Commercial Bank Interest Rate Spreads in Jamaica
-Measurement, Trends and Prospects-

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Acknowledgements

1. Introduction

The factors that determine the level of commercial bank lending rates are important concerns to policy makers, the banking industry and the public at large. From a policy perspective, lower lending rates are desirable, as they tend to have a positive influence on new and existing investments, improve the competitiveness of Jamaican businesses and contribute to growth and development. These welfare effects would lead to generally higher living standards and financial surpluses. On the other hand, well known studies of developed country markets have shown that profits in the banking industry tend to rise as interest rates increase[1]. The rapid expansion in the local industry since 1990 would also lend itself to the perception that such a relationship would also hold in the Jamaican context. There is little wonder therefore that the interest rates charged by local banks have been a sensitive and recurring policy issue in Jamaica and one which requires an objective examination of all the factors behind the structure of commercial bank interest rates.

Loan rates can be separated into two major components – the interest rate paid to depositors and the rate added on by banks. That difference between the deposit rate and the loan rate is commonly referred to as the spread. The size of banking spreads serves as an indicator of efficiency in the financial sector because it reflects the costs of intermediation that banks incur (including normal profits). Some of these costs and are imposed by the macroeconomic, regulatory and institutional environment in which banks operate while others are attributable to the internal characteristics of the banks themselves. The objectives of this paper are to establish the time path of banking spreads in Jamaica and the main factors influencing their evolution.

There are two broad approaches to examining interest rate spreads – the *ex ante* approach and the *ex post*. The *ex ante* approach uses the rates quoted on loans and on deposits and draws inferences from the difference between them. These are the rates that the public

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[1] See, for example, Samuelson (1945), Hancock (1985) and others.

sees and which are easily comparable across institutions. *Ex post* measures compare the effective rate paid on deposits with the effective rate earned on loans. This accounting information is drawn from the quarterly income and expenditure reports filed by banks and therefore comes after the fact.

The information contained in these two measures of banking spreads is explored in Sections 2 and 3 below. In Section 4, comparisons are made with international benchmarks of spreads, costs and profits. The paper ends with a discussion of the policy implications of these findings and an exploration of the room for change in the internal administration of financial institutions.

2.   Measuring Interest Margins

Ex ante Spreads

Most discussion on interest spreads in Jamaica is based on the difference between the average loan rate and the average rate on time deposits as published by BOJ. For many years, the rate payable on savings deposits was controlled and was adjusted periodically to ensure a real interest return for small savers. Rates on time deposits varied according to market conditions and hence represented a more accurate measure of commercial bank pricing policy. For this reason, the spread published by BOJ over a long period has been the difference between the average loan rate and the average rate on time deposits. (Table 1).

Table 1. Published Interest Rate Spreads

End of	Avg. Deposit Rate	Avg. Loan Rate	Spread
1989	20.2	28.2	8.0
1990	24.5	31.6	7.1
1991	27.5	34.0	6.5
1992	23.0	46.0	23.0
1993	39.8	49.6	9.8
1994	27.9	45.8	17.9
1995	26.2	48.6	22.3
1996	20.8	37.8	17.0
1997	14.1	31.9	17.8
1998	15.5	30.1	14.6
1999	13.3	24.6	11.3
2000	12.2	22.1	9.9
2001	10.1	19.5	9.4

These published spreads make for easy reference and have been consistently measured over time. They show (except for 1993) a sharp increase in spreads in the early 1990s which has tapered off since 1995. The interest rate spread reached a high of 23.0 percentage points in 1992 and was 22.3 points in 1995 before starting the trend decline to 9.4 points as at December 2001. The developments since the reduction of the cash reserve requirement in August 1998 are also to be noted. Lending rates fell from an average of 33 per cent at the end of June 1998 to 27.2 per cent in June 1999, a reduction of 5.8 percentage points, while deposit rates dropped by 3.6 percentage points over the same period. Spreads on quoted rates thus fell by 2.2 points.

