively small and with limited branches compared with the established commercial banks. The increased licensing of deposit-taking financial institutions between 1991 and 1998 introduced some competition on the deposit market, but the loan market is still dominated by the two established commercial banks. Thus, given the small size of the Malawian economy, announcement effects of free entry are likely to be marginal as long as incumbent banks expect entry from relatively smaller firms and as long as their first-mover advantages are marginally eroded by new entrants.

In order to assess the economic significance of the various factors in explaining the observed high spreads, we computed the elasticities using the mean values for each respective spread and explanatory variable. Table 3 provides a summary of the computed elasticities for the continuous variables. Overall, the index of market concentration (HERF) is the most important variable that explains the high spreads in the Malawian commercial banking system. With elasticities ranging from 0.8842 to 1.0444, most of the values are close to unit elastic. However, in model 2, a 1 per-

Table 3. Computed Elasticities from Spreads Equations

Variables	SPN0 (1)	SPN1 (2)	SPN2 (3)	SPW0 (4)	SPW1 (5)	SPW2 (6)
PDL	−0.0004	**0.0118**	**0.0133**	0.0087	**0.0194**	**0.0173**
NFC	0.0934	**0.1548**	**0.0971**	**0.2884**	0.0397	−0.0312
MS	−0.0127	**0.1672**	**0.1449**	−0.0444	**−0.1800**	**−0.1699**
HERF	**0.8842**	**1.0444**	**0.9719**	−0.0092	**0.9615**	**0.8957**
LRR	**0.1995**	0.1712	0.1661	0.0234	**0.3222**	**0.2864**
BDR	**0.7273**	**0.8295**	**0.8422**	**0.3450**	**0.3371**	**0.4003**
INFL	**0.1265**	**0.0942**	0.0730	**0.1643**	0.0906	0.0637
GRIP	−0.0004	−0.0008	**−0.0015**	0.0003	−0.0007	−0.0014

Notes: The elasticity is computed using the mean values of the dependent and explanatory variables. The figures in bold are for those whose slopes are statistically significant at the 10, 5, and 1 percent level.

cent increase (decrease) in HERF should lead to a more than 1 percent increase (decrease) in the intermediation spread.

Another important variable explaining the high interest spreads is the discount rate (BDR), with elasticities ranging from 0.345 to 0.842, which suggests that a 1 percent increase in the bank rate should lead to between a 0.345 percent and 0.842 percent increase in the spreads. Spreads are also relatively inelastic with respect to the reserve requirement (LRR), with a 1 percent increase leading to an increase in spreads of only 0.199–0.322 percent. Interest spreads are also inelastic with respect to inflation (INFL), loan quality (PDL), nonfinancial costs (NFC), and market share (MS).

In summary, the empirical evidence points to the fact that financial liberalization has not equally benefited depositors and borrowers in Malawi, with banks shifting most risks and costs (inefficiency) to customers. We find that it is monetary policy variables and market concentration that provide the bedrock for commercial banks' behavior of maintaining high interest spreads. The required liquidity reserve ratio is quite high and has been maintained at 35 percent since mid-1995. If this financial taxation is maintained at such high levels, high interest rate margins will persist in a liberalized financial system. Similarly, the bank rate has been on an upward trend during the period of this study, from 10 percent in 1989 to 47 percent toward the end of 1999, and commercial banks also tend to shift the cost of refinancing their liquidity requirements from the discount window to customers.

On the positive side, the gradual entry of new commercial banks into the financial system is likely to reduce monopoly power in the long term, leading to a downward trend in interest rate margins. Although there has been foreign direct investment in the financial system in Malawi, foreign bank entry has been marginal. The effect of new entry on competition is limited due to the relative size of new entrants and their limited geographical coverage of the market. The two established commercial banks remain relatively large and do not seem to have been affected by the business diversion effects of new competition.[20] Elsewhere, existing empirical evidence suggests that foreign bank entry is associated with reductions in interest rate spreads and profitability (Barajas and others, 2000; Claessens, Demirgüç-Kunt, and Huizinga, 2001).

