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OPERATIONAL RESULTS OF COMMERCIAL BANKS IN JAMAICA: 1991 - 1993

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INTRODUCTION

This paper analyses the operational results of commercial banks in Jamaica over the 1991 - 1993 period. Attention is focussed on the costs of mobilizing funds within the banking system and on changes in the banks' interest rate spreads. The costs of mobilizing funds are an important part of overall intermediation costs in banking. Such costs, if excessive, involve a loss of scarce resources to real sector activity. Changes in these costs are therefore an important policy issue.

There are several factors which can account for high intermediation costs in banking. These include the degree of concentration in the sector and the extent to which the lack of a competitive market structure influences its operational results. Intermediation costs may also be high because of an inflationary environment or because of the prevailing stance of monetary or fiscal policy.

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Since 1985, the operations of commercial banks in Jamaica have grown at a considerate rate. This is partly due to a Financial Sector Reform Programme which was initiated in that year with support from the World Bank. Since then, the assets of the banking system have increased from J$6.6 billion at December 1985 to J$62.3 billion at December 1993. As a consequence, the commercial banks' share of total assets in the financial system (excluding the Central Bank), has risen from 60.0 percent in 1986 to 66.4 percent by 1993. Eleven commercial banks now operate in Jamaica, but competition within the sector is dominated by three large banks. They presently account for about 67.0 percent of the total assets of the sector.

Since 1991, banking system activity has been significantly influenced by certain measures that were taken to deregulate the money and foreign exchange markets. The most important changes were related to the removal of the Exchange Control regulations and the establishment of an inter-bank foreign exchange market. These changes have resulted in increased coordination between monetary and foreign exchange policies, the main focus of the latter being the pegging of the Jamaican to the U.S. dollar and efforts to stabilize the movement of the exchange rate between the two currencies. These new developments have increased the scope for the banks to make profits through an expanded range of both money market and foreign exchange transactions.

A sharp acceleration in the rate of inflation was experienced in the 1991 - 1993 period. After the introduction of the new inter-bank foreign exchange market in the latter part of 1990, a substantial depreciation of the currency occurred in 1991. This led to a 81.1 percent increase in the rate of consumer price inflation in that year - the highest in Jamaica's history. In 1992, there was a reduction of the inflation rate to 42.0 percent, and this was followed by a further decline to 30.1 percent in 1993.

The analysis of the banks' operational results is based on data derived from the banks' quarterly statements of earnings and expenditure, which are submitted to the Bank Inspection Department of Bank of Jamaica (BOJ). These reports provide information on actual bank costs and expenditure (see Appendix 1). These are are then related to other data derived from the banks' balance sheets to give estimates of average costs and income as well as other indicators of performance in the banking sector. The quarterly reports are unaudited, but there is often a high degree of consistency between these statements and the final audited reports which the banks submit to BOJ.

OVERVIEW OF COMMERCIAL BANK OPERATING RESULTS

Bank profits rose strongly in the sector during the period. The banks' pre-tax profits rose from $836.9 million in 1991 to $1407.0 million in 1992 and to $1954.1 million in 1993 (Table 1). The surge in profits benefited mainly the large banks, as their share of the total amount rose from 60.6 percent in 1991 to 79.4 percent in 1992 and 75.5 percent in 1993.

TABLE 1 - BANKING SECTOR EARNINGS AND OPERATING RESULTS, 1991-1993

	$ million			Share %			Change %	
	1991	1992	1993	1991	1992	1993	91/92	92/93
1. Total Income	2530.9	4339.5	6436.9	100.0	100.0	100.0	71.5	48.3
(i) Net Int. Income	715.3	515.4	1385.2	28.0	12.0	21.5	-28.0	168.8
(ii) Other Income	1815.6	3824.1	5051.7	72.0	88.0	78.5	110.6	32.1
2. Total Expenses	1563.0	2674.0	4169.9	100.0	100.0	100.0	71.1	55.9
(i) Staff Expenses	657.6	1097.2	1822.9	42.0	41.0	43.7	66.8	66.1
(ii) Other Expenses	905.4	1576.8	2347.0	58.0	59.0	56.3	74.1	48.8
3. Net Margin (1-2)	967.9	1665.5	2267.0				72.1	36.1
4. Depreciation and Other Provisions	131.0	258.5	312.9				97.3	21.0
5. Pre-Tax Profits (3-4)	836.9	1407.0	1954.1				68.0	38.9