The cost of maintaining cash reserves against deposits can be measured directly. This cost varies as the deposit rates change and as the cash reserve requirement changes. The spread required to compensate for unremunerated reserves is given by :

$$\frac{rd}{1-r}$$

where r is the cash reserve ratio and d is the average interest rate on deposits.[2]

At the rates prevailing at June 1998, the portion of the spread attributable to the 25% cash reserve requirement was 5.9 points (.177*.25/.75). By June 1999, with the fall in both deposit rates and the reserve ratio, the cost fell to 2.9 points. The fall in spreads on quoted rates could thus be interpreted as a response to the reduction in the cash reserve requirement, as asserted by bankers.

Table 2 sets out the distribution of commercial banks loan portfolio by major category of borrower as at September 1998 and September 1999. The data show that commercial loans account for about 50% - 60% of loans, a pattern that has varied little over the years across all banks. There is some degree of specialization by bank in the other areas of

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[2] See Appendix 2 for a derivation of this relationship.

lending with some opting for the installment loan market while others devoting more funds to personal credit.

Table 2.   Interest Rate Spread by Category of Loan

	% Of Total Loans		Spread (% points)		
Loan Category	Sep 98	Sep 99	Sep 98	Sep 99	Change
Installment Credit	13.2	12.9	18.0	16.3	-1.7
Mortgage	0	0	-4.4	11.2	15.6
Personal	12.5	18.9	19.8	17.9	-1.9
Commercial	61.9	54.3	16.6	11.8	-4.8
Central Govt.	7.5	9.8	5.0	4.5	-0.5
Other Public Sector	4.9	4.1	7.5	8.9	1.4
Total	100.0	100.0	15.9	12.7	-3.4
Memo					
Avg deposit rate	14.8	13.5			
Avg loan rate	29.7	25.2			
6-mth Tbill rate	22.6	19.2			

The market for commercial loans is competitive and rates on these loans have tended to respond to reductions in deposits rates and other costs.   Monthly data on average rates charged show that the average commercial loan rate was 25.3% in September 1999, some 11.8 percentage points above the average deposit rate of 13.5%. In practice, the floor for lending rates to the private sector is the risk-free rate on Government securities which, at September 1999, would have meant a minimum spread of 6.1. To this would be added some compensation for the direct cost incurred in loan administration and the risk profile of the borrower. The stance of the competition, the overall risk profile of the portfolio and the liquidity of the institution would determine the final cost to the borrower. Commercial borrowers negotiate with banks for the best terms available and, where possible, shift their business to take advantage of the best financing package.

By contrast, installment credit and personal loans – the other two major credit categories - have generally attracted much higher rates.   The share of personal credit in bank portfolios has also been growing partly due to the marketing of popular new products and the slow down in demand for commercial loans. Margins on non commercial credit have responded much more slowly to the reduction in deposit rates and the reserve requirements.

On the surface, the published data on deposit rates, loan rates and spreads would suggest that banks have generally passed on reductions in deposit and reserve costs to commercial and other borrowers in the form of lower rates. However, there are important limitations in using this measure to draw conclusions on bank behaviour and profitability.

(i)   While it captures the trend in spreads, it ignores the relatively low cost of mobilizing savings deposits and hence understates the average spread. When the measure of net spread is modified by including savings rates, the average net spread in the commercial banking industry appears wider. Compared to the published average of 18.6 pps in June 1998 and 17.4 in March 1999, the modified spread would have moved from 24.9 percentage points in June 1998 to 21.0 in March 1999.   The wide difference between the two measures reflects the heavy share of savings deposits and periodic shifts in the composition of total deposits.

(ii)   Further, 25% of deposits are demand deposits which further reduces the overall cost of deposits. The cost of holding cash reserves would therefore be overstated if it is calculated using quoted deposit rates rather than the average rate payable on total deposits. The use of accounting records overcomes this limitation.

(iii)   Third, discussions of banking behaviour which rely only on ex ante measures downplay the importance of portfolio composition, capital adequacy and asset quality.   Where a significant portion of assets are non performing, or have been placed in other investments, merely citing the deposit-loan spread may overstate the profitability of the institution.   Thus, neither the true cost of funds nor the earnings therefrom are adequately captured in this crude measure.

