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Publisher's Note

The *Economic Review* is published three times a year in June, September and December, by the Central Bank of Barbados. It is prepared by the Bank's Research Department and contains articles of research undertaken at the Bank. In addition, we welcome contributions of a non-technical and empirical nature on economic and policy issues in the Caribbean. Book reviews and surveys are also welcome. All submitted papers are reviewed by the Editorial Committee* and external referees.

Articles and correspondence regarding the Review should be addressed to:

The Administrative Editor
Economic Review
Central Bank of Barbados
P.O.Box 1016
Bridgetown
Barbados
Tel: (246) 436-6870
Fax: (246) 427-1431
E-mail: cbb.lib@caribsurf.com

***The Editorial Committee**

Dr. Daniel Boamah
Mr. Harold Codrington
Dr. Roland Craigwell
Mr. Cleviston Haynes
Mr. Carlos Holder
Mr. Anthony Johnson
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Economic Review
(To the end of September 2002)

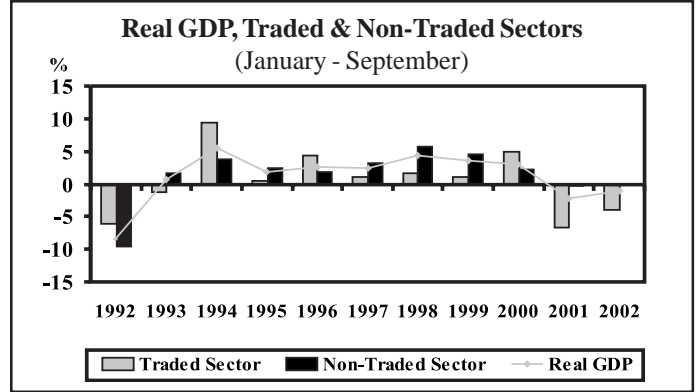
Overview

Real economic activity in Barbados grew by an estimated 1.3% in the third quarter of 2002, as both the traded and the non-traded sectors registered increases, signalling that a recovery may be under way. Nevertheless, in the nine months to September real output contracted by about 1%, due mainly to the sharp downturn in the first quarter. The decline in real gross domestic product (GDP) was reflected in modest growth in the net international reserves (NIR). Moreover, the fiscal deficit of \$249.7 million was almost double the deficit recorded for the same period last year, as public sector operations expanded to buffer the effects of the reduction in private sector output. Unemployment increased marginally in line with the declining economic activity, while inflation moderated further.

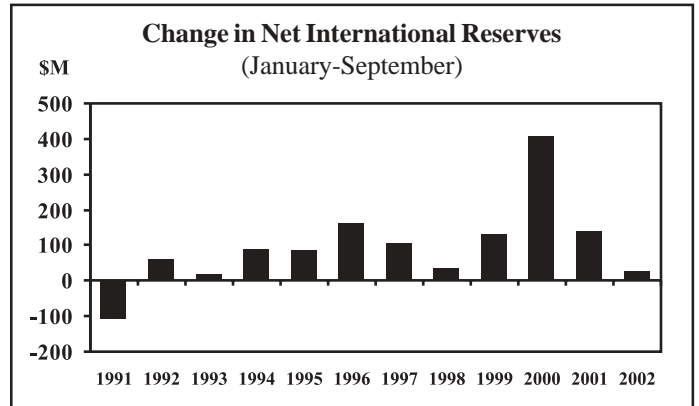
Output in the traded sectors fell by an estimated 3.9% over the first three quarters, compared to a 6.6% downturn for the corresponding period last year. After the feeble performance during the first half of the year, the tourism sector surged in the third quarter. However, this was not enough to offset the earlier weakness, and overall there was a decline of 5.4% during the nine months. In addition, the outturn for this year's sugar crop was 10% below the level of a year ago. Production in the manufacturing sector was slightly higher, reflecting growth in the food processing and miscellaneous manufacturing industries. Furthermore, activity in the non-traded sectors remained at last year's level, as diminished output in the major sectors - construction and wholesale and retail - was countered by increased activity in government, transportation, storage and communications, and electricity, gas and water.

Over the review period, the NIR recorded a moderate rise of \$27.3 million, compared to the robust expansion of \$137.8 million over the related period of 2001. Mainly modest capital inflows and low earnings from travel credits and domestic exports engendered this mild expansion. At the end of September, the import reserve cover for goods and services was estimated at 38.7 weeks.

Excess liquidity in the banking system continued to in-



crease and reached 18.8% of total domestic deposits at the end of September, the highest level attained since June 1997. Faced with insufficient investment opportunities, commercial banks' demand for treasury bills intensified, depressing the treasury bill rate from 2.71% at September 30, 2001 to 2.51% at September 30, 2002.



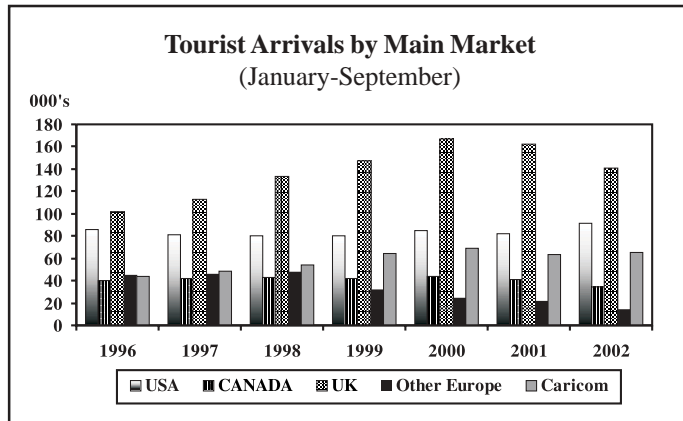
Given the waning demand for private non-financial credit and rising deposits in the financial system during the review period, the Central Bank relaxed monetary policy further by reducing the indicative average lending rate target. The total reserve requirement for commercial banks was also reduced.

Burgeoning capital expenditures, moderately higher current expenditures and a modest decline in tax revenues raised the fiscal deficit to an estimated 6.5% of GDP, in the first nine months. Given the high level of liquidity in the banking system, the Government was able to finance its deficit primarily from domestic sources.

Production, Prices and Employment

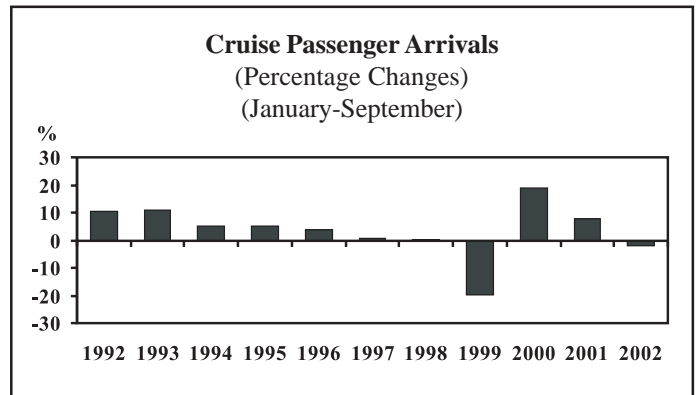
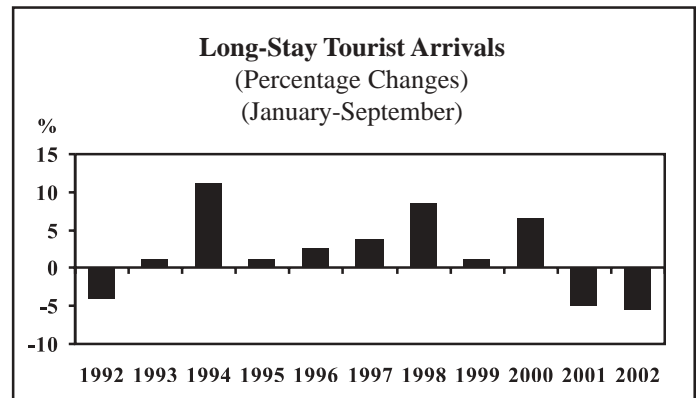
Tourism

Tourism value-added increased by 6.0% in the third quarter, but it was insufficient to offset the dismal outcome in the first half of the year. As a result, in the first three quarters, tourism output declined by approximately 5.4%, with both long-stay and cruise arrivals contracting by 5.8% and 2.1%, respectively.



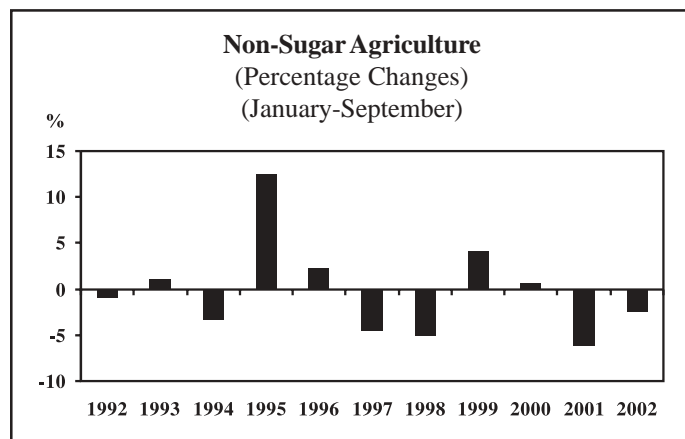
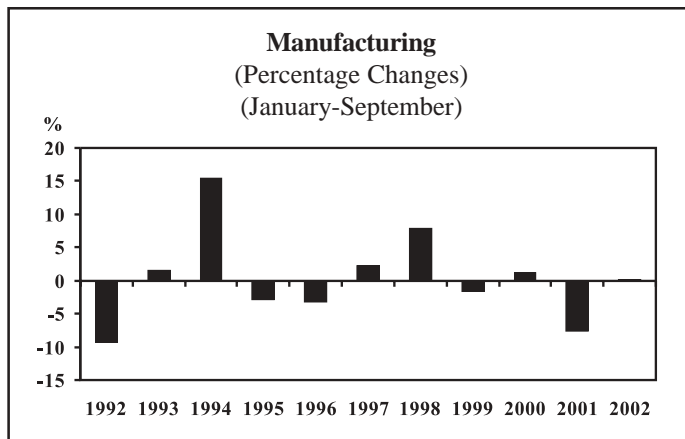
With the exception of the United States (US) and Trinidad and Tobago, all of the traditional stay-over markets suffered substantial losses. Arrivals from the US and Trinidad and Tobago improved by 11.7% and 16.7%, respectively. The higher US tourists arrivals reflected intensified marketing by the Barbados Tourism Authority, and the additional airlift capacity provided by US Airways from non-traditional areas of the US. Moreover, the Trinidad and Tobago market responded favourably to the heightened promotion of the Crop Over festival and the hosting of regional sporting competitions. Visitors from Canada, United Kingdom (UK) and Germany, decreased by 16.6%, 13.2% and 8.7%, respectively, while arrivals from the rest of Europe and the Caribbean Community (excluding Trinidad and Tobago) declined by 17.9% and 1.4%, respectively. The UK, Barbados' major tourist market, was affected by the withdrawal of a num-