V. Conclusion

Financial sector reforms in Malawi are advanced, and efforts to build an effective regulatory framework continue. The gist of this study was to assess the impact of financial reforms on the pricing behavior of commercial banks in Malawi. We have observed that policy adjustments in the financial sector started as early as 1981, with periodic adjustments in interest rates and devaluation of the Malawi kwacha.

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[20]The cost of switching to new banks for existing customers that have long relationships with the incumbent banks may be high, particularly where new entrants are relatively small, with limited branch networks, and are nonestablished international banks. Their long-term survival is still under scrutiny by many bank customers, and it may take some time for the business-stealing effects to manifest themselves in the Malawian financial sector.

However, concerted efforts in liberalizing the financial sector commenced in earnest in 1989 following liberalization of interest rates and credit controls and the revision of the legal framework that opened up the banking sector to new entry and competition. By early 1994, major reforms were completed, while the fine-tuning continued in the late 1990s. This study uses panel monthly data from the banking system between 1989 and 1999 to analyze the effects of financial reforms on the evolution of interest rate spreads in the Malawian financial system.

Our descriptive statistics show that interest spreads significantly increased after financial liberalization regardless of the definition of spreads. The reasons for the upward trend in the spreads are the upward movements in the nonfinancial costs, provision for doubtful debts, financial taxation through required liquidity reserves, the bank discount rate, and high and variable inflation. Most of these provide a rough indication that efficiency in the delivery of financial services to depositors and borrowers has not improved much following financial liberalization. Nonetheless, the average size of commercial banks' market share and their degree of monopoly power have declined due to new entrants in commercial banking activities and the licensing of nonbank financial institutions in deposit-taking activities.

The econometric analysis supports the evidence that interest rate spreads are significantly higher in the period after financial liberalization or flotation and commercial banks are shifting the cost of liberalization to their customers. Most pertinently, although there have been new entrants in commercial banking activities with consequent moderate reductions in market power, commercial banks continue to use their monopoly power in determining interest rates that are less favorable to both depositors and borrowers. The econometric results show that spreads are elastic or nearly unit elastic with respect to the degree of market concentration. Admittedly, new entrants in the commercial banking system have been much smaller in size and with limited outreach networks compared with incumbent commercial banks, thereby providing fringe competition.

There is also evidence that the two main monetary policy instruments are exerting upward pressure on interest spreads. Although the spreads are relatively inelastic with respect to the central bank discount rate, it is apparent that commercial banks respond to high discount rates by shifting the cost of financing their liquidity to consumers. The absence of bank deposit institutions and constraints in regulatory and supervisory capacity may justify the continued maintenance of the high reserve requirement to protect depositors, but, on the negative side, depositors and borrowers are bearing this form of financial taxation through persistent high interest spreads. Besides the cost of monetary policy, bank customers are also bearing the risk associated with the poor quality of loans and the risk associated with high and variable inflation. The deterioration of the quality of assets, using the inverse indicator of bad debts provisioning, is probably a manifestation of the improvement over time of the regulatory and supervisory framework.

Another important lesson from the empirical results is that the confirmation of the well-known assertion that the sequencing of financial liberalization matters a lot, especially in a small open economy with a large pass-through of foreign inflation. The financial liberalization was implemented at the same time as an important change in the exchange rate regime from a managed rate to a floating one at a time

marked by a shortage in foreign exchange. The subsequent sharp rise in inflation, followed by an increase in the bank discount rate to curb the former, ultimately had a significant impact on the level and evolution of spreads. Nevertheless, this would be expected to be temporary. The manner in which the financial liberalization was implemented also affected the spreads. While to some extent this policy variable was not under the control of authorities, the fact that only small foreign banks entered the market undoubtedly had an impact on the level of competition.