The main source of the sector's strong profits position was the growth of its non-interest income. This stood at $1851.6 million in 1991, rising by 110.6 percent to $3824.1 million in 1992 and by a further 32.1

percent to $5051.7 million in 1993. These results can be linked to certain policy measures that were introduced at that time to support the exchange rate. In 1991, a massive 61.2 percent depreciation of the currency and a further 24.7 percent decline in value during the first four months of 1992 led to the introduction of a tight monetary policy regime that was intended to stabilize the movement of the exchange rate. As a consequence, the liquid assets ratio of the banks was increased from 20.0 percent in April 1991 to 50.0 percent by July 1992. The cash reserve ratio of the banks was also increased from 19.0 percent in November 1991 to 25.0 percent by July 1992. The increase in the liquid assets ratio gave rise to a large expansion in the banks' holdings of short-term government instruments as well as BOJ certificates of deposits, the latter arising from open market operations carried out by the Central Bank to support the new monetary policy stance. The banks' non-interest income was therefore boosted by large receipts from investments in these short-term securities. Income from this source rose by 323.8 percent in 1992 and by a further 56.1 percent in 1993. The banks also generated large income flows from fees, from currency trading in the nearly liberalized foreign exchange market as well as from transactions in the commercial paper market.

The banks' net interest income, traditionally the major source of bank earnings in some countries, accounted for a relatively small and declining proportion of total income in each year. This has been the pattern in Jamaica for several years. It is a reflection of the monetary and fiscal policy framework in which the banks operate. During the period, net interest income in the sector fell from $715.3 million in 1991 to $515.4 million in 1991, but there was a sharp increase to $1385.2

million in 1993. In 1992, the increase in interest rates constrained loan demand while inducing a build up of deposit balances. Thus, although the interest rate spread widened, net interest income fell. In 1993, net interest income rose by 168.8 percent over the preceding year. This was due mainly to an increase in loan demand, following the decline in interest rates from the year before. The bulk of net interest income in the sector accrued to the large banks. They benefited from a lower cost of funds than the smaller banks due to the mobilization of a large volume of low-cost savings deposit balances through their wide branch network.

The banks' operating expenses grew strongly in the period from $1563.0 million in 1991 to $2674.0 million in 1992 and $4169.9 million in 1993. The increases were due mainly to high staff expenses which were the single largest category of bank expenditure, averaging about 42.2 percent of total costs over the three year period. After the steep increase in inflation in 1991, there were substantial wage settlements in both 1992 and 1993, which caused staff expenditure to rise by 66.8 percent in 1992 and 66.2 percent in 1993, compared with an increase of 38.3 percent in 1991 over the preceding year. All other categories of operating costs - rents, advertising, fees etc. and borrowing costs - rose rapidly over the period, but particularly in 1992, partly as a lagged response to the high inflation rate of the year before.

Operating expenses are shown below as ratios of the outstanding stock of assets during the period:

OPERATING EXPENSES AS PERCENTAGE OF AVERAGE ASSETS

	1991	1992	1993
All Banks	7.4	7.3	7.9
Large Banks	7.4	6.8	7.4
Other Banks	7.6	8.3	9.0

These ratios, which are high by international standards, changed only marginally between 1991 and 1993, although the inflation rate was falling from 81.1 percent in 1991 to 30.1 percent in 1993. If an increase/decline in these ratios can be taken as rough indicators of changes in operating efficiency, it is evident that there was little or no improvement during the period. At the same time, the ratios for the large banks were consistently below those for the other banks, suggesting a relatively more efficient level of operations within the former group compared with the latter group. It is also evident that the decline in the inflation rate had no real impact on changes in the ratios over the period.

Provisions for loan losses remained relatively small, and therefore had little impact on bank profits. They amounted to $74.1 million in 1991, $131.3 million in 1992 and $161.6 million in 1993. These were marginal amounts given average outstanding loan portfolios of $ 9710.2 million in 1991, $11733.0 million in 1992 and $18535.4 million in 1993. Such low provisions suggest that the banks were probably not pressed to incur high credit risks, given their large sources of relatively secure non-interest income.