Earned Interest Spreads

The ex post approach to measuring spreads uses actual interest income and expenses to separate interest margins from other income and expenditure. The composition of the profit and loss account also yields information on the structure of intermediation costs and on asset distribution and quality.   Accounting information gives an accurate picture of banking spreads and profits but is available only quarterly as opposed to monthly data on quoted rates.

The amalgamated Income and Expenditure accounts of commercial banks for the period 1989 to 2001 is set out in Appendix 1. The implicit rates on deposits, loans and gross interest margins are presented in the Table below.

The average rate paid on deposits is derived by dividing interest expenses by the average stock of demand, savings and time deposits. Similarly, the average rate on loans is the interest received on loans and advances divided by the average stock of loans and advances. The net interest spread follows as the difference between the implicit deposit and loan rates.

Table 3. Earned Interest Margins in Commercial Banks 1989-2001

	Avg. Deposit Rate	Avg. Loan Rate	Interest Spread	*Avg Inflation*
1989	10.7	20.4	9.7	*14.3*
1990	14.5	25.7	11.2	*22.0*
1991	12.6	25.9	13.2	*51.1*
1992	15.1	36.8	21.8	*77.3*
1993	12.9	33.3	20.4	*22.1*
1994	14.4	37.9	23.5	*35.1*
1995	11.6	30.4	18.8	*19.9*
1996	13.5	31.7	18.2	*26.4*
1997	9.1	23.4	14.2	*9.7*
1998	9.7	20.5	10.8	*8.6*
1999	8.2	24.8	16.6	*6.0*
2000	7.3	21.4	14.1	*8.2*
2001	6.7	17.6	10.9	*7.0*

Deposit rates rose from 10.7 in 1989 to a high of 15.1 in 1992. The rates fluctuated between 1993 and 1997 before settling into a steady decline reaching an average of 6.7 per cent in 2001. Average deposit rates were negative in real terms up to 1997, were slightly above average inflation in 1998 and 1999 but have again fallen below inflation since that time. The observation of deposit rates being established just above the rate of inflation is common in environments where inflation is stable.

The effective yield on the loan portfolio of commercial banks rose sharply after 1989, reached a high of 37.9% in 1994 and have tapered off since. The average (effective) loan rate of 20.5% in 1998 was similar to the rate prevailing in 1989. It should be noted

that this effective rate compares with average quoted rates of 33% and is an indicator of the level of non performing loans. The increase to over 22% during 1999 reflects an improvement in the performance of loans as quoted rates fell steadily to reach 28.8% in September 1999. This is consistent with the sale of non performing loans to FINSAC and the tightening of credit administration.

The net interest spread has followed the trend in loan rates – increasing sharply to a high of 23.5 percentage points in the mid 1990s and then declining to a low of 10.8 points in 1998. This spread has widened during 1999 to 16 points as deposit rates have continued to fall and the return on loans has improved.

The Impact of Cash Reserves

Given the actual cost of raising the deposits against which cash reserves have to be held, the cost of these reserves differ markedly from the computation that uses quoted rates. It also places in relief the portion of the spread attributable to factors other than the direct impact of the cash reserve requirement.

Table 4. The Impact of Cash Reserve Requirements

	Reserve Req.*	Cost of Deposits	Cost of Cash Resv.	Add-on by Banks	Loan rate
1989	.195	10.7%	2.6%	7.1%	20.4%
1990	.197	14.5%	3.6%	7.6%	25.7%
1991	.19	12.6%	3.0%	10.3%	25.9%
1992	.225	15.1%	4.4%	17.4%	36.8%
1993	.25	12.9%	4.3%	16.0%	33.3%
1994	.25	14.4%	4.8%	18.7%	37.9%
1995	.25	11.6%	3.9%	15.0%	30.4%
1996	.25	13.5%	4.5%	13.7%	31.7%
1997	.25	9.1%	3.0%	11.2%	23.4%
1998	.238	9.7%	3.0%	7.8%	20.5%
1999	.176	8.2%	1.8%	14.8%	24.8%
2000	.143	7.3%	1.2%	12.9%	21.4%
2001	.113	6.7%	0.9%	10.0%	17.6%

