

*“Financial Liberalisation and
Exchange Rate Inertia in
Trinidad and Tobago.”*

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Abstract: This paper examines the relative stability of the exchange rate in Trinidad and Tobago over the past five years. Various possible explanations of this "exchange rate inertia" are explored. It is argued that although it is clear that the rate was managed, other important factors also play a part, and lessons can still be learnt from this experience. The first section introduces the issue. Second, a brief review of the economic circumstances surrounding the floatation of the dollar is presented. Third, brief review the basic theories of exchange rate determination are presented. Fourth, the role of commercial banks is analyzed. Fifth, other possible reasons for exchange rate inertia are explored. Finally, the last section summarizes with some policy recommendations.

1. Introduction

As part of a process of financial liberalization, the Trinidad and Tobago dollar was floated against the US dollar in April 1993. After a sharp decline from the pre-float rate of \$4.25 to \$5.77 per US dollar the exchange rate depreciated gradually over the next four years then began to stabilize. The extent of this stability was such that the selling rate per US\$, at commercial banks, did not deviate from TT\$6.299 between October 1997 and June 2001 [see Figure 1]. This paper examines the reasons for this rigidity of the exchange rate, which I call "exchange rate inertia". The issue is important because inertia may set in at an exchange rate that economic fundamentals suggest may not be the true equilibrium rate. An overvalued exchange rate may lead to a loss of competitiveness and capital flight. On the other hand, an undervalued rate imposes higher costs than is necessary, in terms of local currency, on all import dependent firms. It is argued that a combination of commercial bank profitability, central bank intervention, and the build up of foreign currency deposits are largely responsible for the inertia.

The literature on aspects of exchange rate determination with respect to Caribbean countries is surprisingly thin [see Bennett (1994), Modeste (1994), Downes (2000), Ghartey (2000)]. Even thinner is that relating to Trinidad and Tobago in particular. This paper, therefore, is a contribution to a relatively neglected area of research by Economists in the region. Section 2 provides some background to some of the key issues surrounding the liberalization of the exchange rate. Section 3 reviews the standard models of exchange rate determination. The first argument of exchange rate inertia is presented in Section 4 with an analysis of the role of the Commercial Banks in the country. Other reasons for exchange rate inertia are outlined in Section 5. And finally, Section 6 summarizes and concludes.

2. Exchange Rate Liberalization in Trinidad and Tobago

After experiencing an oil-boom during the 1970s, the economy of Trinidad and Tobago collapsed by 1985. There were several years of negative growth, rising unemployment, loss of reserves, and an increasing external debt. This led to the adoption of a series of structural adjustment reforms. During the early 1990s, however, it was not considered prudent for small open economies to implement a policy of floating exchange rates. In fact, after examining the negative experiences of many Latin American countries Dornbusch and Kuenzler [1993, p. 124] concluded, "The case for unified, flexible exchange rates in developing countries is therefore implausible". Several arguments were advanced in support of this conclusion, including the incidence of: currency substitution, capital flight, speculation and the large depreciation of the domestic currency. Aspects of these negative effects had not only been observed in Latin America but also in fellow CARICOM member states of Guyana and Jamaica following the floatation of their currencies [Downes and Thomas, 2000]. The monetary authorities, however, insisted that Trinidad and Tobago's case was different. The Minister of Finance at the time, for example, asserted that "Jamaica had had entered into a liberalized exchange regime with no foreign exchange cover and little control over its monetary and fiscal affairs" [Express 1993, April 8, p. 4].

The stated reasons given for floating the TT dollar were: to reduce capital flight, which the Minister claimed to have been US\$1 billion between 1986 and 1991; to attract foreign capital, and to encourage investment. An examination of the main macroeconomic indicators since foreign exchange liberalization would seem to vindicate the decision. Economic growth has been positive (see Table 1), foreign direct investment has been large, peaking at almost US\$1 billion in 1997, and the unemployment rate fell

continuously from 19.8 percent in 1993 to 10.7 percent in 2001. All of this was achieved with declining or stable inflation rates.