ber of charters and the diversion of some visitors to cheaper competing destinations. The downturn in cruise arrivals was largely a result of the global reduction in cruise demand, reflected in the fall-off in the number of ship calls.



Manufacturing

Manufacturing output rose by less than a percentage point during the January to September period, after a substantial decline of 9.9% over the comparable period of 2001. The majority of the sub-sectors continued to struggle except the food processing and miscellaneous manufacturing industries, which expanded by 6.4% and 3.2%, respectively, on account of the "Buy Local" campaign and the 60% tariff on selected imports.



Agriculture and Fishing

This year's sugar production estimated at 44,818.7 tonnes was 10% below last year's amount, and about 9,000 tonnes lower than the EU quota. The outcome reflected reduced acreage planted, drought conditions in the planting season and a late start to the sugar harvest.

Value-added in non-sugar agriculture and fishing fell by 2.5% during the review period, compared to a 6.2% contraction in the equivalent period of 2001. This year's outturn reflected a shortfall of 8.3% in fish catches, a 6.4% fall-off in milk output and a small decline in chicken production.

Non-Traded Activity

During the first three quarters of 2002, non-traded value added was about the same level as for the same period in 2001. Construction activity was estimated to have fallen 5.4% in the first three quarters of the year, the third consecutive year of decline, as many large private sector related projects were completed. In addition, mining and quarrying and wholesale and retail contracted by 3.7% and 1.8% respectively. Diminished wholesale and retail sales were attributed to softening domestic demand and the weak traded sector activity, while the deterioration in the mining and quarrying sector was affected by a reduction in oil exploration, which outweighed an increase in quarrying production. The electricity, gas and water, business and other services, and the transportation, storage and communications sectors grew by 2.0%, 0.6% and 0.7%, respectively.

International Business Services

The number of licenses issued to international business and financial services operations expanded by 6.1% to 225, during the first three quarters of 2002. The largest category, International Business Companies (IBCs), rose by 197, a growth of 5.3% over the performance a year ago. Exempt insurance and exempt insurance management companies grew by 6 and 3 respectively, each sector tripling the number of licenses issued over the first nine months in 2001. Four licenses were granted for offshore banks, on par with last year's amount, and 15 for Societies With Restricted Liabilities (SRLs), 3 fewer than in the previous year. The improved performance in the international business services sector is possibly a result of the removal of Barbados from the OECD's list of Non-Cooperative Countries and Territories, and the consequential decrease of uncertainty concerning the regulatory environment.

Energy

As a result of the deferment of exploratory drilling since 2001, the number of barrels of crude oil produced during the first nine months of 2002 plummeted by about 16% to 295,262 and natural gas production also fell by approximately 17% to 22.2 million cubic metres. Consequently, crude oil and natural gas sales declined by 16.0% and 9.6%, respectively.

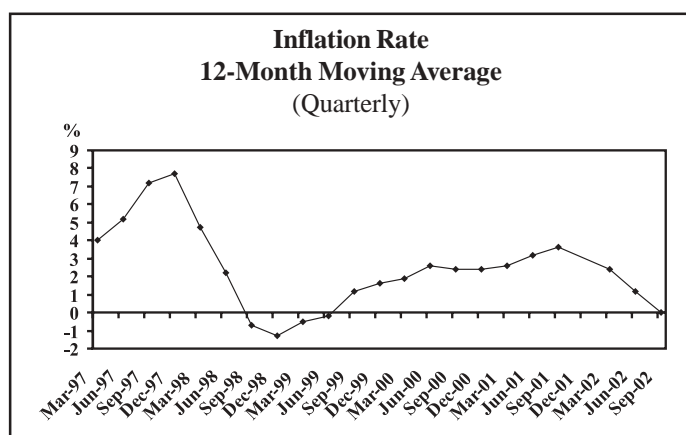
Electricity consumption was about the same level during the first three quarters. Commercial and industrial us-

age contracted slightly by 0.9% and residential rose moderately by 1.5%. This contrasted with an expansion of 4.0% in electricity consumption in the equivalent period of 2001, when both commercial and industrial, and residential usage grew moderately.

Prices and Employment

The average annual rate of inflation at the end of September 2002 was zero percent, 3.7 percentage points below the rate a year ago. On a point-to-point basis the retail price index (RPI) fell by 1.0%, reflecting lower imported inflation and depressed consumer demand. In particular, food prices, the largest component of the RPI, fell by 0.7%, and household operations and supplies, and transportation declined by 3.9% and 4.4%, respectively. Conversely, the price indices for housing, fuel and light and medical and personal care increased by 0.7%, 3.6% and 6.3%, respectively.

The unemployment rate of 10.6% at the end of the third quarter of 2002 was marginally higher than the corresponding period in 2001. The male unemployment rate was 8.9%, compared to 8.8% at the end of September 2001, while the



female unemployment rate was 12.3%, up from 12.0% last year. The number of people employed in wholesale and retail, government services, construction, agriculture and fishing, and general services increased, but they were not enough to neutralise the decreases recorded for the other sectors.

In particular, employment in the manufacturing sector continued to contract, with precision instruments and electronics recording the largest declines, reflecting diminished global demand for their products.

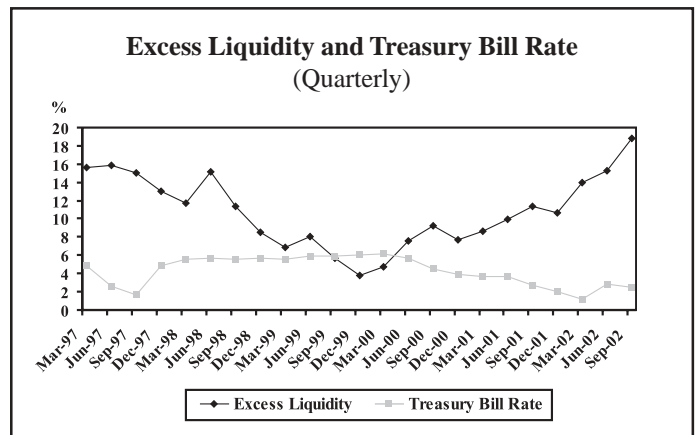
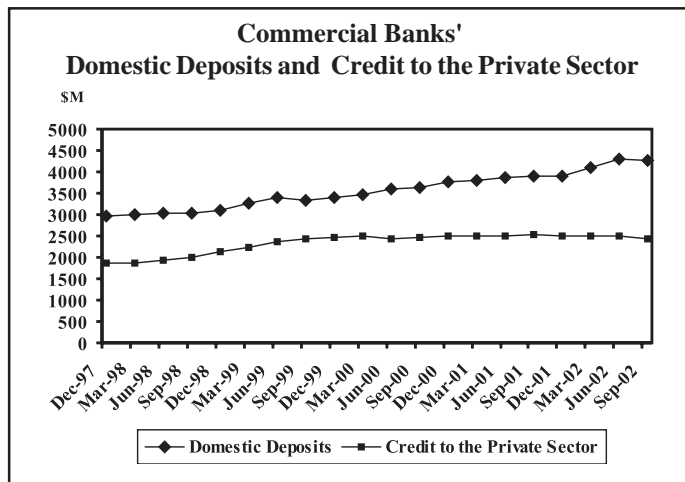
Financial Sector

Deposits

Total domestic deposits in the banking system rose by 8.9% during the first nine months of 2002, compared to the 6% expansion recorded over the corresponding period in 2001, and represented the largest increase since September 1997. This outcome mainly reflected Government's draw-down of its special deposits at the Central Bank and increased borrowing from the ways and means account. In addition, the deposits of shareholders who sold their shares in Life of Barbados Ltd (LOB) to the Barbados Mutual Life Assurance Society (BMLAS) would have influenced the growth in domestic deposits over the period. Deposits for financial institutions and private individuals rose by 22.5% and 3.4%, respectively, whereas deposits for business firms and Government decreased slightly.

Credit

A reduction of 3.3 percentage points in the weighted average lending rate on selected loans occurred between March 2001 and September 2002, a reflection of the ease in monetary policy. Nevertheless, credit to the non-financial private sector during the first nine months of 2002 fell by 2.8%, in contrast to a marginal increase of approximately 0.9% a year earlier. The largest declines were recorded for public utilities, mining and quarrying and tourism, which decreased by 35.3%, 20.1% and 17.4% respectively. Notably, personal loans, the largest credit sector, increased marginally by 2.0%, while credit to statutory bodies grew by 6.6%. A surge in loans and advances was recorded for financial institutions (\$124.9 million), which represented funds borrowed by the BMLAS to facilitate its takeover of LOB.