* Average statutory requirement

Because most deposits fall into the demand and savings categories, the average cost of funds in the industry has not risen above 15.1% since 1989. The non remunerated cash

reserve requirement was raised to 25% in 1993 and remained at that level until August 1998. At the point where deposits rates and the cash reserve combined were at their highest, the spread required to cover the cost of the 25% cash reserve was 4.8 percentage points. As the cost of funds declined and the cash reserve requirement was reduced, the spread required to recover reserve costs fell to 3.0 percentage points in 1998 and was less than 1 percentage point in 2001. A further illustration of the limited impact of the cash reserve requirement is the fact that during 1997 when the reserve ratio was 25%, it accounted for 20 per cent of the total spread between deposit and lending rates. By 2001, that proportion had fallen to 8 per cent. The overwhelming proportion of the total interest spread is thus attributable to the intermediation margin charged by the commercial banks

Intermediation Costs

A standard tool of financial analysis to enable meaningful comparison is to divide the contribution of each major component of income or expense is divided by total assets. This yields, for example, a measure called the net interest margin, defined as interest income on loans minus interest expenses on deposits divided by total assets. That is,

Net Interest Margin = <u>Interest Income on loans – interest expenses on deposits</u>

Total Assets

Other important benchmarks are non interest income to total assets and operating costs to total assets. Operating ratios for income and expenditure for the Jamaican industry are set out in Tables 5 and 7.

<u>Table 5   Commercial Bank Operating Ratios</u>

(% of Average Total Assets)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Net Interest Margin	2.3	2.9	3.2	1.6	2.8	3.2	3.0	3.1	3.3	-0.7
Other Income	6.5	6.5	7.6	9.5	9.1	10.2	9.0	8.8	6.8	11.2
- Investments	4.0	3.8	3.0	5.9	5.8	7.4	6.2	6.1	4.5	9.4
- Fees	0.9	0.8	0.9	0.9	1.0	1.1	1.3	1.2	1.2	1.2
Other	1.6	1.8	3.7	2.7	2.3	1.7	1.5	1.5	1.1	0.6
Total	**8.8**	**9.4**	**10.8**	**11.1**	**11.9**	**13.3**	**12.0**	**11.8**	**10.0**	**10.5**

Total commercial bank income has typically been equivalent to 11% of assets. As the data shows, however, about 80% of income is attributable to sources other than net interest earnings from loans. Even in periods of sharp expansion of private sector credit, banks have garnered most of their income from holding Government securities. Indeed, the ratio of loans to total assets has fallen steadily over the period. Holdings of FINSAC securities in 1997-98 have contributed to a sharp increase in "investments" where these bonds were issued in exchange for non-performing loans. The sharp fall in outstanding loans led to the 1998 situation where interest expenses on deposits exceeded interest earnings on loans.

Table 6. Loans as a percent of Total Assets

1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	M-99	J-99	S-99
47.7	50.5	45.0	32.1	36.7	35.6	37.8	40.4	42.8	31.3	20.5	19.6	17.1

The typical income stream of 11% of assets covers operating expenses averaging 8% of assets and the remainder going to provisioning and profits. In the eight years leading up to 1996, profits remained positive despite a relatively sharp increase in operating costs over the period. Staff costs moved from 2.8% of assets to 3.8% but other operating costs moved from 3.3% in 1990 to 5.4% in 1996. Profits only turned negative when heavy loan losses were booked in 1997 and 1998 as part of the restructuring of the industry. Although the changes in loan classification and administration affected the entire industry, it should be noted that the heavy losses were concentrated among a few banks.