In the financial sector, interest rates have remained relatively high despite changing market conditions. For example, there has been excess liquidity, positive money growth and net positive real interest rate differentials with the US. This ability of commercial banks in small open economies to maintain high interest rates while holding excess liquidity has been well documented by Worrell [1997]. This decidedly non-Keynesian situation has existed in Trinidad and Tobago for the past 4 or 5 years. It makes a mockery of the transmission mechanism in these economies and is only understood, in this case, when the exchange rate policy is considered.

Table 1

Trinidad & Tobago, Selected Economic Indicators, 1993-2001									
	1993	1994	1995	1996	1997	1998	1999	2000	2001
GDP Growth	-2.60	5.00	3.20	2.90	2.90	4.00	5.10	4.70	3.50
Inflation	10.70	8.80	5.30	3.30	3.70	5.60	3.40	3.60	5.50
Interest Rates (Com Banks)	13.08	13.85	13.36	14.24	11.87	15.18	15.92	15.27	15.43
Deposit (aver.)	6.53	6.50	5.84	6.39	5.63	5.75	6.91	6.03	5.72
Lending (aver.)	13.08	13.85	13.36	14.24	13.85	12.42	15.92	15.27	14.50
Spread							9.50	9.11	
Exchange Rate	5.70	5.92	5.95	6.04	6.28	6.30	6.30	6.30	6.30
Foreign Direct Investment	380.00	521.00	295.70	356.30	999.60	731.90	379.20	654.30	554.00
Unemployment Rate	19.80	18.40	17.20	16.30	15.00	14.20	13.10	12.20	10.70
Foreign Debt	2,102.10	2,063.50	1,905.20	1,875.80	1,564.80	1,471.10	1,584.80	1,679.80	1,637.60
Government Budget Deficit									
As % of GDP (%)	-0.20	0.00	0.20	0.50	0.10	-1.90	-3.20	1.60	-0.40
Trade Balance	163.00	597.70	587.70	382.40	-528.60	-740.80	46.05	740.95	312.92
Exports	1,662.20	1,971.90	1,638.73	1,685.61	1,869.11	1,531.05	2,042.54	3,572.63	3,121.19
Imports	1,498.90	1,374.20	1,224.86	1,444.51	2,200.67	2,033.44	1,996.48	2,539.28	2,808.26
Service (net)	61.00	43.10	159.40	244.10	292.50	417.60	329.10	166.10	299.10
Current Account	-107.80	221.40	269.90	68.20	-578.90	-645.30	30.60	544.30	126.40

Source: Central Bank of Trinidad & Tobago, Annual Economic Survey, 2001. IMF, International Monetary Statistics. CCMS.

Figure 1 displays the movement of the exchange rate since liberalization in April 1993 to the current period. Clearly, after 3 years the selling rate had stabilized at around the 6.30 mark and has only deviated within this and the 6.15 zone. This seems to suggest that the Commercial Banks and the Central Bank are willing to tolerate a relatively very

narrow 15 cents exchange rate band. Figure 2 displays the comparison in the movement of the exchange rates among Jamaica, Guyana, and Trinidad and Tobago. The relative stability, or rigidity, in the case of Trinidad and Tobago is quite clear. It also emphasizes the point that this experience appears to be quite different from the floating arrangements made by Jamaica and Guyana. I now take a very brief review as to how mainstream economics attempts to explain changes in the exchange rate.