Liquidity and Interest rates

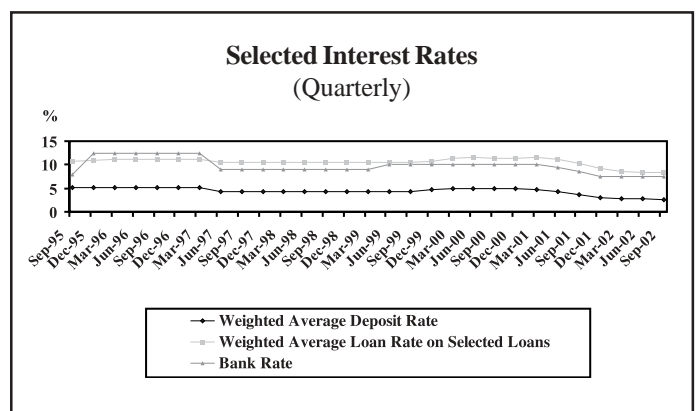
Excess liquidity in the banking system rose to 18.8% at the end of September 2002, some 7.4 percentage points higher than a year ago. There were three principal reasons for this high liquidity ratio. First, in an effort to stimulate the economy, the government injected approximately \$228.4 million into the financial system via a withdrawal of \$133.9 million from the special deposits at the Central Bank of Barbados, and \$94.5 million from the ways and means account. Second, the money paid to persons who sold their shares in LOB to the BMLAS infused about \$151 million into the banking system. Third, the Central Bank of Barbados lowered the total reserve requirement by 1% of deposits, which made another \$30 million available for lending. The high liquidity resulted in the treasury bill rate falling to 2.51%, which was 0.2 percentage points lower than that recorded one year earlier.

Responding to the Central Bank's relaxation of monetary policy, the prime lending rate fell from a range of 8.75% - 9.5% in September 2001 to a range of 7.25% - 8.5% at the end of September 2002. Additionally, the weighted average interest rates on total loans decreased from 11.4% in September 2001 to 10.75% in September 2002 and the weighted average interest rates on deposits declined by just over one percentage point during the same period to 2.64%.

Capital Market Developments

The aggregate treasury bills outstanding at the end of September 2002 amounted to \$495.9 million, a slight decrease of \$1 million over the equivalent period of 2001. Moreover, the amount of debentures payable was \$1,924.2 million, an increase of approximately \$253 million (15.1%), as most institutional holders sought more avenues for investment.

Total market capitalisation of the Barbados Stock Exchange (BSE) at the end of September amounted to \$6.49 billion, which was about \$71.3 million or 1.1% greater than that for the similar period a year earlier. Specifically, capitalisation for the cross-listed shares expanded by 4.4%, while that of the junior markets more than tripled. However, their impact on total market capitalisation was largely neutralised by the decline of 2.8% in the larger local market. The dramatic surge in capitalisation in the junior mar-



ket was attributed to the initial public offering of Sunbeach Communications Inc in August 2002.

The local stock market index closed 5.9% higher at the end of the review period, compared to the corresponding period in 2001, to reach 2265.92. In addition, the cross-listed market index appreciated by 4.7% and the junior market index surged by 43%.

During the first nine months, 36.7 million shares were traded across the regular market of the BSE, 34.4 million shares more than for the corresponding period in 2001. This increase was primarily attributed to the market purchase

transaction of about 31 million shares of LOB by BMLAS. Excluding this transaction, the total number of shares traded was approximately 5.7 million, and the three volume leaders were Barbados National Bank (2,101,842 shares), LOB (1,394,227 shares) and Barbados Shipping and Trading (631,752 shares).

Seven securities had advanced on the local stock exchange by the end of September. The three price leaders were LOB, West Indies Rum Distillery, and Barbados Dairy Industries, which appreciated by 88.9%, 40.9%, and 20%, respectively.

Summary Accounts of the Banking System (\$ Million)

	1999		2000				2001				2002		
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept. ^P
Net International Reserves	733.9	679.4	850.7	1135.6	1090.1	1081.0	1204.5	1224.3	1214.8	1534.1	1623.5	1606.4	1570.7
Monetary Authorities	671.7	612.8	749.7	1038.8	1020.0	968.8	1096.4	1115.5	1106.6	1414.1	1482.2	1485.6	1441.4
Commercial Banks	62.2	66.6	101.0	96.8	70.1	112.2	108.1	108.8	108.2	120.0	141.3	120.8	129.3
Net Domestic Assets	2313.2	2391.1	2284.4	2122.5	2161.5	2253.6	2167.0	2234.3	2266.3	2002.5	2004.8	2105.5	2122.6
Credit to Public Sector	275.0	325.8	202.1	48.4	119.3	188.1	25.5	120.9	124.8	-80.0	-98.3	-4.1	160.8
Central Government (net)	466.9	573.9	446.9	264.4	386.2	471.6	337.3	405.7	477.2	228.9	229.1	390.3	553.2
Rest of Public Sector	-191.9	-248.2	-244.8	-216.0	-266.9	-283.5	-311.8	-284.8	-352.4	-308.7	-327.4	-394.4	-392.3
Credit to Rest of Financial Sector	98.1	94.6	74.3	115.4	132.1	137.3	125.5	125.6	128.6	115.9	148.1	250.4	238.4
Liabilities to Other Financial Institutions	271.4	250.1	271.0	275.0	252.0	301.7	257.7	244.3	254.5	265.8	350.0	359.2	374.0
Credit to Non-Financial Private Sector	2427.5	2464.5	2493.2	24490	2474.2	2504.2	2516.4	2508.6	2526.1	2512.6	2506.9	2513.5	2442.0
Liabilities to the Non-Financial Private Sector	3047.0	3070.6	3135.1	3258.2	3251.6	3334.5	3371.6	3458.6	3481.1	3536.6	3628.3	3712.0	3693.3
Demand Deposits	671.6	660.4	690.0	744.0	689.9	737.7	775.6	779.4	784.3	836.6	895.8	899.0	871.0
Time Deposits	361.1	338.6	358.0	393.0	420.1	407.7	390.7	418.2	425.0	413.1	399.1	417.3	384.0
Savings Deposits	1737.3	1768.9	1795.3	1824.0	1843.9	1878.6	1904.1	1954.2	1964.9	1974.5	2015.4	2074.6	2117.2
Currency in Circulation	277.1	302.7	291.7	297.3	297.8	310.7	301.2	306.8	307.0	312.4	318.1	321.1	321.1
MEMO:													
Domestic Deposits	3344.5	3411.2	3482.5	3584.3	3627.1	3762.8	3794.7	3866.1	3978.1	3971.8	4183.2	4389.4	4333.3
Liquid Assets	600.8	557.2	690.5	992.8	967.0	916.4	1055.5	1080.4	1075.4	1392.4	1460.0	1471.7	1436.5
Loans and Advances	2577.3	2612.1	2622.7	2636.9	2678.0	2712.6	2721.3	2722.5	2757.1	2732.5	27771.5	2876.2	2792.8

Source: Central Bank of Barbados

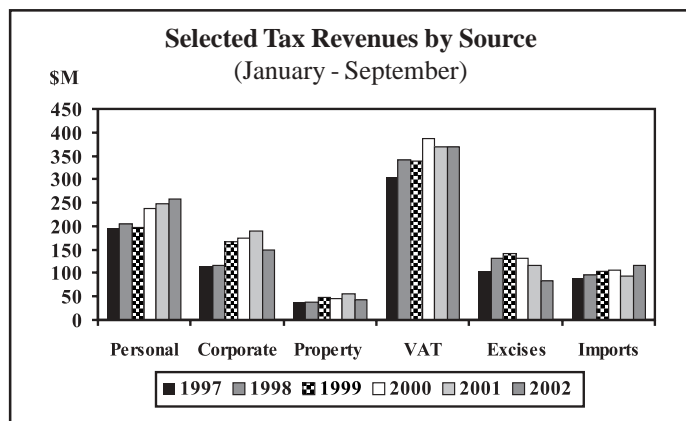
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Public Sector

Revenue

Government revenue declined by 3.4% to \$1,261.6 million during the review period, largely reflecting a 4.5% fall in total tax receipts. Direct tax revenue fell by 9.4%, a reversal from the 10.8% growth over the corresponding period in 2001. Property and corporate taxes contracted by 24.5% and 22.6% respectively, which eclipsed a moderate rise in personal income tax (5%). The prominent decline in corporate tax revenue was attributed to both the reduction in the corporate tax rate from 40% to 37.5% and diminished corporate profitability in the sluggish domestic economy. The weak outcome of the property taxes followed a robust performance in 2001, when the early issuance of property tax bills facilitated the early collection of revenues.

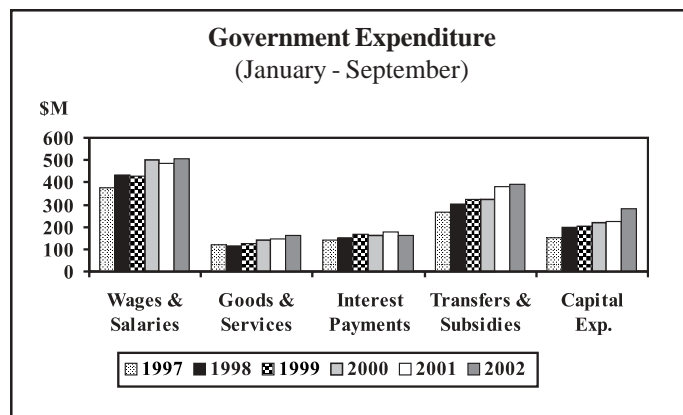
Indirect tax receipts declined marginally by 0.8% to \$661.4 million, after a decline of 7.2% from January to September in 2001. There was a 25.1% increase in import duties as a result of the 60% tariff on selected goods and services, but excise taxes contracted by 27.4% while VAT collections decreased slightly. Non-tax revenue increased by \$11.9 million over the review period, compared to a 23.8% surge in the corresponding period a year ago.