Table 7. Intermediation Costs

(% of Average Total Assets)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Operating Costs	5.6	6.2	6.6	6.7	7.5	7.8	8.0	9.2	9.1	9.3
o.w. Staff	2.8	2.9	2.9	2.9	3.5	3.5	3.8	3.8	3.9	3.8
Loan losses	0.2	0.1	0.3	0.3	0.3	0.5	0.4	0.6	3.9	2.0
Other	0.2	0.2	0.2	0.3	0.3	0.4	0.2	0.3	0	-0.2
Profits	2.7	2.8	3.6	3.8	3.8	4.6	3.5	1.8	-3.0	-0.5
Total	**8.8**	**9.4**	**10.8**	**11.1**	**11.9**	**13.3**	**12.0**	**11.8**	**10.0**	**10.5**

The structure of income and expenditure point to the following:

- While interest rate spreads are absolutely wide, loans represent a low and declining proportion of bank assets and hence the contribution of the net interest margin to total income is relatively small.

- Net interest margin accounts for 25%-30% of bank income. Income from investments dominate and determine the overall revenue performance of banks.

- Operating costs have risen steadily as a proportion of assets although staff costs have stabilized since 1996.

- Loan losses booked in 1997 and 1998 have eroded the capital of some banks.

- Non personnel operating costs have increased steadily. These comprise occupancy costs (rental, maintenance, security), professional fees (legal advertising, auditing), data processing, stationery, etc. It is these areas of overhead and operating costs that are amenable to savings from mergers and rationalization.

Using the assumption that the interest spread mirrors the structure of bank costs, the spreads observed over the past three years can be decomposed as follows:

	1997	1998	1999 (Sept)
Avg Deposit Rate	9.2	9.7	6.8
Avg Loan Rate	23.4	20.5	22.8
Spread	**14.2**	**10.8**	**16.0**
Cash Reserves	3.0	3.0	1.4
Operating expenses	10.2	6.9	9.1
Loan losses	4.4	1.5	1.2
Other costs	0	-0.2	0.6
Profits	-3.4	-0.4	3.7

3. Benchmarks

These aggregated returns mask wide differences across the industry as the cost of funds and the returns from loans vary by the size and business strategy of each bank. The overall operating results also point to the differences between the Jamaican industry and that of commercial banks in the region and the USA.

The following table sets out key operating ratios for a sample of Jamaican banks in 1998.

Table 8.   Operating Ratios of Selected Jamaican Banks, 1998

In percent of Total Assets

	Bank A	Bank B	Bank C	Bank D	Bank E	Bank F	INDUSTRY
Interest on Loans	8.4%	4.2%	3.7%	8.7%	7.3%	15.1%	**6.4%**
Int. Paid on deposits	6.6%	8.2%	7.3%	6.0%	3.7%	8.1%	**7.1%**
Net interest margin	1.8%	-4.1%	-3.6%	2.7%	3.6%	7.0%	**-0.7%**
Investment income	5.7%	11.4%	14.0%	5.6%	3.7%	2.7%	**9.7%**
Other Income	3.5%	1.9%	2.6%	2.9%	4.5%	4.0%	**1.9%**
Employee costs	3.4%	3.9%	4.3%	4.5%	3.8%	3.9%	**3.9%**
Borrowing costs	0.9%	2.6%	6.7%	0.5%	2.2%	1.2%	**2.9%**
Other Operating costs	2.1%	2.1%	3.9%	3.5%	2.6%	4.1%	**2.7%**
Total Operating Costs	**6.4%**	**8.6%**	**14.9%**	**8.5%**	**8.6%**	**9.2%**	**9.5%**
Provisions for losses	0.3%	2.0%	1.1%	1.3%	0.7%	2.4%	**2.1%**
Pre-tax profits	4.0%	-1.5%	-3.7%	0.4%	1.8%	1.0%	**-0.5%**
Avg. Loan rate	24.4%	21.7%	28.9%	27.4%	21.3%	25.8%	**20.5**
Avg. Deposit rate	8.6%	10.9%	13.1%	7.3%	6.0%	12.0%	**9.7**
Net Spread	15.8%	10.8%	15.8%	20.1%	15.3%	13.8%	**10.8**

The overall performance of the Jamaican banking industry in 1998 was heavily influenced by the operations of entities that were being restructured. The negative interest margins and heavy borrowing costs of these entities resulted in losses which were not reflective of the rest of the industry. The results of some of these entities are included in the sample, however, to show the extent of the variation in spreads and operating costs in the industry.