Figure 1

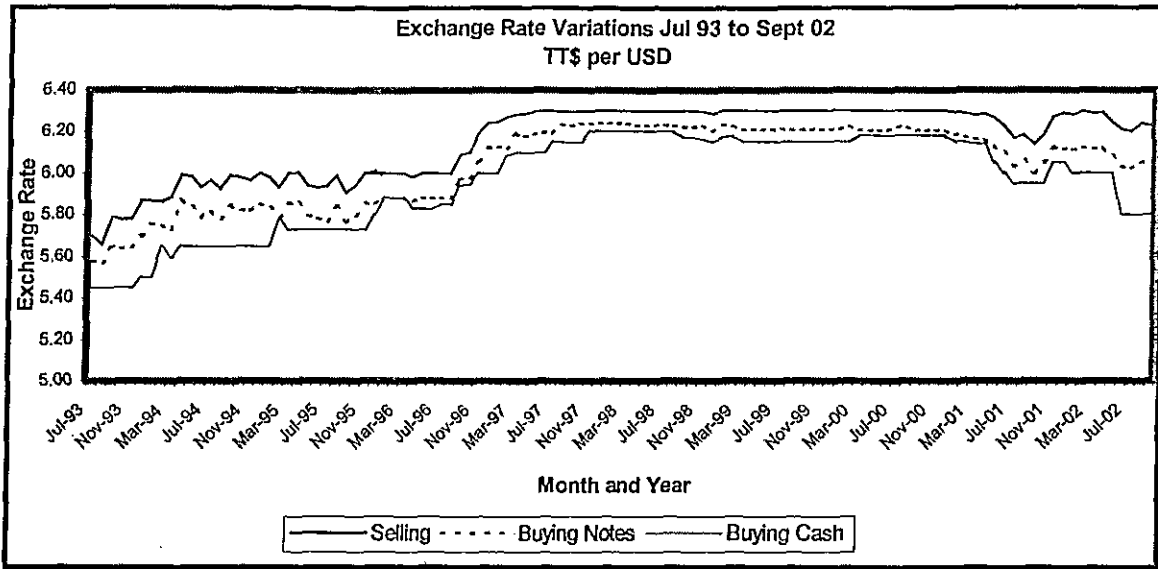
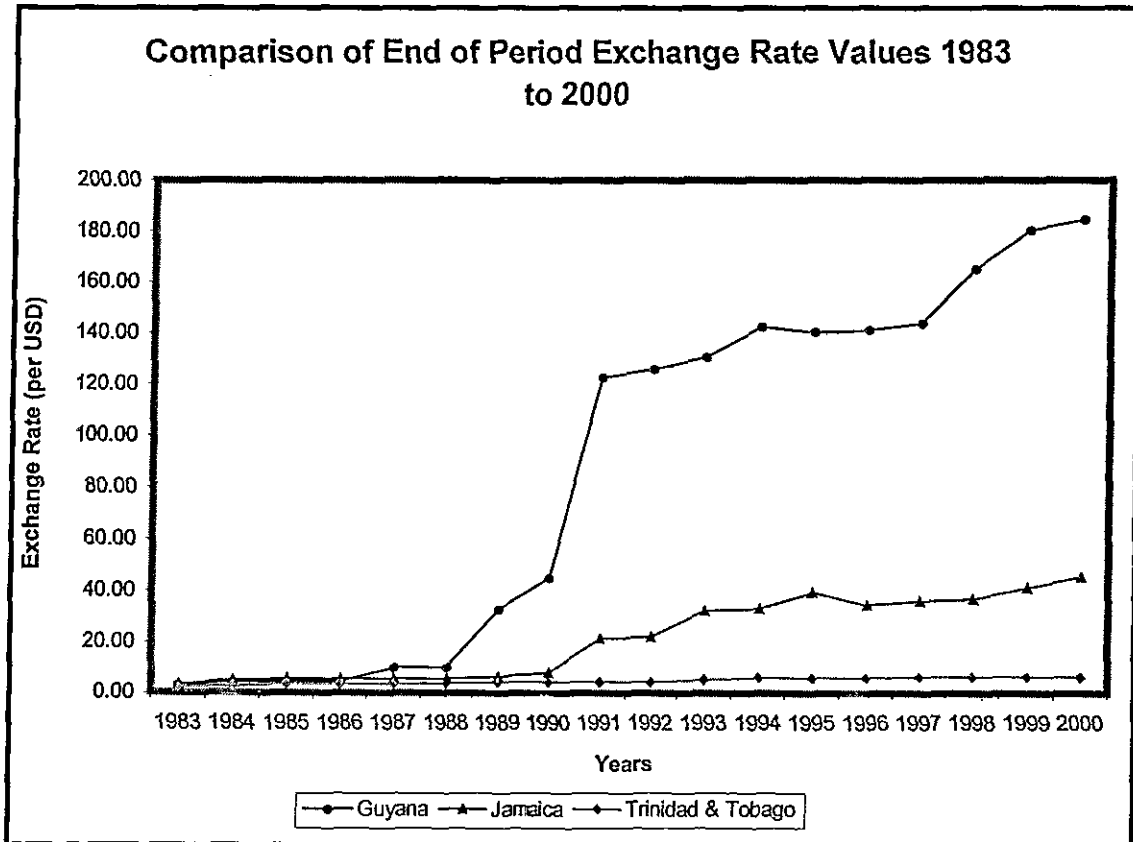