Expenditure

Government expenditure grew by an estimated 5.3% to \$1,511.4 million. This increase was fuelled by a 26.6% ex-

pansion in capital expenditure, as work continued on major capital projects including the South Coast Sewerage project, the Edutech 2000 programme and the airport and seaport development projects. Current expenditure increased moderately by 2.9% to \$1,227.1 million. Expenditure on wages and salaries rose by 3.6%, while outlays on goods and services expanded marginally. Interest payments fell by 9.1%, erasing the 8.7% rise during the first three quarters of 2001. The decline reflected a 17.2% reduction in domestic interest payments, which was partially offset by a 2.2% expansion in external interest payments. Transfers and subsidies grew by 3.1%, in contrast to the 17.7% surge during the review period in 2001.



Financing

The government's fiscal deficit almost doubled to \$249.7 million in the first three quarters, the fifth successive expansion for the period. It was financed primarily from domestic sources, through a reduction of the Government's special deposits (\$133.9 million) and an increase in the ways and means account (\$94.5 million). Commercial banks and the National Insurance Scheme contributed \$117.8 and \$72.2 million, respectively. Net foreign financing was \$25.3 million, as inflows from project funds, which totalled \$77.4 million, were partially offset by amortisation payments amounting to \$52.2 million.

Government Operations
(\$Million)

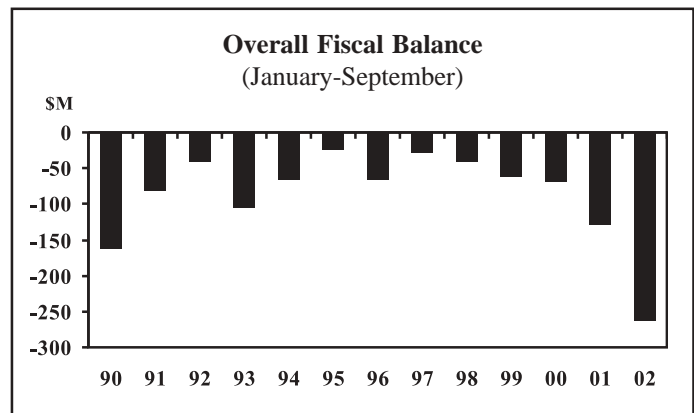
	1996	1997	1998	1999	2000	2001	2002 ^P
Total Current Revenue	925.1	1079.0	1145.3	1188.6	1280.0	1306.1	1261.6
<i>Direct Taxes</i>	354.2	383.6	393.8	449.5	492.4	546.0	494.6
Personal Income Tax	181.6	194.7	204.2	197.5	236.6	246.8	259.0
Corporate Tax	104.2	113.9	115.5	167.0	173.7	192.7	149.1
Levy Tax	11.1	12.2	12.1	13.1	12.6	13.9	14.9
Property Tax	33.2	37.4	36.9	47.0	44.4	55.4	41.9
Other	24.2	25.5	25.2	24.9	25.2	37.2	29.7
<i>Indirect Taxes</i>	497.4	621.3	661.6	675.2	717.6	666.4	661.4
Consumption Tax	228.1	32.4	0.5	0.0	0.5	0.0	0.0
Stamp Duty	67.9	11.8	11.1	10.1	10.5	13.1	8.2
VAT	0.0	302.2	340.3	339.0	386.5	369.2	368.3
Import Duty	68.5	88.3	97.2	104.9	105.1	92.7	115.9
Excise	1.4	103.1	131.5	142.3	130.7	115.2	83.6
Hotel & Restaurant	19.5	4.2	0.7	0.5	0.5	0.4	1.2
Other	84.0	79.4	80.3	78.4	83.9	75.9	84.1
Non Tax Revenue	102.7	74.0	91.0	64.0	70.0	93.7	105.6
Current Expenditure	861.2	899.4	998.5	1044.3	1127.4	1192.2	1227.1
Wages and Salaries	371.4	376.9	434.4	428.5	502.8	487.1	504.7
Goods and Services	100.8	120.1	114.0	127.0	138.4	147.9	169.3
Interest Payments	147.4	138.8	149.5	165.8	163.8	178.0	161.8
External	43.9	36.9	29.7	58.6	55.3	71.3	72.9
Domestic	103.5	101.9	119.8	107.2	108.5	106.4	88.1
Transfers & Subsidies	241.6	263.6	300.6	322.9	322.4	379.4	391.1
Current A/C Balance	65.2	179.6	147.9	144.4	152.6	113.9	34.6
Capital Expenditure	130.4	203.0	197.1	204.3	219.5	224.1	283.8
Net Lending	0.2	5.0	-8.0	0.6	2.0	19.5	0.5
Total Expenditure & Net Lending	991.8	1107.4	1187.6	1249.1	1349.0	1435.9	1511.4
Overall Balance	-65.4	-28.4	-41.2	-60.5	-69.0	-129.7	-249.7

Source: Accountant General and Central Bank of Barbados
P: Provisional

Government Financing
(\$Million)

	1996	1997	1998	1999	2000	2001	2002 ^P
Domestic Financing	46.0	85.4	48.7	-78.7	-138.7	111.4	239.6
Central Bank	-97.4	-90.2	-80.3	-112.6	-307.0	-45.1	200.1
Commercial Banks	157.0	134.2	-28.4	-44.3	133.2	69.0	117.8
National Insurance	124.6	26.3	118.1	9.3	-10.1	14.1	72.2
Other	-155.2	-3.7	61.5	69.0	44.2	73.0	-150.6
Foreign Financing	36.3	-38.1	-29.7	139.1	208.7	18.8	10.1
Capital Markets	0.0	0.0	0.0	150.0	200.0	0.0	0.0
Project Funds	63.5	30.4	22.6	14.3	37.1	47.7	38.9
Policy Loans	30.0	0.0	20.0	0.0	0.0	0.0	0.0
Amortisation	-57.2	-68.5	-72.3	-25.1	-28.4	-28.9	-28.8
Total Financing	65.4	28.4	41.2	60.5	69.0	129.7	249.7

Source: Central Bank of Barbados
P: Provisional



Foreign Trade and Payments

Current Account

Provisional numbers for the January to September period showed that the current account of the balance of payments registered a deficit of \$108.1 million. This was more than double the deficit over the corresponding period a year ago.

The deterioration followed deficits of \$50.7 million and \$109.1 million in the first nine months of 2001 and 2000 respectively, and was largely attributable to decreases in domestic exports and travel credits.

Domestic exports contracted by 8.6% stemming mainly from a low sugar output earlier in the year. Exports of electronic components and chemicals declined by 28.6% and 5.7%, respectively. Foreign earnings from food and beverages fell by 3.4%, in contrast to the growth of 11.4% recorded for the first three quarters last year. Additionally, given the lacklustre performance of tourism in the first half of the year, travel credits diminished by 5.1% to \$1,083.6 million.

Retained imports decreased for the second consecutive year, as a decline of 4.4% was registered during the first

Balance of Payments (January – September)

	1997	1998	1999	2000	2001	2002 ^P
Current Account Balance	23.6	-36.2	-162.6	-109.1	-50.7	-108.1
Merchandise Trade	-824.2	-937.8	-1035.6	-1033.2	-995.7	968.3
Total Exports (BOP basis)	382.2	341.7	337.1	350.7	343.5	292.8
Domestic Exports	342.9	305.0	309.2	299.7	277.2	253.6
Sugar	71.3	55.1	55.4	52.2	44.0	37.7
Other	271.6	249.9	253.8	247.5	233.2	215.9
Total Imports (BOP)	1283.6	1356.6	1456.6	1474.6	1419.2	1339.6
Retained Imports	1332.3	1418.9	1536.6	1536.1	1463.9	1400.2
Consumer Goods	547.8	590.9	634.6	624.7	613.9	590.0
Capital Goods	279.9	312.2	369.7	339.8	303.7	308.9
Intermediate Goods	501.8	510.2	528.6	566.7	541.3	496.5
Miscellaneous Goods	2.8	5.6	3.7	5.0	5.0	4.9
Services (Net)	841.2	903.8	874.3	925.2	934.9	856.5
Travel (Net)	888.5	965.6	927.7	970.9	981.8	916.7
of which travel credits	1009.3	1090.6	1061.0	1113.4	1141.6	1083.1
Other	-47.3	-61.8	-53.4	-45.7	-46.9	-60.2
Income	-65.2	-78.7	-95.3	-115.3	-134.0	-137.5
Current Transfers	71.8	76.5	94.0	114.2	144.1	141.2
Capital and Financial Account	44.6	-3.7	234.1	526.1	166.7	86.9
Long Term	-8.1	-10.7	216.5	463.1	177.7	82.9
Public	-68.6	-22.5	153.1	244.7	-13.3	4.2
Private	60.5	11.8	63.4	218.4	191.0	75.0
Other	37.5	3.7	-23.4	29.3	-14.5	4.0
Short Term	15.2	3.3	41.0	33.7	3.5	0.0
Errors and Omissions	32.7	40.4	94.1	-6.8	16.1	58.3
Balance for Official Financing	100.9	0.5	165.6	410.2	133.9	-36.6
Official Financing (Net)	-31.4	0.0	0.0	0.0	0.0	0.0
IMF	-18.1	0.0	0.0	0.0	0.0	0.0
Other Financial Institutions	-13.3	0.0	0.0	0.0	0.0	0.0
Reserve Movements (CBB Basis)						
(-Increase/+Decrease)	-69.5	-0.5	-165.6	-410.7	-133.9	-36.6
Change in NIR (IMF Basis)						
(-Increase/+Decrease)	-105.0	-34.3	-132.8	-407.3	-137.8	-27.3

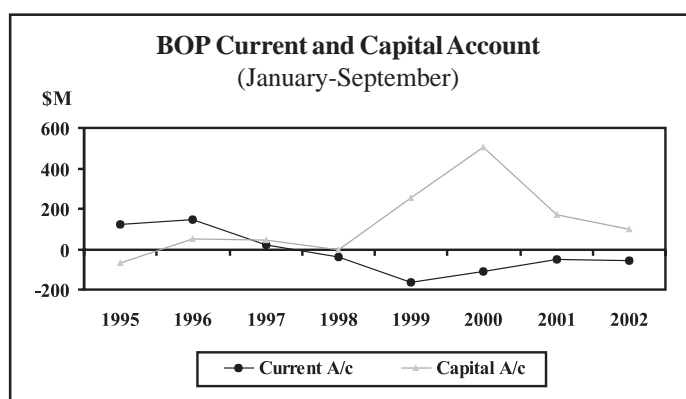
Source: Central Bank of Barbados
P: Provisional

nine months of 2002. Imports of consumer goods and intermediate goods fell by 3.9% and 8.3%, respectively, whereas capital good imports rose by 1.6%. The fall in consumer goods was influenced by lower motorcar imports, while the reduction in intermediate goods reflected the decline in purchases of fuel and electrical components.