The banks' pre-tax profits - the other main component of bank intermediation costs - are expressed in Table 2 below as ratios of the outstanding stock of assets:-

TABLE 2 - RATIOS OF PRE-TAX PROFITS TO ASSETS 1991 - 1993

	1991	1992	1993
Large Banks	3.4	4.4	4.1
Other Banks	5.2	2.5	2.8
All Banks	4.0	3.8	3.7

It was not possible to obtain comparable data for other countries in the Caribbean region, and no attempt was made to compare the data with those for the major industrial countries, where a high level of competition is expected to result in low rates of return. The ratios for the banking system in Jamaica compare favourably with those for a large number of other countries, developed as well as developing. Pre-tax ratios in these countries generally varied between 0.7 percent and 2.4 percent compared with a variation of between 3.7 percent and 4.0 percent in Jamaica over the 1991 - 1993 period. With regards to the large banks, these were among the highest ratios to be found anywhere.

The Other Banks recorded a high pre-tax ratio of 5.2 percent in 1991. This abnormally high rate can be linked to large profits which were made in foreign exchange trading in 1991 during the transitional phase when the foreign exchange market was being reorganized.

COST OF FUNDS AND INTEREST RATE SPREADS

Estimates of interest rate spreads are calculated from income and expenditure flows contained in the quarterly statements provided by the banks to Bank of Jamaica. Actual interest cost on deposits incurred by the banks is related to the outstanding stock of deposit balances (i.e. the average of the monthly outstanding stock of deposits over the twelve-month period) to give an average deposit rate or an average cost of funds for each year. In addition, the banks also incur a cost arising from the imposition of the cash reserve requirement, which is an important instrument in the formulation of monetary policy by BOJ. These costs have to be incorporated in the banks' lending rates and charged to borrowers[1]. The average lending rate is derived as the ratio of the actual interest income received on loans and advances to the outstanding stock of loans and advances (based on the same principle mentioned above). On this basis, it has been possible to disaggregate the banks' average loan rate into a cost of funds (i.e. the cost of deposits plus the cost of the cash reserve ratio) and a spread between these costs and the loan rate. As is evident, these estimates give average rates, since they incorporate different maturities and risks that go into the determination of market interest rates. Average rates are useful however, in providing a macro view of developments in the sector, and they also allow valid comparisons to be made over time and between different sub-groups.

1/ See Appendix 2 for the derivation of a formula which links the cash reserve ratio to the banks' lending and deposit rates.

The resulting estimates over the three year period are shown in Table 3 below:-

TABLE 3 - COMPONENTS OF THE BANKS' AVERAGE LOAN RATES 1991 - 1993

	1991	1992	1993
Cost of Funds			
Average Deposit Rate	14.9	17.0	13.9
Cost of Cash Reserve Ratio	3.7	4.9	4.6
Interest Rate Spread	10.6	19.7	18.2
Average Loan Rate	29.2	41.6	36.7

The table shows an increase in the average cost of deposits form 14.9 percent in 1991 to 17.0 percent in 1992. There was, however, a decline to 13.9 percent in 1993. The increase in 1992 reflected the higher market rates which were associated with the increase in the cash reserve ratio in that year. In 1993, market rates fell because of a large liquidity build up in the banking system. There was also a lower cost pattern in the 1993 structure of deposit holdings due to the accumulation of a larger proportion of current account balances than in either 1992 or 1991.

With regards to the cost of the cash reserve ratio, this depends on changes in the average cost of funds as well as on variations in the statutory requirement. In 1991, the cash reserve ratio remained at 19.0 percent for most of the year. During 1992, it was increased from 19.0 percent to 25.0 percent, the weighted average rate for the year being 22.5

percent. In 1993, the ratio remained at 25.0 percent for the entire year. On the basis of the average cost of funds in each year, the cost of the cash reserve ratio was therefore estimated at 3.7 percent in 1991, 4.9 percent in 1992 and 4.6 percent in 1993.