Several policy implications result from this study. First, the high responsiveness of spreads to the degree of monopoly power suggests that significant changes in market structure must take place for customers to benefit from the increase in the number of financial institutions through entry of established international banks capable of breaking the monopoly position of the established domestic commercial banks. Second, divestment or privatization of the ownership structure of the two established banks currently dominated by public and quasi-public institutional investors may facilitate effective competition between the dominant banks and new entrants. Third, the fight against inflation should continue, and, consequently, a reduction in the central bank discount rate would be necessary to reverse the increasing trends in spreads in a liberalized financial sector. Unless concerted and sustained efforts are made to reverse the trend on some of these policy variables, depositors, borrowers, and the public will continue to bear the cost of financial liberalization in Malawi for a long time to come.

APPENDIX I

Table A1. Policy Reforms and Deregulation in the Financial and Banking Sector in Malawi, 1982–2000

Year	Policy Actions
1982	– Devaluation of Malawi kwacha by 15 percent in April. – Adjustment of interest rates.
1983	– Devaluation of Malawi kwacha by 12 percent in September. – Adjustment of interest rates.
1984	– Devaluation of Malawi kwacha by 3 percent in January. – Adjustment of interest rates.
1985	– Devaluation of Malawi kwacha by 15 percent in April. – Adjustment of interest rates.
1986	– Devaluation of Malawi kwacha by 9.5 percent in January and 10 percent in August. – Adjustment of interest rates. – Entry and establishment of Leasing and Finance Company in 1986 as a lease finance company.
1987	– Devaluation of Malawi kwacha by 20 percent in February. – Liberalization of lending rates.
1988	– Devaluation of Malawi kwacha by 15 percent in January. – Deregulation of deposit rates. – Removal of credit ceilings and credit rationing.
1989	– Review of the legal framework for the financial sector leading to new and revised legislation: Reserve Bank of Malawi (RBM) Act of 1989, Banking Act of 1989, leading to deregulation of entry into the banking sector.

Table A1. (*Concluded.*)

Year	Policy Actions
1990	– Liquidity Reserve Requirement (LRR) was enforced at 10 percent of commercial bank liabilities effective June 1, with commercial banks earning interest on reserves. – Devaluation of Malawi kwacha by 7 percent in March. – Restructuring of Post Office Savings Bank into Malawi Savings Bank. – Incorporation of Leasing and Finance Company as a leasing finance bank on September 14. – Preferential lending to the agricultural sector was abandoned. – RBM introduced the marketing of its own bills. – LRR adjusted four times (January 2: 25 percent, May 15: 15 percent, June 1: 10 percent, September 1: 20 percent). – LRR ceased to earn interest with effect from December 1.
1991	– Incorporation of National Finance Company as a lease finance bank on April 17. – Entry and incorporation of CBM Financial Services, a subsidiary of Commercial Bank of Malawi, as a lease finance company on June 28. – Incorporation of the Finance Corporation of Malawi as a corporate bank (trade financing) on August 1. – Incorporation of Indebank Financial Services Limited as a corporate bank (trade financing) on September 6. – LRR decreased to 15 percent with effect from August 1. – Complete liberalization of foreign exchange allocation.
1992	– Devaluation of Malawi kwacha by 15 percent in June and 22 percent in July. – LRR increased to 20 percent with effect from December 23. – Penalty for noncompliance with LRR was introduced at 18 percent.
1993	– LRR increased to 30 percent with effect from October 29.
1994	– Flotation of Malawi kwacha in the foreign exchange in February. – Entry and incorporation of the First Merchant Bank as a commercial bank on July 5. – LRR increased to 35 percent with effect from December.
1995	– Penalty for noncompliance with LRR was increased to 45 percent at the beginning of the year to 55 percent in April to 60 percent in June. – Entry and incorporation of Finance Bank as a commercial bank on March 29. – Incorporation of Malawi Savings Bank as a merchant bank on March 29.
1996	– Bank rate reduced from 45 percent on June 12, to 35 percent on September 9, to 27 percent from November 13 and the LRR dropped from 55 percent to 47 percent.
1997	– Bank rate was reduced from 27 percent to 23 percent on August 1. – Penalty for noncompliance with LRR was reduced to 43 percent and calculation of LRR was changed from daily to monthly average and RBM started paying interest rate on reserves.
1998	– Entry and incorporation of Continental Discount House in March and the introduction of interbank market lending among banks. – Introduction of daily basis LRR observance by commercial banks with effect from August 1 and RBM ceased paying interest rate on reserves. – Commercial banks discretion to put reserves with either RBM or Discount House or in their vaults was introduced. – Bank rate was decreased from 32.5 percent to 30 percent with effect from September 14. – Incorporation of Loita Investment Bank as a merchant bank on November 28. – Sharp depreciation of Malawi kwacha.
1999	– Bank rate increased from 43 percent to 47 percent on January 11.
2000	– The LRR was lowered to 30 percent in June and the penalty on shortfalls on the LRR account was set at ¼ percent per day. – RBM reintroduced own bills and bank rate decreased to 44.5 percent in August and increased to 53.2 percent in December.