Figure 2



3. Exchange Rate Determination

Standard economics has two primary theories of exchange rate determination: the monetary approach and the portfolio balance approach [Rivera Batiz and Rivera-Batiz, 1994]. The monetary approach suggests that changes in the exchange rate (\hat{e}) can be explained by a function such as:

$$\hat{e} = (M - M^*) + \phi(Y - Y^*) + \lambda(i - i^*)$$

where: M and M^* represent growth in the local and foreign money supply, Y and Y^* are growth of national and foreign income, and i and i^* are the local and foreign interest rates, ϕ and λ are constants. This model, however, assumes that local and foreign assets are perfect substitutes. This shortcoming is addressed in the portfolio balance approach.

An adjustment for purchasing power parity and the addition of a risk premium yields the equation:

$$\hat{e} = (M - M^*) + \phi(Y - Y^*) + \lambda(\pi - \pi^*) + \lambda R$$

The second to last term accounts for the fact that if PPP holds then agents will expect that the exchange rate will adjust due to anticipated inflation rate differentials. The last term acknowledges the existence of a risk premium (R) on domestic over foreign assets. A variation of the above model, usually referred to as Balassa-Samuelson type models, involves the introduction of a productivity differential to the equation [see Chueng et. al, 2002]. Others include variables such as the reserve holding by the central bank and domestic credit creation. These are referred to as exchange market pressure models [see Ghartey, 2000].

These models have had very limited success in terms of accurately explaining or predicting the movement of exchange rates in empirical studies. This is so even when tested in the most favorable circumstances where there is no active intervention by monetary authorities [Chueng et. al, 2002]. Further, Taylor [2002] argues that these models are inherently flawed since they are indeterminate. He asserts that the exchange rate can only float against its own expected future value and interest rates, and "in the real world such expectations are determined in part by intrinsically unpredictable and non-rational forces" [Taylor, 2002, p.29]. Even if one does not agree completely with Taylor, the lack of variability in the Trinidad and Tobago exchange rate would suggest that an econometric evaluation using the above models would be a fruitless exercise. The following analysis is digressive, therefore, since it attempts to explain this lack of variation mainly by describing the forces acting on the exchange rate that would normally cause it to change. I begin by examining the role of the commercial banks in this process.

4. The Exchange Rate Spread and the Commercial Banks in Trinidad and Tobago

The Commercial Banks in Trinidad and Tobago play a critical role in the determination of the exchange rate. They are at the frontline of the demand for foreign exchange and are the primary recipients of foreign currency deposits. The non-bank financial institutions, such as Cambio outlets, are not as important as in Guyana, for example. This may be due to the fact that the remittance market is not as significant in Trinidad and Tobago as it is in Guyana. Nevertheless, the commercial banks dominate the foreign exchange market in Trinidad and Tobago, and therefore, play a critical role in determining the exchange rate since financial liberalization.

In fact, it can be argued that the commercial banks have benefited greatly from financial liberalization. First, they have been able to maintain the relatively high interest rate spreads that were firmly in place before liberalization while being able to earn considerable revenue from the spread on foreign exchange. For example, during the period 1994 to 2000, the Central Bank pursued a policy of high interest rates aimed at dampening consumer demand and hence, avoiding excess pressure on the exchange rate. The main policy tool used to implement this policy was the reserve requirement. This ratio peaked at 23 percent in during 1998. The resultant reserve requirement was then used to justify the commercial banks keeping lending rates high even though it did not negatively affect profits since they were "able to shift fully changes in this cost, over time, to their customers" [IMF, 1997, p. 51]. This adds "as much as 3.5 percentage points, or about a fourth, to the average loan cost", the IMF Report estimated. What happens in effect is that borrowers end up financing the exchange rate protection. In other words, what the public does not pay in higher prices due to currency depreciation they pay for in loan charges.