Net spreads in 1998 ranged from 8% in Bank B to 20.1% in Bank D for an overall average of 10.8%. Differences in effective loan rates depended mainly on loan quality

as well as the profitability of certain higher risk loan products. Variations in deposit rates were related to the extent of branch networks and the share of savings and demand deposits in total deposits.

As discussed earlier, low spreads do not necessarily imply high efficiency. The lowest spread in the sample was associated with the lowest return on loans and a negative interest margin. The direction of improved performance in these cases would be for higher spreads (i.e. better loan performance), positive net interest margins and an expansion in loans.

The key indicator of efficiency is the ratio of operating costs to total assets and in this area the outcomes ranged from 6.4% in the most efficient institution to 14.9% at the other extreme. The average for the industry was 9.5% and would be closer to 8.5% if the exceptional borrowing costs of one institution were excluded. The outstanding return on assets of Bank A appears to be related to its better than average control of operating costs rather than higher than average interest margins.

All the key operating ratios for the commercial banking industry in Jamaica fall far short of international benchmarks.   Total operating costs as proportion of total assets amounted to 9.5% in Jamaica in 1998 and averaged 7.4% over the period 1990-1996. By contrast, the expected standard for a mid size bank in the USA would be 3.5% while actual performance in Canada and the UK show an industry average of about 2.5%. In the region, outcomes of 4.4% to 5.1% are the norm. Operating costs of two to three times those of developed country banks are reflected in both employee and other operating costs.

Table 9.   Comparative Key Performance Indicators

In percent of Total Assets

	USA	Canada	UK	Bahamas	Belize	T & T	JAMAICA
Employee costs	2.0	1.5	1.6	2.9		2.5	**3.3**
Total Operating Costs	3.5	2.5	2.6	4.9	5.1	4.4	**7.4**
Pre-tax profits	2.0	2.0	1.2	2.4	3.3	1.6	**3.4**

Net Spread	1.3	1.7	2.9	7.5	10.0	7.6	**18.2**
Cash Reserve Req		0	0	5.0	7.0	23.0	**23.0**

Notes

1. The benchmark numbers for the USA are indicative of what would be considered good performance for a medium size regional bank in the USA. (Source: World Bank)
2. Jamaica data is the average performance for the industry for 1990-1996
3. Data for Canada, UK originally from "Bank Profitability: Financial Statements of Banks. OECD, Paris (1997). Caribbean data courtesy of CCMS, Trinidad.
4. Net spread = Avg. Loan rate – Avg. Deposit rate

It should be also noted that although operating costs have been significantly higher (as a proportion of total assets) than that of North American counterparts, net profits in Jamaica have been generally higher. These divergent patterns are related to the heavy reliance on income from investments that have enabled banks to fund these expenses. The heavy operating costs are a function of the relatively small size of some firms, the salary structure in the financial services industry and the relatively heavy outlays for support services.

The large differences in *net spread* between Jamaica and the international examples reflect the differences in the conditions faced by commercial banks. Deposit rates of 10% and loan rates of 28% do result in spreads of 18%.   The cross country differences in nominal rates encapsulate the premium for undertaking the varying risks that have to be covered in each environment, the degree of competition in the financial sector, and inflation.

4.   Concluding Observations

The absolute size of banking spreads in Jamaica is an outcome of the factors that have defined the economic environment. Several elements of the macroeconomic environment have improved markedly since 1997 while the banking sector itself has been undergoing extensive restructuring. The challenge now is to complete that process and to place the Jamaican industry in a position to compete on even terms in a global environment of rapidly integrating financial services.

In this regard, there are macroeconomic policy elements and microeconomic factors. Low inflation is a key element in the minimization of banking spreads. Low and stable inflation puts a floor on deposit rates, limits the mark-up factor on the real return on assets that banks target and raises transaction costs. Inflation has also been an important factor in the behaviour of the organized labour force and which has linked the pay scales in the industry to periods of inflated profits in the sector. The continuation of low and predictable inflation will therefore be crucial to the integrity of contracts. Exchange rate stability is consistent with a low inflation milieu and has a similar dampening effect on interest rates and spreads.