Average loan rates were estimated at 29.2 percent in 1991, 41.6 percent in 1992 and 36.7 percent in 1993. The difference between the average loan rates and the average cost of funds (including the cost of the cash reserve ratio) gives estimates of the interest rate spread. These show that the overall spread for the banking system almost doubled between 1991 and 1992, rising form 10.6 percentage points in 1991 to 19.1 percentage points in 1992. In 1993, it fell to 18.2 percentage points. The large increase in 1992 is reflected by the fact that the average loan rate rose by 12.4 percentage points over 1991, while the average deposit rate increased by only 2.1 percentage points and the cost of the cash reserve ratio by 1.2 percentage points. In 1993, both average loan and deposit rates fell marginally below the 1992 level, and the resulting interest rate spread was therefore slightly below that for 1992.

Although the interest rate spread rose sharply between 1991 and 1992, the banks net interest income in 1992 fell below that for 1991. This was due to the relative contraction of the bank's loan portfolio in 1992, because of the high interest rate level. In 1993, loan rates fell, but net interest income rose because of the increase in the volume of loans.

The 1991 - 1993 data suggest a new phase in the historical pattern of bank spreads and profitability in Jamaica (Table 4).

TABLE 4 - INTEREST RATE SPREAD AND PROFITABILITY OF COMMERCIAL BANKS

1984 - 1993

YEAR	INTEREST RATE SPREADS	RATIO OF PRE-TAX PROFITS TO ASSETS
1984	4.7	2.2
1985	7.0	1.5
1986	9.7	2.5
1987	8.4	2.0
1988	n.a	n.a
1989	7.7	3.0
1990	7.8	2.9
1991	10.6	4.0
1992	19.7	3.8
1993	18.2	3.7

Over the past ten years, the banks' interest rate spreads have reached double digits only during the period under review. In the preceding period the average interest rate spread was less than a half of what it was in 1992 and 1993. Profit rates in the review period were also well above those in preceding years. A partial explanation for the large spreads in the review period was the higher rate of inflation compared with preceding years. A more important explanation appears to be related to the changing pattern of income flows in the banking system. This shows large income flows from investments in government securities and other short-term instruments as well as new sources of income from currency trading in the newly liberalized foreign exchange market in which the banks were the main participants. These relatively secure sources of income appear to have given the banks the flexibility of generating high interest spreads and profits on the basis of restricted loan portfolios.

THE SAVINGS DEPOSIT RATE

Savings deposits remained the largest single source of funds in the banking system, accounting for 52.7 percent, 45.2 percent and 45.0 percent of total deposit balances in 1991, 1992 and 1993 respectively. The costs of administering pass book savings accounts are generally high, but the relatively low rates of interest paid on these balances appear to have given the banks the foundation on which to generate high interest rate spreads.

In 1990, the administratively determined minimum savings deposit rate of 18.0 percent was abolished. This was intended to lead to a more competitively determined interest rate structure and to a higher rate on savings deposits than existed previously. The banks have in fact offered a wide range of nominal interest rates on savings deposit balances during the period as the following rates show:-

1990	1991	1993
15 - 22%	15 - 32%	15 - 25%

Nevertheless, the average interest cost of savings deposits has been low, being near to or below the minimum of the ranges quoted above. These are shown in Table 5 below:-

TABLE 5 - AVERAGE SAVINGS DEPOSIT RATE

	1991	1992	1993
ALL BANKS	14.3	15.3	13.9
LARGE BANKS	13.7	15.5	14.0
OTHER BANKS	16.6	14.7	13.5

The average rate for the banking system fell to 13.9 percent in 1993 from 15.3 percent in 1992 and 14.3 percent in 1991. In 1993, the average rate of the large banks was marginally above the sector average while the rate for the other banks was below it. In 1992, the relative position was the same. In 1991 however, the relative position was reversed with the average rate of the other banks being significantly higher at 16.6 percent than the 13.7 percent rate for the large banks and an industry average of 14.3 percent.