Source: Chirwa (2001), RBM (various) *Financial and Economic Review,* also available via the Internet at *http://www.rbm.malawi.net.*

APPENDIX II

Table A2. Ownership Structure in the Malawian Banking Sector, 2002

Name of Bank and Deposit Taking Institutions	Year Licensed	Type of Banking Services	Share Holding (%)	Name of Major Shareholders
A. Banks				
1. Commercial Bank of Malawi	1990	Commercial	23.0	Press Corporation Limited
			22.0	Malawi Government
			17.0	Malawi Development Corporation
			26.0	National Insurance Company
			12.0	General Public
2. National Bank of Malawi	1990	Commercial	48.3	Press Corporation Limited
			39.2	ADMARC (Investment Holding Co.)
			12.5	South African Mutual Life Assurance
3. Finance Bank of Malawi	1995	Commercial	97.0	Finance Holding Corporation International
			3.0	Finance Bank Zambia Limited
4. First Merchant Bank	1994	Commercial	12.5	Prime Capital and Credit Limited (Kenya)
			12.5	Prime Bank Limited (Kenya)
			25.0	Simsbury Holding Limited
			25.0	Individuals
			25.0	Zambezi Investments
5. Indebank Financial Services	1991	Trade Financing	100	INDEBANK
6. Loita Bank	1998	Merchant	99.0	Loita Capital Partners
			1.0	International Individuals
7. Malawi Savings Bank	1995	Merchant	99.99	Malawi Government
			0.01	General Manager
B. Deposit Taking Institutions				
1. CBM Financial Services	1991	Leasing	55.0	Commercial Bank of Malawi
			45.0	National Insurance Company
2. Continental Discount House	1998	Discount House	98.0	Trans-Africa Holding
			2.0	Consolidated Discount House
3. Finance Corporation of Malawi	1991	Trade Financing	25.0	ADMARC
			37.5	National Bank of France
			37.5	SBM NEDCOR
4. Leasing and Finance Company	1990	Leasing	12.0	German Investment and Development Co.
			12.0	Old Mutual
			12.0	UDC Limited
			10.0	International Finance Company
			43.0	INDEBANK
			11.0	EDESA SA
5. National Finance Company	1991	Leasing	66.4	National Bank of Malawi
			12.0	Lincoln Investments
			12.0	Mbabzi Estates
			8.6	Individuals
6. New Building Society	1965	Mortgage Financing	51.0	Malawi Government
			24.5	Lonrho
			24.5	National Insurance Company

Source: Reserve Bank of Malawi website 2002: *http://www.rbm.malawi.net.*

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