The pattern of inflation over the past twenty years meant that nominal deposit rates needed to be at least 10% for savers to reap a real return. This floor on interest rates has been reinforced by the relative attractiveness and steady supply of Government instruments at rates which have competed with bank deposit rates and, at the same time, established a floor for bank loan rates. The level of Government borrowing and its influence on money and credit markets is thus an element of macroeconomic policy that imposes constraints on the flexibility of interest rates. The medium term outlook for balanced budgets and a net reduction in domestic debt augur well for declines in loan rates and bank spreads.

A number of international studies confirm the experience of local banks that the legal, institutional and regulatory arrangements are ultimately reflected in the size of banking spreads. In particular, the incidence of fraud, the ease with which bad credit risks survive due diligence and the state of corporate governance are transmitted to higher operating costs and asset deterioration. Cross country studies have also established that spreads tend to fall as the indicators of contract enforcement, efficiency of the legal system and lack of corruption improve. These are important elements of the infrastructure required to support an efficient banking industry.

The most promising signal of an improvement in this area is the proposal to start a credit rating agency that would allow for the sharing of the type of information that would lower default risk. Other specific proposals to enhance the capability of the authorities to detect and prosecute cases of fraud are also being considered. Corporate management and accountability can be addressed by a combination of a revised Companies Act, stronger tax administration and credit information.

The cash reserve requirement has been ascribed too large a role in explaining the high interest margins in Jamaica. The analysis shows that even if reserve requirements were abolished, the direct impact on current loan rates of about 22% would be no more than 2 percentage points. This limits the role of reserve policy in influencing loan rates over the medium term.

Despite the wide spreads, however measured, and however justified by perception of risk, much of the margin in Jamaican operations is consumed by the size of the operating expenses. Average staff costs at 3.8% of assets is almost twice that of US counterparts. Other operating costs which include security, premises, depreciation and advertising are also proportionately higher than the benchmark. Banks have therefore managed to operate profitably on account of the relatively high yield on risk-free investments in Government securities.

The degree to which banks will be able to operate on a lower spread brings the issue of operating efficiency to the fore. It raises the question of optimal size of banks and branch networks. Where the need for efficiency improvements is driven by the demands of shareholders, the prospects for change are brighter but are likely to include a tradeoff between providing service through a wide branch network of branches versus more limited service through fewer but efficiently sized branches. Ancillary operating expenses – occupancy, maintenance, security, etc. would benefit from this process. As the experience of some local banks have shown, however, this process of consolidation and rationalization is not instantaneous and involves heavy initial costs.

Some features of consumer banking in the USA which contribute to their lower operating costs – ATM banking, point of sale debits, home computer banking etc. – are enjoying increasing use in Jamaica but the general picture is one of a large number of bank branches spread throughout the island. The prospects for a reduction of staff costs will depend heavily on the use of efficient and appropriate technology to reduce transaction costs and data processing. Pooled data centres under arrangements that are similar to the ATM network would assist in lowering cheque processing/ accounting costs of individual banks.

The quality of the loan portfolio limits the flexibility of some banks to reduce rates. This is an issue that is being addressed by removing the bad loans from the balance sheet, replacing them with risk free assets while encouraging improved risk management through closer supervision. The issue of impaired asset quality is not universal and, in principle, should disappear after intervention and recapitalization. The existence of wide spreads before and after intervention and its persistence across the industry and over time points to the persistence of credit risk in addition to the recurring issue of operating efficiency. It is clear that the restructuring of the banking system requires more than mere recapitalization and regulation but will require internal reengineering if the cost of inefficiency reflected in banking spreads is to be reduced.