Net foreign receipts from services declined by 8.4% during the review period, after a modest increase in 2001. The contraction was the first since 1999, and it was primarily attributed to a 5.1% reduction in travel credits, which reflected the fall-off in tourist arrivals over the first half of the year. In addition, net transportation outflows increased by an estimated 1.8%, on account of the third quarter rise in imports.

Capital and Financial Account Developments

The capital and financial account surplus contracted by \$79.8 million, which resulted from a \$116.1 million decrease in private inflows, reflecting the winding up of several private sector projects. Net public receipts amounted to \$7.0 million, an increase of \$21.2 million over the figure for the corresponding period in 2001.



Regional Economic Developments

Caribbean economies continued to struggle as real output declined in most territories over the first six months of 2002, with tourism, agriculture and manufacturing contract-

ing across most of the region. However, Trinidad and Tobago, and Guyana showed some positive signs of growth, as the petroleum sector and the agriculture sector buoyed their respective economies, while Jamaica's real activity was stagnant. Additionally, central banks in the region pursued accommodative monetary policies in order to stimulate weak real sector activity, and, in response, interest rates fell throughout the region.

Tourism

Both long-stay tourists and cruise ship arrivals in most of the Caribbean destinations declined between January and June 2002, as the industry struggled to recover from the after effects of September 11. The most pronounced decreases of long-stay tourist arrivals occurred in St. Maarten and the Cayman Islands where arrivals fell by 16.5% and 14.2% respectively, and Aruba, Trinidad and Tobago and Jamaica, which registered reductions of 11.3%, 11.3% and 10.6%, respectively. In addition, two very popular destinations, the Bahamas and the Dominican Republic, reported declining tourist arrivals of 5.8% and 10%, respectively. However, St. Vincent and the Grenadines recorded a modest increase in holiday travellers, and Guyana registered a 20.8% surge in long-stay visitors.

Lower cruise arrivals were registered by Jamaica (11.2%) and the US Virgin Islands (8.4%). In spite of the global downturn in cruise vacationers, Belize recorded a massive turnaround of some 407%, and Cayman Islands reported a robust expansion of about 37.3%. The extraordinary growth in Belize's cruise arrivals was attributed to additional agreements signed with several cruise liners for year-round port calls. A strong marketing thrust and its proximity to the USA accounted for the increase of excursionists to the Cayman Islands.

Agriculture

In most Caribbean territories, sugar production in the first half of the year was lower than last year's outturn, but the performance of non-sugar agriculture was mixed.

Trinidad and Tobago's sugar production fell by 15.5%, in contrast to a 19.7% increase a year ago. The Organisation of Eastern Caribbean States (OECS) reported a 16.2% decline in sugar output, which was greatly influenced by the mechanical problems at the sugar factory in St. Kitts and Nevis, which led to a 33% plunge in their output. Sugar production in Jamaica decreased by 18.1%, its second consecutive contraction, as heavy rains during the harvest period affected sugar yield. However, Guyana registered a 46.3% growth in sugar production, after a substantial fall-off last year due to excess rainfall and lower farm yields.

Despite waning preferential trading agreements and higher than average production costs, the OECS registered a 15.6% rise in output of bananas during the first half of the year. St. Lucia and St. Vincent and the Grenadines experienced increases in production of 35% and 13.9%, in contrast to contractions of 12.6% and 13.8% in Dominica and Grenada. The improved overall performance was attributed to better irrigation systems, more suitable climatic conditions, and the reduction in the incidence of leaf spot disease.

Rice production in Guyana decreased by 6.6% over the first half of the year, the second consecutive year of decline. Coffee production in Trinidad and Tobago fell by 41.2%, but citrus output expanded by 92.3% and regained its pre-2001 levels.

Minerals & Timber

Bauxite production in Jamaica continued to improve, with a 9.5% increase reported over the review period. In contrast, alumina output declined by 5.3% following a 3.8% gain registered last year.

The amount of bauxite produced in Guyana contracted by 16.3% in the first half of the year, after a steep decline was recorded over the comparable period a year ago. In addition, output of timber decreased (3%), for the second consecutive year. However, raw gold production surged by 10.1% over the review period, following the previous year's decrease of 2.2%.

Trinidad and Tobago petroleum sector expanded robustly during the first six months. Production of crude petroleum, petroleum based products and petrochemical products increased by 12.8%, 1.9% and 4.7%, respectively.

Prices

The annual average inflation rate in Jamaica at June 2002 was 6.3%, 0.7 percentage points higher than at June 2001. The main contributing items to the rise in the inflation rate were food and drink and housing and other expenses, which grew by 1.3% and 1.2%, respectively. The expansion in food and drink was mainly influenced by price increases in starchy foods, and the vegetables and fruits subgroup.

In Guyana, the 12-month change in the consumer price index at June 2002 was 6.1%, compared to 3.5% at June 2001. This reflected price increases of vegetables and vegetable products (18.6%) and fruits and fruit products (6.9%).

The 12-month change in the retail price index in Trinidad and Tobago at June 2002 was 4%, some 1.4 percentage points lower than the rate recorded a year earlier. The decline was primarily due to a decrease in the price index of the clothing and footwear group (2.3%). Additionally, inflation in the OECS for the end of the second quarter was marginally higher than that recorded for the corresponding period in 2001.

Interest rates

The Central Bank of Trinidad and Tobago instituted a new operational monetary policy framework in May 2002 that targets short-term interest rates. An overnight repurchase rate ("repo") of 5.75% was announced, and the discount rate set at 7.75%, which was a 5.25 percentage point reduction over the equivalent period in 2001. This was the sole policy action initiated by the Central Bank during the review period, and it represented an easing of monetary policy in an effort to promote credit growth. As a result, the basic prime rate was 13% at the end of June 2002, 2.75 percentage points lower than the rate recorded last June. The sav-

ings rate fell by 0.75 percentage points to 2.25% at the end of the review period, and the treasury bill rate was 4.93% at the end of June 2002, compared to 9.76% a year earlier.

The Bank of Jamaica tentatively relaxed monetary policy during the first half of the year, as foreign exchange reserves remained buoyant, inflation was contained, and the exchange rate was broadly stable with a slight downturn. In particular, the Bank reduced the reverse repurchase rate four times, and lowered the cash reserve ratio, in an effort to stimulate credit demand. Consequently, the average savings deposit rate receded from 9.45% at the end of June 2001 to 9% at the end of June 2002, and simultaneously, the average loan rate contracted by 4.75 percentage points to 25.92%. The treasury bill rate at the end of May 2002 was 12.92%, compared to 14.99% at the end of June 2001.

The bank rate in Guyana fell 3.25 percentage points to 7.75% from June 2001 to June 2002. The savings rate declined to 4.79% at the end of the review period, a 2.22 percentage point decrease over the comparable period of 2001. Concurrently, the average prime lending rate declined to 16.25%, compared to 17.14% during the similar period of 2001. Furthermore, the treasury bill rate stood at 5.49%, which was 2.96 percentage points below that recorded at the end of June a year ago.

Exchange rates

At the end of the first half of the year, Jamaica and Guyana had both experienced slight currency depreciations, but Trinidad and Tobago's currency remained relatively stable. Jamaica's exchange rate decreased by 2.3%, relative to the end of June 2001, and traded at J\$48.51 per US\$1. In addition, Guyana's dollar traded at GUY\$190.75 per US\$1 at the end of June 2002, a 2.1% depreciation over the previous June.

Public Sector Operations

The fiscal surplus for Trinidad and Tobago contracted by 46.7% in the six months to June to an estimated TT\$514.9 million, reflecting a 7.6% increase in current expenditures

and stagnant revenue collection. All components of current expenditure registered growth, but the most conspicuous increase was spending on goods and services.

During the first two quarters of the year, the fiscal deficit for Guyana narrowed by approximately 62% to GUY\$1,382.3 million. This was influenced by a 16.5% upswing in total revenue, which overshadowed a 5.6% increase in total expenditure.

Belize registered a fiscal surplus of Bz\$45.7 million in the first half of this year, a turnaround from the deficit of Bz\$29.8 million during the corresponding period last year. A 20% expansion in current revenue and a 32.9% reduction in capital expenditures were primarily responsible.

The current account balance of the OECS widened to a deficit of EC\$71.4 million between January and June 2002, about EC\$60.5 million more than for the same period in 2001. This performance was primarily due to a 5.8% increase in current expenditure, as current revenue was unchanged.