Additionally, since exchange rate liberalization, the commercial banks have profited from their privileged position as foreign exchange dealers. Table 2 shows estimated gross revenues earned from foreign exchange sales from 1993 to 2001. Gross Revenue (GR) is estimated as follows:

$$GR = (SPr - BPr) \times GFXS$$

Where: SPr = Weighted Average Selling price per US dollar
 BPr = Weighted Average Buying price per US dollar
 GFXS = Gross Foreign Exchange Sales (in US dollars)

Table 2
 Gross Revenues from Foreign Exchange
 Transactions, 1993-2001.

Years	FX Purchases US\$ (000)	FX Sales(GFXS) US\$ (000)	FX Spread (CenB)	GR1* (TT\$000's)	FX Spread (CmBnks)	GR2** (TT\$000's)
1993	856624	901640	0.1129	101,750.07	.1304	117,587.88
1994	886186	946423	0.1080	102,213.68	0.1438	136,073.70
1995	1238997	1341525	0.1060	142,201.65	0.1494	200,459.61
1996	1141500	1317572	0.0920	121,216.62	0.1203	158,525.65
1997	1398789	1433997	0.0660	94,643.80	0.0940	134,789.50
1998	1576384	1649045	0.0880	145,115.96	0.0712	117,398.26
1999	1273602	1460186	0.0540	78,850.04	0.0904	132,066.52
2000	1525476	1825384	0.0495	90,356.51	0.0913	166,617.10
2001	2140854	2312435	0.0635	146,839.62	0.1335	308,696.20

Source: Central Bank of Trinidad and Tobago (CBTT), Monthly Statistical Digest (MSD), various months (SPr - BPr)

* Based on spread as reported by the Central Bank

** Based on spread as published in the Express Newspaper by Commercial Banks

Two estimates are presented, one based on the spread listed by the Central Bank (GR1), and the other as listed by the commercial banks, mainly Republic Bank- the largest of the Commercial Banks, in the Daily Express Newspaper over the period (GR2). On average, the published spread is significantly wider than that of the Central Bank. From 1998 to 2001 the estimated revenue from the spread (GR2) increased sharply from \$117 million to \$308 million. The source of revenue has had a significant impact on commercial bank revenues.

Even during the lead up to the floatation of the currency in 1993, the banks may have benefited from the float though the process known as round tripping. This occurs when

there is an impending devaluation, or floatation, with a controlled exchange rate. Once the policy is made public, it is not unusual for have a run on the central bank for the purchase of foreign exchange, usually US dollars. These US dollars can then be resold later, in effect, arbitraging the difference between pre and post float rates. In Table 2, for example, the figure for 1993 does not include the US\$357 million that was sold to the by the Central Bank between January and April. Given the 36 percent fall in the value of the TT dollar over the weekend of the float, this would have yielded a windfall of TT\$535.5 million the privileged holders of US dollars before the float.

Furthermore, as Table 3 indicates trend of increasing revenue from the spread is continuing into the current year. Thru September, the estimated revenue accruing to the commercial banks is \$297 million. It is also worth nothing that sales of foreign exchange have been larger than purchases for every month of the year.