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OPERATING INCOME AND EXPENDITURE OF COMMERCIAL BANKS
In Millions of Jamaica Dollars

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
1 Interest on Loans, Advances, Discounts	1362	2104	2602	4391	6268	10386	11726	16190	14371	9771	7996	7568	7824
2 Interest paid	1040	1634	1876	3787	4839	7958	8672	12342	9661	10847	10446	10915	10645
Savings Deposits	641	952	1053	1726	2364	2995	4093	5219	5252	5416	5446	5325	5444
Time Deposits	331	558	707	1744	2129	4343	3314	5587	3118	4404	3910	4357	4346
Demand Deposits	68	124	116	317	346	620	1265	1536	1291	1027	1090	1234	855
3 Interest Margin	322	470	726	604	1429	2428	3054	3848	4710	-1076	-2450	-3347	-2822
4 Other Income	910	1049	1687	3528	4672	7812	9238	11044	9709	17560	22958	25476	25069
Svce Charges, Fees, Commissions	130	137	191	332	494	821	1360	1502	1778	1836	2154	2476	2858
Investments	560	616	669	2178	2974	5701	6367	7691	6410	14735	19684	21684	20779
Foreign Exchange Gains	89	163	627	579	777	851	1121	667	768	724	728	1058	1145
Other Income	131	133	200	439	427	439	390	1184	753	265	393	258	287
5 Gross Margin	1,232	1,519	2,413	4,132	6,101	10,240	12,292	14,892	14,419	16484	20509	22129	22247
6 Operating Costs	789	1,005	1,480	2,472	3,867	6,039	8,137	11,566	13,038	14461	15643	15591	15558
Staff Expenses	391	468	647	1,076	1,787	2,690	3,853	4,850	5,546	5912	5636	6143	6475
Expenses re Premises, Fixed Assets, etc	66	110	182	335	476	714	927	1,145	1,280	1252	1210	1154	1216
Advertising,Fees, etc.	60	76	120	189	263	350	497	563	464	422	494	484	838
Borrowing Costs	88	119	167	228	386	575	1025	2585	2671	4444	4854	4943	3894
Other	184	232	364	644	955	1,710	1,835	2,423	3,077	2430	3449	2867	3135
7 Net Margin (5-6)	443	514	933	1,660	2,234	4,201	4,155	3,326	1,381	2023	4866	6537	6690
8 Other Credits	-66	-53	-122	-242	-282	-668	-579	-1,070	-5,648	-2781	-2717	-1662	-724
Depreciation	-35	-36	-55	-121	-142	-246	-296	-366	-527	-560	-570	-828	-788
Provision for losses	-35	-20	-68	-125	-144	-391	-415	-736	-5592	-3118	-2055	-1664	-226
Other Credits	4	3	1	4	4	-31	132	32	471	898	-91	830	290
9 Pre-tax profits (7+8)	377	461	811	1,418	1,952	3,533	3,576	2,256	-4,267	-758	2149	4875	5966
MEMO													
Stock of Assets	14,005	16,171	22,333	37,161	51,358	76,963	102,231	126,142	143,823	151,972	194,957	222,103	239,820
Loans	6,674	8,173	10,050	11,930	18,836	27,436	38,595	50,993	61,506	47,587	32,192	35,318	44,576
Deposits	9,689	11,237	14,834	25,159	37,432	55,442	74,984	91,229	105,827	111,819	126,814	149,666	158,918

Relationship between the Loan Rate, the Deposit Rate and the Cash Reserve Ratio

The banks' balance sheet identity can be defined as follows:

(1) $\qquad R + L = D$

where R = Cash Reserves, L = Loans and D = Deposits. The cash reserves can be expressed as rD where r is the cash reserve requirement.

There is also the income identity:

(2) $\qquad ilL = idD + C(L + R)$

where il = interest rate on loans, id = interest rate on deposits and C = costs and profits expressed as a percentage of assets.

From (1) we have:

(3) $\qquad L = D - R$
$$= D - rD$$
$$= (1 - r)D$$

Equation (2) can therefore be expressed as follows:

(4) $\qquad il(1 - r)D = idD + CL + CR$
$$= idD + C(1 - r)D + CrD$$

which, dividing through by D yields

(5) $\qquad il(1 - r) = id + C(1 - r) + Cr$
$$= id + C - Cr + Cr$$
$$= id + C$$

Assuming operating costs do not vary with changes in interest rates, the relationship between the loan rate and the deposit rate for a given reserve ratio reduces to:

(6) $\qquad il = \dfrac{id}{1 - r}$