Foreign Sector Developments

Trinidad and Tobago's NIR amounted to US\$1,948.2 million at the end of June 2002, a rise of US\$236.9 million over the corresponding period in 2001. However, a balance of payments deficit of \$3.7 million was recorded at the end of March, in contrast to the US\$135.3 million surplus during the related period in 2001.

Jamaica's NIR was US\$1,782.25 million at the end of the first half of the year, decreasing US\$53.4 million for the year, but US\$242 million more than that the end of June 2001. By the end of the first quarter, the BOP surplus was US\$100.9 million, approximately 68% lower than the surplus recorded at the end of March 2001. This mainly reflected the fall-off in the capital and financial account surplus, which was partially offset by the mild improvement in the current account.

At the end of June 2002, Guyana's NIR had increased by about 11% to US\$185.2 million, compared to a year ago. The BOP deficit narrowed to US\$10.6 million, a decline of US\$8.7 million compared to last year's total, reflecting an improved balance of trade.

International Economic Developments

Overview

The global recovery, so far, has been tenuous, on account of a series of negative events, which continue to generate uncertainty and hamper growth. These include corporate accounting scandals, a possible war against Iraq, and political instability in some emerging markets. The US economy showed promising signs of recovery in the third quarter, whereas growth in the Euro-zone remained sluggish. Japan's recession continued, but China and South Korea registered strong economic performances. Generally, Latin America's debt problems remained precarious, but some states, such as Mexico and Chile, exhibited positive signs of an economic turnaround. Global equity markets remained volatile and most of them fell for the year to date. After the slump recorded in late 2001, commodity prices surged during 2002, influenced primarily by rising energy and food prices.

North America

During the first three quarters of 2002, the US economy grew by an encouraging 2.2% over the corresponding period of 2001, fuelled by increased consumer and government spending, which were partly offset by a substantial decline in net exports. The economy in the third quarter expanded by 3.0%, which was the strongest quarterly growth rate in more than a year. The unemployment rate at September 30 was 5.4%, a rise of 0.7 percentage points compared to the corresponding period a year ago, and it reflected lower employment in the manufacturing and transportation sectors. The inflation rate was 1.5%, some 1.1 percentage points lower than for September of 2001, fuelled by increased consumer spending. The visible trade deficit for the half-year was US\$229 billion, a 3.8% expansion on the first half of 2001. Given the low inflation environment and weak business investment, the Federal Reserve did not increase the key federal funds rate, which was at a 40-year low of 1.75% since December 2001. Additionally, the Dow Jones Indus-

trial Average plummeted by approximately 23% over the review period, due to corporate governance scandals, a possible war with Iraq, poor business earnings reports and general economic uncertainty - especially in the first half of the year.

Canadian real GDP expanded by 3.1% during the first nine months, when compared to the equivalent period of 2001. As in the US, personal, government and to a lesser extent business expenditure drove the expansion, as the economy continued its recovery. Despite this, the unemployment level was 7.7% at the end of September, up from 7.2% a year ago. The inflation rate at the end of the third quarter was 2.3%, a decline from the previous year's third quarter rate of 2.6%, reflecting falling Canadian energy prices. The visible trade surplus in the first quarter of 2002 plunged by 33.7% to CAN\$9,536.3 million, compared to the same period a year earlier, as a downturn in imports was outweighed by a larger fall in exports. Since the economy has been growing faster than expected, and the inflation rate was trending higher than projected by the Bank of Canada, the overnight interest rate was raised by 0.75 percentage points to 2.75%.

Europe

Economic activity in the Euro-zone has been relatively tepid, marked by weak domestic demand and higher than expected inflation in the first half of the year. From January to September 2002, real GDP in the Euro-area increased marginally by 0.6%, in contrast to the strong growth of 3.8% recorded in the same period in 2001. The unemployment rate was 8.3% at September 30, 2002, 0.3 percentage points higher than that recorded a year earlier, a fallout from the sluggish economy. Moreover, the seasonally adjusted inflation rate at September 30 was 2.2%, on par with last September's rate, as prices for most items increased except for energy, which decreased marginally. The appreciation of the Euro to near parity with the Dollar by the end of September helped to contain the inflation rate, and reflected a shift away from US dollar assets. The European

Central Bank did not change its key interest rates, given the lethargic pace of economic recovery.

The sluggish economic performance of the largest economy in the Euro-zone, Germany, remains a significant concern. Real economic output during the first half of the year increased marginally by 0.4%, as industrial production and domestic demand weakened. However, the severe floods during the summer of 2002 are estimated to have had little impact on economic activity. Data available up to August 2002, suggests that the inflation rate was comfortably below the European Central Bank's ceiling of 2.0%. Furthermore, consumer wealth was eroded in the half-year, on account of a declining equity market and falling house prices.

Real economic activity grew by 1.2% in the UK during the first nine months of 2002, underpinned by robust private consumption and an improving manufacturing sector. The average unemployment rate at the end of the second quarter was 5.2%, a small increase of 0.2 percentage points on a year earlier. In addition, at the end of August, the inflation rate fell to 1.4%, compared to 2.1% at August 31, 2001. UK's primary equity market fell by 22.5% between January and September, but this decline in consumer's wealth was buffered, for some, by a 20% rise in house prices in the year to August. The Monetary Policy Committee kept the key interest rate unchanged in the review period, since the inflation rate was below the 2% target, and equity prices were weak.

Asia

Japan's recession continued to deepen, as the expansionary fiscal and the accommodative monetary policies have been unable to stimulate the economy. In the year to September, Japan's real output shrank by 1.4%, influenced by weak domestic demand. The unemployment rate was 5.4%, about 0.1 percentage points higher than at September 2001. The rate of inflation was negative 0.7%, reflecting depressed consumer demand. Additionally, asset wealth continued to fall, as the bench mark equity market index, the Nikkei 225,

and real estate prices depreciated, indicating declining confidence in these markets.

China's economy surged by 7.9% during the first three quarters of 2002, as significant public investment coupled with strong industrial production and export growth fuelled the economy. The first nine months of the year was characterised by persistent deflationary conditions, with the inflation rate at minus 0.7% in September. Consequently, the Central Bank of China eased monetary policy in February by reducing the discount rate.

In South Korea, real GDP for the period January to September grew by 6.0%, buoyed by strong domestic demand and, to a lesser extent, improved exports earnings. The rate of unemployment at the end of September was 2.5%, a decline of 0.5 percentage points from that recorded in the equivalent period in 2001. Inflation for the year to September fell to 3.1%, from the 3.3% registered for the same period a year ago. In response to the rate of inflation and soaring house prices, the Bank of Korea raised key interest rates in May. However, the appreciation of the *won* helped to moderate inflationary pressures.

Latin America

Argentina's economic woes continued during the review period as the country struggled, unsuccessfully to date, to negotiate an IMF aid package. Economic activity contracted by 15% for the half-year, as consumption and investment spending continued to plunge. At the end of May 2002, the unemployment rate at 21.5% increased by five percentage points from the corresponding period last year. Inflation for the year to September rapidly increased to 21.2%, following the floating and subsequent depreciation of their national currency. The trade and current account balances improved over the half-year, reflecting a 63.4% downturn in imports, which overshadowed a 7.4% decline in exports. However, the Government was able to lower the fiscal deficit by 40.4%, due in part to higher tax revenue.

Brazil was able to resist direct contagion from Argentina's economic crisis during the first six months, but

market sentiment towards Brazil suddenly deteriorated in the second quarter, which was reflected in a reduction in the value of the currency and widening bond spreads. The negative outlook was influenced by the uncertainty surrounding the expected installation of a leftist government in October, and lingering doubts about the strength of the global economic recovery. This was reflected in stagnant growth of real GDP over the first nine months, and contributed to a rise in unemployment at the end of September 2002 to 7.6%, up from 6.3% a year earlier. Average inflation for the first three quarters of the year was approximately 8.0%, compared to a rate of 6.5% for the equivalent period last year, as prices soared on account of the devalued currency. A trade surplus of US\$7,858.1 million was recorded for the first nine months, compared with a trade surplus of US\$1,247.6 million in the corresponding period in 2001.

Despite the region's problems, Chile and Mexico have proven to be relatively resilient due to sound macroeconomic management. Chile's real economic output expanded by 1.7% during the first three quarters, about half the rate recorded during the equivalent period a year earlier. The rate of inflation for the first three quarters continued its downward trend, falling to 2.3%, compared to 3.7% for the equivalent period a year ago, and the unemployment rate at the end of September stood at 8.5%, down marginally from 9.0% a year ago. The current account registered a deficit of US \$665.9 million compared to the deficit of US\$995.3 million recorded over the similar period in 2001. The lower deficit was attributed to a decline in imports, which outweighed a contraction in exports.

Mexico's rate of growth over the January to September period was an estimated 0.6%, reflecting the fall-off in activity of their major exporting market — the USA. Mexico's bond spreads increased, reflecting investor's risk averseness against Latin America, but they were low relative to other regional countries. Compared to its neighbours, the inflation rate (5.0%) and the unemployment rate (3.1%) were relatively subdued, and they were lower than those recorded for September 2001.

Commodity Prices

The index of world commodity prices expanded by a robust 30.5% over the first nine months, due mainly to a rise in energy prices. The Organisation of Petroleum Exporting Countries (OPEC) average price of crude oil and the US natural gas price increased by 56.2% and 46.6%, respectively. These prices were driven by a premium derived from the US fight against terrorism in the Middle East, and political instability in several major oil exporting countries, such as Venezuela and Nigeria. The food index increased by 11.7% primarily on account of price hikes of wheat, oranges, cocoa, coffee and salmon. Metal prices were about the same, as the gain in the value of nickel was outweighed by declines in the rest of the base metals. In contrast, the value of the precious metals, gold and silver, appreciated by 12.5% and 4.5%, respectively, as investors sought shelter from volatile global stock exchanges.