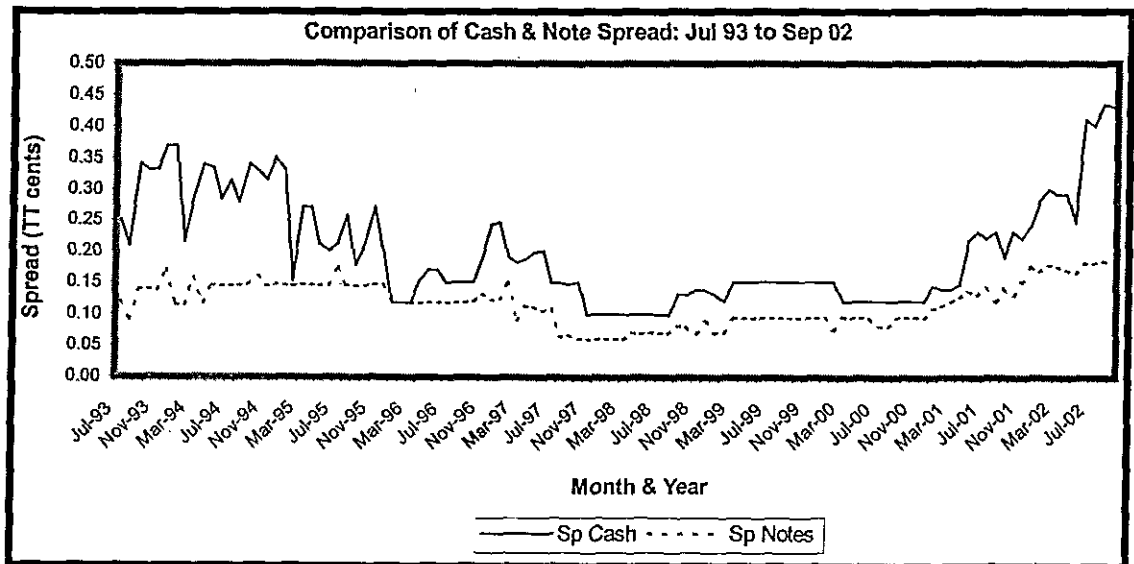
Table 3
Gross Revenues from Foreign Exchange
Transactions, for 2002.

Month	FX Purchases US\$ (000)	FX Sales (GFXS) US\$ (000)	FX Spread (CenB)	GR1 (TTm's)	FX Spread (Cbanks)	GR2 (TTm's)
January	157532	203427	0.0801	16,286.37	0.1703	34,643.62
February	131554	162516	0.0747	12,146.45	0.1804	29,317.89
March	170049	188153	0.0741	13,940.26	0.1769	33,284.27
April	166163	178096	0.0743	13,227.19	0.1724	30,703.75
May	148488	166195	0.0786	13,064.59	0.1666	27,688.09
June	171964	179086	0.0682	12,210.08	0.1846	33,059.28
July	191379	202161	0.0655	13,237.50	0.1844	37,278.49
August	179316	187260	0.0807	15,111.88	0.1900	35,579.40
September	172681	191600	0.0755	14,463.88	0.1850	35,446.00

Source: Central Bank of Trinidad and Tobago (CBTT), Monthly Statistical Digest (MSD), various months (SPr - BPr)

Additionally, the recent appreciation of the exchange rate would seem to suggest that there is competitive pressure on the banks to lower the spread. The opposite, however, appears to be the case. Figure 3 indicates that the spread has widened, especially on cash, as the exchange rate appreciated towards the end of 2001 and earlier this year. Widening buy/sell or bid/ask spreads generally indicates expected volatility of an exchange rate and changes in the on volume of transactions [Wei, 1994].

Figure 3



Since liberalization, therefore, the commercial banks have shown a significant increase in profitability. Table 3 illustrates, for example, that net after tax profit as a percent of total equity increased from 2.4 percent in 1988, five years before liberalization, to 20.1 percent in 1997, just four years after.

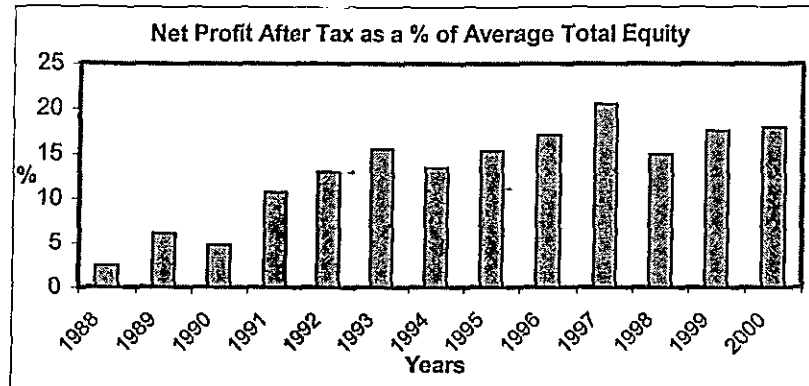
Table 4
Commercial Banks:
Profitability Ratios, Pre and Post Liberalization, 1988-2000

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Percentage of Average Total Assets													
Total Operating Income	11.1	11	9.9	10.3	12.3	12.4	10.9	10.2	10.9	11	11.3	12.2	12.3
Profit before tax	0.5	0.8	0.7	1.2	1.5	4.2	1.5	1.5	1.6	2.1	1.7	2.3	2.5
Profit after tax	0.2	0.4	0.4	0.7	1	1.9	1	1.1	1.3	1.7	1.4	1.7	1.9
Percent of Average Total Equity													
Net profit after tax	2.4	6.1	4.8	10.7	13	15.5	13.4	15.3	17.1	20.5	14.9	17.6	17.9

Source: CBTT, Quarterly Economic Bulletin (QEB), Appendix, June, Various Years.