The pattern of these rates indicates that the competition for savings deposit balances was not as strong as was expected. The weak competition can be explained by the dominance of the large banks and their wide branch network. Thus the distribution of savings deposit balances between the large banks and the other banks changed only marginally during the period, as is shown in Table 6 below:-

TABLE 6 - DISTRIBUTION OF SAVINGS DEPOSIT BALANCES IN THE BANKING SYSTEM

(%)

	1991	1992	1993
LARGE BANKS	76.9	76.5	75.7
OTHER BANKS	23.1	23.5	24.3
	100.0	100.0	100.0

As mentioned before, the low interest cost on savings deposits facilitated the widening of the interest rate spread during the period. Thus, in 1991, the average rate on savings deposits was 14.3 percent when the interest rate spread was 10.6 points. However, the marginal increase of the rate to 15.3 percent in 1992 and subsequent decline to 13.9 percent in 1993 was accompanied by the sharp increase in the spread to 19.7 points in 1992 and 18.2 points in 1993.

STRUCTURAL CHANGES

Some changes in the period were linked to developments which began much earlier. Thus, the distribution of assets shows the Other Banks marginally increasing their share of the market during the period (Table 7). But this process began earlier when the Financial Sector Reform Programme was started in 1985.

TABLE 7 - DISTRIBUTION OF ASSETS IN THE BANKING SECTOR

(%)

	1991	1992	1993
LARGE BANKS	69.6	68.6	67.3
OTHER BANKS	30.4	31.4	32.7
	100.0	100.0	100.0

The liberalization of the foreign exchange market in 1991 gave a boost to the operations of the smaller banks, and this has also had an impact in changing the structure of the sector.

The percentage of deposits in the banks' balance sheet increased in the period (Table 8). The large banks, with their wide branch network, had the broader deposit base. However, the expansion of deposits in both sub-groups was based on an increase in the volume of demand or current account balances. For the large banks the proportion increased from 16.3 percent in 1991 to 24.3 percent in 1993, whereas, for Other Banks, the change was from 16.3 percent to 23.0 percent. The greater proportion of demand deposits can be linked to the large volume of foreign currency

TABLE 8 - DEPOSITS AS PERCENTAGE OF TOTAL LIABILITIES

	1991	1992	1993
LARGE BANKS:-	70.3	73.0	76.6
Demand	16.3	21.2	24.3
Savings	39.2	35.2	37.1
Time	14.8	16.6	15.2
OTHER BANKS:-	61.7	62.7	66.8
Demand	16.3	20.0	23.0
Savings	27.4	23.5	24.4
Time	18.0	19.2	19.4

transactions which took place in the inter-bank market. The existence of these funds helped to keep down the banks' interest costs on deposits thereby allowing them the flexibility to widen their interest rate spreads (Table 9).

TABLE 9 - COMPARISON OF INTEREST RATE SPREADS

	1991	1992	1993
LARGE BANKS	9.9	18.0	17.6
OTHER BANKS	14.4	24.4	19.2
ALL BANKS	10.6	19.7	18.2

General market conditions apparently allowed both sub-groups to increase their interest rate spreads sharply in 1992 and to maintain them at a high level in 1993. For the large banks, the 1993 level was marginally below that for 1992, but substantially below it for the Other banks. Competition within the sector obviously had no impact on the spreads generated by the large banks, although it might have affected those of the smaller banks.

Liberalization of the foreign exchange market brought about significant changes in the composition of the bank's non-interest income flows. In 1991, income from foreign exchange trading rose to about 39.2 percent of total non-interest income receipts, compared with an average of about 14 percent in the preceding two years. Since 1992, the ratio has fallen, but it is still much higher than it was in the pre-liberalization period. The present composition of the bank's non-interest income flows shows the largest receipts from investment, which consists mainly of government short-term securities. These accounted for about 46.7 percent of the total in 1993.

The bank's loan portfolio as a percentage of total assets declined in the period (Table 10).

TABLE 10 - LOANS AS PERCENTAGE OF TOTAL ASSETS

	1991	1992	1993
LARGE BANKS	50.2	34.1	36.5
OTHER BANKS	36.7	27.3	32.1
ALL BANKS	46.1	32.0	35.1

The changing pattern was clearly linked to the increase in the statutory liquid assets ratio from 20 percent in 1991 to 50 percent in 1992, and the maintenance of that ratio since then. In 1993, loan demand rose due to the fall in interest rates, although the liquid assets ratio had remained unchanged at 50 percent. The relative size of the banks' loan portfolio will increase if interest rates continue to fall, but major changes will depend on shifts in the current stance of monetary policy.