Commodity Prices

Commodities	Sep-01	Dec-01	Sep-02	% Change on Sep-01	% Change on Dec-01
Total (Index of Market Prices)	104.49	88.05	114.88	9.9	30.5
Food (Index of Market Prices)	84.4	87.1	91	7.8	4.5
Sugar (US cents/lb)	24.26	23.86	25.79	6.3	8.1
Bananas (US \$/metric tonne)	583.56	518.94	491.98	(15.7)	(5.2)
Rice (US \$/metric ton)	173.00	179.38	189.95	9.8	5.9
Wheat (US \$/bushel)	122.03	122.53	187.84	53.9	53.3
Soybeans (US \$/metric ton)	202.00	187.95	238.24	17.9	26.8
Metals (Index of Market Prices)	68.87	69.66	69.62	1.1	(0.1)
Iron Ore (US\$/metric ton)	30.03	30.00	29.33	(2.3)	(2.2)
Copper (US cents/lb)	64.76	66.81	67.08	3.6	0.4
Gold (US\$/fine troy ounce)	290.6	275.9	319.10	9.8	15.7
Silver (US cents/ troy ounce)	458.3	436.70	459.40	0.2	5.2
Petroleum (US\$/barrel)	24.56	18.53	28.30	15.2	52.7

Source: IMF/World Bank Commodity Prices



The State of Electronic Banking in Barbados by Yvonne Parris*

The profound pace of technological development, most notably telecommunications and information (computer) technologies, is reshaping the global business environment. Indeed, the Internet, a high speed, interconnected global network of computers, is the most groundbreaking and expansive medium for the exchange of information, goods and services. It took about 38 years for the radio to reach an audience of 50 million people and approximately 13 years for television. With the Internet, it required only about four years to cross this threshold. Although still in its embryonic stage, the Internet has progressed from a source of information and a convenient method of communication to a more dynamic vehicle, offering an avenue for the facilitation of numerous transaction-related services to consumers. The provision of these Internet-based services - called e-commerce - has revolutionised the buying and selling of goods and services, presenting business with an inexpensive and direct means of reaching their customers.

Not surprisingly, the e-commerce revolution sparked a paradigm shift in the banking industry to a quicker and more efficient system that could accommodate the demand for the electronic payment for banking products and services. This “new” system, known as electronic banking (e-banking), has somewhat modified the relationship between commercial banks and their regulator, the Central Bank, as these transactions are dependent on computerised inter-linkages, which, *inter alia*, increases the likelihood of external contagion effects. Therefore, if not properly monitored, e-banking could compromise the soundness of the financial system. Notwithstanding the potential drawbacks of e-banking, the adoption of such a system can increase the efficiency gains in banking and payment systems, thus improving the economies of scale and scope in retail banking operations.

This paper cursorily examines the state of e-banking

in Barbados, particularly with reference to its impact on customers. In the next section, e-banking is defined and the types of e-banking services briefly explained. This is followed by a discussion of the benefits and drawbacks of using e-banking methods, then a general review of the impact of e-banking on central banking and commercial bank activity, and, based on direct observation and the survey results of two hundred and fifty (250) banking customers, a description of the state of e-banking in Barbados. The paper ends with some conclusions and implications of adopting e-banking schemes.

Definition and Services of E-banking

As outlined in the Basle Committee on Banking Supervision (1998), e-banking refers to the provision of retail and small-value banking products and services through electronic channels. At its simplest, e-banking involves the use of e-money¹ or e-cash and the Internet in the conduct of banking transactions such as direct deposits and withdrawals. The use of electronic technology facilitates a speedy and efficient payment for goods and services, thereby reducing the average costs per transaction and improving the levels of convenience to customers.

The general perception of e-banking is 24-hour access to cash through an Automated Teller Machine (ATM) and/or paying cheques directly into chequing or savings accounts. However, e-banking also encompasses electronic funds transfer (EFT), personal computer (PC) banking, telephone banking, and use of e-money or digital cash.

EFTs are initiated through devices (e.g., cards or codes) that allow customers access to their bank accounts. Many

¹ E-money is a record of funds or value available to a customer stored on an electronic device in his or her possession, either on a prepaid card or on a personal computer for use over a computer network such as the Internet. Such services include credit cards, smart cards, digital cash and digital cheques. E-money is often referred to as a wide variety of proposed retail payment mechanisms for which the consumer purchases the electronic value. Unlike existing forms of payment such as cheques, direct debits, debit cards, or credit cards, which allow the holder to access a bank deposit account or a credit line, funds stored on e-money devices typically represent a general liability of an issuer.

* Mrs. Yvonne Parris is Services Officer in the Management Information Systems Department of the Central Bank of Barbados.

financial institutions use an ATM card and a Personal Identification Number (PIN) for this purpose.

The most widely-known method of e-banking is the ATM or 24-hour Teller, an electronic terminal that give costumers virtually unlimited access to their accounts. However, although easily accessible and convenient, using an ATM requires that customers physically goes to its location.

Direct Deposit is a service that authorises specific amounts to be deposited directly into customers' accounts on a pre-determined basis. Customers may also pre-authorise direct withdrawals or debits so that recurring bills, such as insurance premiums, mortgages, and utility bills, are paid automatically.

Telephone Banking permits customers to telephone their financial institution, from anywhere, with instructions to pay certain bills or to transfer funds between accounts. The customer must have an agreement in advance with the institution to make such transfers. This service is convenient and saves time, but has limited hours of use.

PC Banking enables customers to conduct many banking transactions electronically via their personal computer. For instance, customers may use this service to view account balances, request transfers between accounts, and pay bills electronically.

Point-of-Sale (POS) Transfers allow customers to pay for retail purchases with an EFT (or "debit") card. In some cases, this card also can be used to carry out ATM transactions. This works similar to a credit card, but with one important exception: the amount of money needed for the purchase is transferred immediately - or very shortly - from the customer's bank account to the store's account.

Advantages of E-banking

Sinkey (1992) opines that convenience and accessibility to both funds and account information are two of the most practical benefits of e-banking from the customer's perspective, since transactions can be conducted using PCs, from the comfort of their offices and living rooms, well beyond

customary banking hours. In essence, customers have added control over their financial affairs. Moreover, as stated by Robinson (1998), these features can help banks capture new customers.

E-banking reduces both fixed and variable costs of retail banking operations, as there is little need for a large physical building (fixed costs) and the time taken per transaction is usually much shorter (variable costs). Adding support to this argument, Wooding (1998), using data from US banks, estimates the cost of a typical full-service branch teller transaction to be \$1.07, compared to 54 cents for a telephone transaction, 27 cents for an ATM transaction, 1.5 cents for PC banking, using third-party software, and only 1 cent for a transaction done on the Internet. Furthermore, Management Accounting Magazine (1997), which posits that businesses making payments electronically can save on average five to six times more than firms paying by cheque, reported that British industry could save up to £8 billion a year by changing the method of payments.

In addition to providing convenience and lower costs per transaction, e-banking can offer customers more options and strengthen banks' competitiveness, through an expansion of the financial market beyond traditional credit and deposit-taking activities with innovative products and services, as well as the realisation processing efficiencies, since transferring information without human intervention shortens the time taken for completing a transaction and reduces the possibility of human errors. In fact, e-banking helps in the effective policing of illegal money transfers because there is a higher probability of finding an audit trail with e-banking transactions.

Disadvantages of E-banking

Customers usually trust bankers with their privacy, since personal attention instills confidence. With e-banking, however, this level of attention and confidence is lost. Customers find difficulty in trusting a "faceless" machine to know and understand their personal data because of the fear that

this data might be shared with other parties. This is an obstacle that the banking industry must eliminate in order to ensure continued customer confidence. In this regard, the Central Bank, as the regulator of banking activity, requires banks to carefully observe all technical security requirements, particularly with respect to Internet security. To enhance security standards and safeguards of customers' operations, Lass (1985) suggests that banks should adopt procedures that cover management responsibilities in the areas of access, operation, environment, input, authorisation, processing, output, audit trail, recovery and staff training.

To be effective, e-banking needs a large customer-base. While this is achievable in most developed countries, it is not so easily accomplished in the majority of developing countries, like those of the Caribbean, which have limited geographical areas.

Since e-banking is faster and more convenient, there could be some job losses, as the technology used to facilitate e-banking services allows existing banks to restructure their networks and, possibly, reduce the size and number of branches. Although in some cases, job roles might be redefined and there may be no (net) loss of jobs. However, as Kotler (1997) explains, the closing of branch offices comes down to one factor, the cost of operations.

A key concern is that the widespread adoption of e-banking procedures could be problematic for customers 60 years or older. This is because these persons are most likely not to be familiar with this technology. Parris (1999) argues that senior citizens in the Caribbean might know of an ATM, but may never use this facility when conducting their banking transactions. Furthermore, persons with visual disabilities (blindness, low vision and lack of colour perception) or those with physical disabilities may also be disadvantaged by e-banking.

The speed that characterises technological development along with the initial infrastructure outlays increases the cost of e-banking to the banking industry. The cost of e-banking varies depending on the number of accounts accessed and service options offered [see Mull (1995)]. In fact, given

that many e-money schemes set a relatively low limit on the maximum value of e-money that can be held by a customer, then the use of e-banking services may impose a limit on the size of transaction permitted by the bank.

Finally, from a central bank perspective, embracing e-banking could compromise the integrity of the financial system, if not properly regulated and monitored. This is because e-banking transactions require the use of computerised networks, which increases the likelihood of the spread of external contagion effects from unscrupulous cross-border transactions. Therefore, regulations must ensure that transactions conducted electronically are consistent with the standards of traditional banking.