The sustained rise in after tax profit as a percent of average total equity is illustrated graphically in Figure 4. Although these profit margins for the most part, are not unusual by international standards, it is clear however, that they are significantly higher than the pre-float years. If the upward trend continues, however, then this may be cause for some concern. For example, the 20.1 percent registered for Trinidad and Tobago banks in 1997 was substantially higher than those in the United States, which showed a figure of 14.9 percent for that year. The increase profitability contributes to the banks willingness to keep the exchange rate at its current level.

Figure 4



5. Other Reasons for Exchange Rate Inertia

The profitability of the Commercial banks, however, cannot by itself explain exchange rate inertia. There are other significant factors that contribute to this phenomenon.

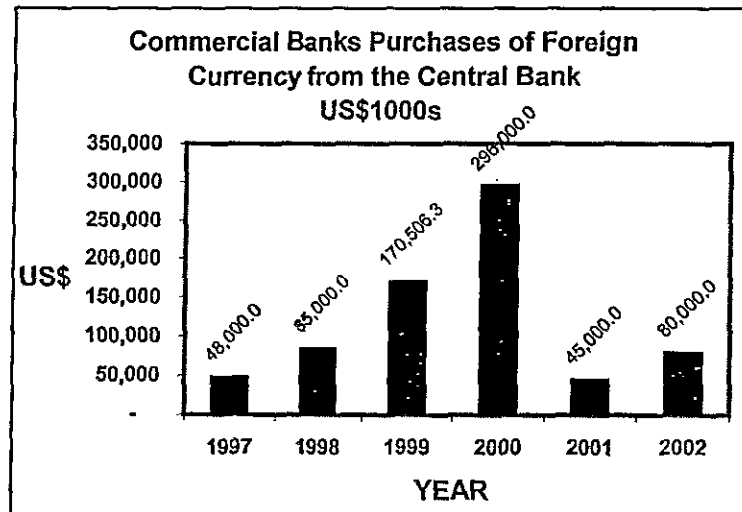
Central bank intervention, the accumulation of foreign reserves, and the build up of foreign currency accounts are also critical in explaining this phenomenon. The lack of speculation and possible collusion by the Commercial Banks may also be contributing factors. These are now examined.

Central Bank Intervention. Intervention by the Central Bank has been a major reason for the relative stability of the exchange rate. As Figure 5 indicates, Central Bank intervention was particularly strong in 2000, with an injection of US\$296 million into the system. A seemingly contradictory mix of high interest rates and intervention was implemented in order to maintain stability in the foreign exchange market over the period. The Bank admits to a link between excess liquidity in the system and the exchange rate, for example, in May 2000 it noted that "financial markets experienced

generally easy liquidity conditions which spilled over into the foreign exchange market and further exacerbated the relationship between demand and supply for foreign exchange"[Central Bank, 2000, May, p.7]. Furthermore, if injections of US dollars into the system alone did not do the trick then it may be that "greater reliance will need to be placed on interest rate policy to ensure that conditions in the foreign exchange market remain sustainable"[Central Bank, 2000, August, p.7].

The situation was as follows: excess liquidity leads to pressure on the exchange rate, first, the Central Bank attempts to mop up this liquidity, and second, if that does not work then it raises interest via the reserve requirement. This has the effect, however, of raising the cost of borrowing and attracting more deposits hence adding to the liquidity of the system!