SUMMARY AND CONCLUSION

Commercial banking operations in the 1991 - 1993 period were characterized by high intermediation costs, with both operating expenses and pre-tax profit rates being relatively large by international standards.

The gross income receipts of the banks came mainly from non-interest income sources. Net interest income, traditionally the major source of bank income in many countries, accounted for an average of only about 20 percent of gross receipts during the period. This pattern of income flows, which has existed for some time, was partly a consequence of the fiscal and monetary policy environment in which the banks were operating.

The banks balance sheet structure showed an increasing proportion of short-term investments in government securities which were required to meet high statutory liquid asset requirements, as well as BOJ Certificates of Deposits that were issued to support a tight monetary policy regime. The banks also held a sizeable volume of foreign exchange assets, arising from their role as the main traders in the inter-bank foreign exchange market. As a consequence, there was a decline in the relative size of the banks' loan portfolio. The quality of the portfolio remained high, however, based on the small provisions that the banks made for loan losses.

The banks' interest rate spreads rose sharply in the period, due mainly to steep increases in loan rates. This appears to have been a response to the decline in the size of their loan portfolio stemming from the implementation of a high statutory liquid assets requirement. The banks' average costs of funds on the other hand, rose much more slowly. This was caused partly by the relatively low rates of interest paid on savings deposit balances, which provided about half of the volume of deposits mobilized by them. The banks also held a high proportion of current account balances on which little interest was paid.

The banks' cost of funds includes the cost of maintaining cash reserves with Bank of Jamaica, on which they receive no interest.

Estimates of these costs indicate that they were significant, but not large enough to prevent the banks from widening substantially their interest rate spreads during the period.

Operational costs in the banking system were high mainly because of increases in staff expenses. These formed the single largest item of bank expenditure. Other elements of expenditure also rose sharply, especially in 1992. An evaluation of the growth of operational costs has to take into account the high rate of inflation during the period. But because these costs were also associated with high rates of profits, it is likely that the banks were able to offset them by keeping their interest costs relatively low. The high degree of concentration in the banking sector and the existence of strong oligopolistic forces would have helped to reinforce this tendency.

From the perspective of overall economic policy, it is important that the high costs of commercial bank intermediation should be reduced. It is feasible for the banks to reduce loan rates (without a corresponding reduction in deposit rates) or, alternatively, to increase savings deposit rates (without a corresponding increase in loan rates). The latter action would provide more equity to savers, who provide the bulk of resources that are available to the banks. But if we assume that the aim of the banks is to maximize profits, it is unlikely that such action will be taken without strong moral suasion. In any event, these would be short-term solutions which are likely to be inadequate to resolve the issue.

More fundamental changes will require improvement in the competitive structure of the sector and a reduction in the degree of concentration in banking operations. Some movement in this direction is already taking place as is evident form the increasing share of assets held by the Other Banks. But this is a slow process that will take a long time to be completed. The process should be accelerated, however, when certain proposed changes under the Financial Sector Reform Programme are implemented. One relates to the phasing out of the non-cash portion of the statutory liquid assets requirement. This should lead to an increase in interest rate competition in the banking sector, resulting in possibly lower loan rates and interest rate spreads. The other change relates to a convergence of the cash reserve ratios of the commercial banks and non-bank institutions. The implementation of this proposal will have the effect of reducing the cash reserve ratio of the commercial banks from the present level. This should also contribute to a reduction in bank costs and interest rate spreads.

OPERATING INCOME AND EXPENDITURE OF COMMERCIAL BANKS - 1991
($000)