The State of E-banking in Barbados

This section was informed by data collected from direct observation over a three-month period (at four commercial banks) a survey of 250 customers at the seven commercial banks operating in Barbados. Since all of the banks are not involved in e-banking, the investigation included customer views of both traditional (manual) and e-banking systems. In addition, a sample of twenty (20) persons at the Central Bank was interviewed.

Currently, there appears to be an increase in the use of e-banking facilities. It is quite possible; therefore, that e-banking has the potential to become the preferred method of banking in the near future in Barbados. In its 1998 newsletter, Prism Services Inc. stated that there were at least 60 active ATMs online, 700 merchants who supported about 1,200 POS terminals, and that CarIFs recorded approximately 110,000 transactions per month. As at April 2001, there were 73 active ATMs, (a 7% annual increase since 1998), 1,800 POS terminals (a 50% expansion) and approximately 140,000 transactions processed through CarIFs per month (130,000 ATM and 10,000 POS). The relatively slower increase in ATMs can be attributed to the launch of an on-line inter-bank system by CarIFs in 1998, which allowed customers of six of the seven commercial banks to access their

accounts and balances from any ATM or POS throughout the island for a \$1 fee. As a result, this created a decline in ATMs and an increase in POS transactions.

Most merchants, such as supermarkets, retail stores and restaurants are carrying out POS transactions. However, the other types of e-banking services, for example, PC banking, has been limited to one or two of the seven commercial banks. It is expected that other types of e-banking services would soon be fully developed.

E-banking and Its Impact on Customers

As shown in Table 1, all banks have POS facilities, ATMs, Debit Cards and EFT procedures, only three banks have telephone banking for accessing account balances, one bank has a web site for information services, and there are no banks offering Internet banking for transactional purposes.

Table 1
E-banking Activity Offered by Commercial Banks

E-banking Activity	Bank A	Bank B	Bank C	Bank D	Bank E	Bank F	Bank G
Web site – Information Service	*	-	-	-	-	-	-
POS	*	*	*	*	*	*	*
PC Banking	-	-	-	-	-	-	-
Automated Loan Machines	*	*	*	*	*	*	*
ATMs	*	*	*	*	*	*	*
Debit Cards	*	*	*	*	*	*	*
EFT	*	*	*	*	*	*	*
Internet Banking – Transactional	-	-	-	-	-	-	-
Telephone Banking-account balances	*	-	*	*	-	-	-

Source: Commercial Bank Interviews
* means banks have the facility
- means banks do not have the facility

Table 2 summarises the survey responses to the preference for using either ATM or traditional banking methods during the conduct of day-to-day financial transactions. The survey results reveal that professional, clerical staff and, in particular, students prefer the use of the ATM instead of traditional over-the-counter procedures. However, non-clerical staff overwhelmingly stated that traditional banking is

their preference. Judging from the responses presented in Tables 3 and 4, the high frequency of ATM usage by the majority of respondents is mainly because of its convenience and timeliness. Indeed, Prism Newsletter (1998) reported that 110,000 transactions are made at ATMs per month, with cash withdrawals accounting for the bulk of these transactions.

Table 2
Usage of ATM & Traditional Banking Methods

Category	ATM		TB		Total Sample	
	Score	%	Score	%	Score	%
Professional	45	56.2	35	43.8	80	40.0
Clerical	25	55.6	20	44.4	45	22.5
Non-Clerical	10	20.0	40	80.0	50	25.0
Student	20	80.0	5	20.0	25	12.5
Total	100		100		200	

Source: Survey Questionnaire
Key: TB= Traditional Banking ATM = Automatic Teller Machine

Table 3
Characteristics of ATM Usage

Categories	No. of Respondents	C	%	F	%	S	%	T	%	H	%
Professional	45	42	93.3	40	88.9	18	40	45	100	38	84.3
Clerical	25	23	92.0	22	88.0	10	40	22	88	20	80.0
Non-Clerical	10	10	100	10	100	4	40	9	90	8	80.0
Students	20	20	100	20	100	10	50	19	95	19	95.0
Totals	100	95		92		42		95			

Source: Survey Questionnaire
Key: C=Convenience F=Frequency S=Security T=Timeliness H=Helpfulness

Table 4
Characteristics of Traditional Banking

Categories	No. of Respondents	C	%	F	%	S	%	T	%	H	%
Professional	35	19	54.3	20	57.1	28	80	12	34.4	25	71.4
Clerical	20	13	65.0	12	60.0	15	75	11	55.0	19	95.0
Non-Clerical	40	36	90.0	35	78.8	38	95	26	65.0	32	80.0
Students	5	2	40.0	2	40.0	5	100	2	40.0	2	40.0
Totals	100	70		69		86		95		78	

Source: Survey Questionnaire
Key: C=Convenience F=Frequency S=Security T=Timeliness H=Helpfulness

Table 5
ATM and Traditional Banking
(Respondents by Age)

Age Group	ATM	Traditional Banking	Total
15-18	1	2	3
19-28	30	15	45
29-38	33	27	60
39-48	20	24	44
49-58	10	20	30
59-68	6	12	18
	100	100	200

Source: Survey Questionnaire

Huggins (1998) states that e-banking is reducing the number of persons that come into bank branches for mundane transactions such as cash withdrawals, deposits and bill payments. This allows banks to focus on the quality of their services rather than on time-consuming and repetitive tasks.

Overall, the survey results indicated that on average 94.2% of customers frequently used the ATM, compared to 35.3% of customers who most often use traditional banking. In terms of security, however, fewer respondents believe that ATM banking is less secure than traditional banking. Therefore, Barbadians are not yet convinced of the security of ATM banking (see Tables 3 and 4).

As shown earlier, ATM usage is far more popular (though

Table 6
Duration of Observation and Total Customers Observed

Banks	Total ½ hrs		Amt. of Customers	
	TB	ATM	TB	ATM
A	5.8	2	36.4	90.0
B	7.0	2	70.0	72.0
C	7.0	2	56.0	180.0
D	2.5	2	37.5	180.0
Total	22.3	8	199.9	522.0

Source: Observation Conducted

the majority of respondents believed it to be less secure than the traditional banking), with almost four times as many customers opting for this method during the period of observation (see Table 6)

E-banking and Its Impact on Commercial Banking

The effect of e-banking on commercial banks is two fold. First, as Baker (1998) explains, the electronic point of sale technology creates a wealth of raw data, which if used effectively can improve the competitive advantage of commercial banks. Second, the use of electronic technology is likely to improve the efficiency of banks' operations and the delivery of services to their customers. In effect, with automation, banks can now share information more easily.

E-banking is no longer a matter of choice, but one of survival. The "cashless society" has not yet been fully established in Barbados, but most of the high-value transactions are done using this banking technology. In fact, Andersen (1999) reported that in the US, commercial banks are proceeding quicker to take advantage of online opportunities, with 55% currently testing or offering e-Business services, followed by community banks and credit unions.

It is noteworthy, however, that Barnett (1999) reported that approximately one-third of U.S. online-bank customers discontinued their accounts during the past 12 months, whereas online stock brokerages soared by 53%, online insurance jumped 47%, and online credit-card applicants expanded by 27%. An even more shocking statistic, according to Gomez Advisors Inc. (1999), is that Internet banks' share of on-line banking activity in the US is only 4%. The market share of start-up 'stand-alone' Internet banks with respect to overall bank activity remains small, and is perceived to be constrained by certain disadvantages, namely the lack of a brand name, capital and a customer base. Interestingly, Wooding (1998) claims that executives in the banking industry admitted that e-banking has many benefits, but they viewed it as a complement to traditional banking, rather than a primary delivery system.

Central Banking and E-banking

From a regulatory standpoint, it is critical that e-banks are properly regulated and supervised. Although the basic types of risks involved are not new, e-banks provide new forms of “delivery” and create a number of interrelated policy and regulatory issues such as consumer protection, competition, access and standards (Basle, 1996). From the interviews with Central bank officials, it was found that the Bank responds to new technologies by enhancing the transfer of data and automation of transactions between commercial banks, non-banks and the Central Bank. The recently established Real Gross Time Settlement System provides an example of such a response.

Furthermore, the regulatory framework already in place for traditional banks could be extended to cover the new products of an e-bank, but the supervisory, policy and legal aspects must be modified. In addition, legal procedures are required for digital signatures and Certificate Authorities to ensure the uniqueness of individual signatures, as e-banking operates under a framework where data is linked to a signature, which if altered invalidates transactions.

Conclusion and Implications

The primary aim of this study was to determine the current state of e-banking activity in Barbados, by looking at the use of both traditional (manual) and e-banking methods. The results suggest that despite the regular use of ATMs and the existence of the infrastructure necessary to benefit from the Internet, e-banking has not been fully embraced by the banking industry in Barbados. This is partly because of a lack of critical mass, as Barbadians are still concerned with the security of e-banking procedures.

E-banking has several ramifications for central banking, as it relates to the control of the supply, stability and issue of money. For example, digital cash, which includes electronic money (e-money), can have perverse impact on the safety and soundness of financial systems, as well as the efficacy of monetary policy, if properly monitored. Furthermore, e-banking can present a situation of “free” banking, which could mean a policy of minimal regulation of money. It could also encourage the development of simple, open and transparent regulations suitable for public monitoring.

The main implications coming out of this study are that:

1. in order to retain competitive strength, the banking industry must focus its energies on improving customers’ experiences through highly personalised interactions in all conceivable communication channels;
2. to strengthen e-banking, the improvements in information and telecommunications technologies must be fully adopted by both the public and the banking industry. At present, of the seven commercial banks in Barbados (at the time of investigation) only one has a website;
3. e-banking requires a change in social and cultural beliefs to encourage persons to trust the “technology” to do their banking for them;
4. e-banking could increase unemployment, as it causes bank branches to close;
5. e-banking needs a sound regulatory framework and ongoing supervision by the regulatory authorities in order to produce transparent legal arrangements and protection against criminal elements.

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