		Large Banks	Other Banks	All Banks
1.	Interest on Loans, Adv.	2,020,124	819,640	2,839,764
2.	Interest paid:-	1,456,714	667,783	2,124,497
	Demand Deposits	110.812	16,447	127,259
	Savings Deposits	790,876	286,891	1,077,767
	Time Deposits	555,026	364,445	919,471
3.	Interest Margin (1-2)	563,410	151,857	715,267
4.	Other Income:-	1,136,011	679,612	1,815,623
	Fee Income	159,039	43,304	202,343
	Investments	265,859	90,625	356,484
	Foreign Exchange Trading	403,871	308,433	712,304
	Other	307,242	237,250	544,492
5.	Gross Margin (3+4)	1,699,421	831,469	2,530,890
6.	Operating Costs:-	1,083,823	479,146	1,562,969
	Employee Remuneration	516,444	141,170	657,614
	Rents, Fixed Assets etc.	136,469	53,993	190,462
	Advertising, Fees etc.	68,475	70,179	138,654
	Borrowing Costs	115,652	70,541	186,193
	Other	246,783	143,263	390,046
7.	Net Margin (5-6)	615,598	352,323	967,921
8.	Other Credits:-	-108,757	-22,247	-131,004
	Depreciation (-)	-34,702	-24,649	-59,351
	Provision for Losses (-)	-74,055	—	-74,055
	Other Credits	—	2,402	—
9.	Pre-tax Profits (7+8)	506,841	330,076	836,917

MEMO ITEMS

			Large Banks	Other Banks	All Banks
Stock of:	Assets		14,752,750	6,304,604	21,057,354
	Loans		7,399,629	2,310,589	9,710,218
	Deposits:	Demand	2,403,867	1,030,403	3,434,270
		Savings	5,785,474	1,729,909	7,515,383
		Time	2,175,799	1,132,138	3,307,937

Source: Bank Inspection Department, Bank of Jamaica

OPERATING INCOME AND EXPENDITURE OF COMMERCIAL BANKS - 1992
($000)

		Large Banks	Other Banks	All Banks
1.	Interest on Loans, Adv.	3,293,597	1,588,997	4,882,594
2.	Interest paid:-	2,904,972	1,462,198	4,367,170
	Demand Deposits	246,714	89,812	336,526
	Savings Deposits	1,373,383	398,339	1,771,722
	Time Deposits	1,284,875	974,047	2,258,922
3.	Interest Margin (1-2)	388,625	126,799	515,424
4.	Other Income:-	2,567,290	1,256,837	3,824,127
	Fee Income	258,351	94,231	352,582
	Investments	1,094,753	416,313	1,511,066
	Foreign Exchange Trading	432,472	229,058	661,530
	Other	781,714	517,235	1,298,949
5.	Gross Margin (3+4)	2,955,915	1,383,636	4,339,551
6.	Operating Costs:-	1,715,235	958,805	2,674,040
	Employee Remuneration	818,866	278,313	1,097,179
	Rents, Fixed Assets etc.	224,225	133,584	357,809
	Advertising, Fees etc.	100,305	146,056	246,361
	Borrowing Costs	150,155	118,917	269,072
	Other	421,684	281,935	703,619
7.	Net Margin (5-6)	1,240,680	424,831	1,665,511
8.	Other Credits:-	-123,804	-134,727	-258,531
	Depreciation (-)	-85,387	-41,826	-127,213
	Provision for Losses (-)	-38,417	-92,901	-131,318
	Other Credits			
9.	Pre-tax Profits (7+8)	1,116,876	209,104	1,406,980

MEMO ITEMS

		Large Banks	Other Banks	All Banks
Stock of:	Assets	25,177,161	11,548,220	36,725,381
	Loans	8,584,732	3,148,313	11,733,045
	Deposits: Demand	5,341,438	2,308,973	7,650,411
	Savings	8,859,251	2,714,159	11,573,410
	Time	4,171,778	2,218,940	6,390,718

Source: Bank Inspection Department, Bank of Jamaica

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

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

(1) $R + L = D$

Where L = Loans, D = Deposits and R = Cash Reserves expressed as rD

There is also the income identity:-

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

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) $$\begin{aligned} L &= D - R \\ &= D - rD \\ &= (1 - r)D \end{aligned}$$

Equation (2) can therefore be expressed as follows:-

(4) $$\begin{aligned} il\ (1 - r)D &= idD + CL + CR \\ &= idD + C(1 - r)D + CrD \end{aligned}$$

which yields

(5) $$\begin{aligned} il\ (1 - r) &= id + c(1 - r) + Cr \\ &= id + c\text{–}Cr + cr \end{aligned}$$

Assuming other costs are zero, the relationship between the loan rate and the deposit rate for a given reserve ratio is reduced to:-

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