Figure 5



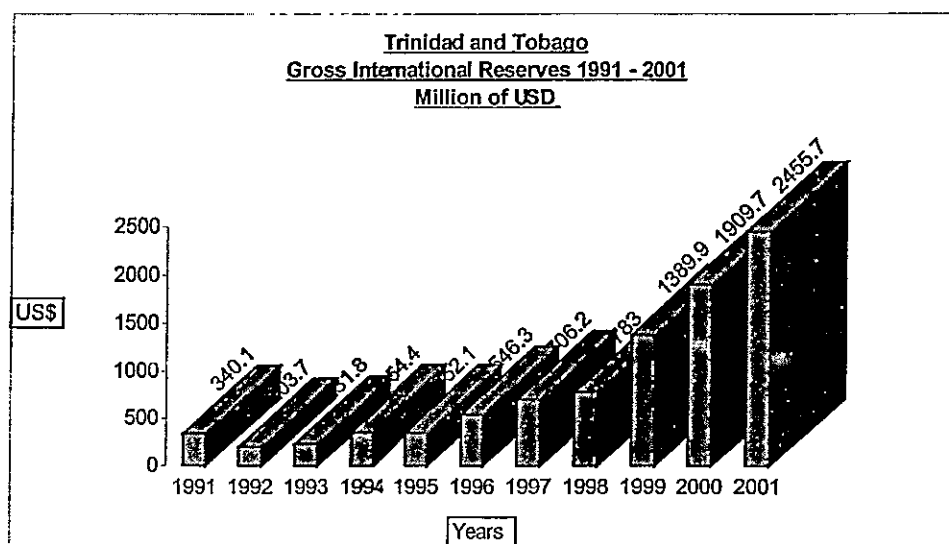
Given the overall size, however, of the market for foreign exchange in the country, the interventions in the past 2 years would have to be considered to be fairly small. For

example, the US\$45 million injected in 2001 can be compared with total sales of foreign exchange sales of commercial bank of over US\$1.8 billion for that year. It is clear, therefore, that Central Bank intervention alone cannot account for the stability of the exchange rate.

The Build up of Foreign Exchange Reserves

Having an adequate level of reserves is a major factor in maintaining the stability of the exchange rate, especially in small open economies. This provides the monetary authority with the ability to intervene is necessary to defend the value of the domestic currency. In other words, it gives the Central Bank credibility in terms of achieving its stated policy objective of exchange rate stability. This can also act as a psychological factor in terms of the market.

Figure 6



Alternatively, the accumulation of reserves at the Central Bank may prompt commercial banks to sell more foreign exchange and then pressure the Central Bank into release US dollars from its stock of reserves.

The Accumulation of US Dollar Deposits

When the banking system holds large amounts of foreign currency, exchange rate management could become problematic. As Dornbusch and Reynoso [1993, p. 84] warn, it creates the "risk that if a major currency depreciation is required at some point, the banking system is likely to suffer". This fact, therefore, may lead to a tendency for the exchange rate to become overvalued or remain significantly away from its equilibrium level. In other words, in order to avoid a run on US dollar deposits the banking systems then has a vested interest in maintaining the disequilibria in the foreign exchange market. As Table 5 indicates, the build up of foreign currency deposits in the financial system has been quite dramatic since liberalization. The combined deposits at the commercial banks and the NFIs rose from about US\$325 in 1994 to US\$1.17 billion at the end of 2001. This is almost equivalent to the amount of savings in local currency.

Table 5
US Dollar Deposits (US\$mn.)

Year	Commercial Banks	Non-Bank Financial Institutions	Total
1993	152.5	--	152.5
1994	312.9	11.89	324.79
1995	414.9	31.32	446.22

1996	496.2	47.48	543.68
1997	549.3	91.14	640.44
1998	654.5	114.56	769.06
1999	687.8	271.70	959.50
2000	867.5	254.63	1122.13
2001	854.7	316.95	1171.65

Source: Central Bank of Trinidad and Tobago (CBTT), Monthly Statistical Digest

Any sudden and sharp depreciation in the exchange rate can see a hasty withdrawal of these deposits as residents seek to acquire tangible assets such as real estate. On the other hand, a sharp appreciation can lead to: a withdrawal of deposits to finance imports, reduced competitiveness of manufactured exports, and a fall in demand for foreign currency thereby reducing the commercial banks revenue from the exchange rate spread.

Lack of Speculation

The absence of large speculation capital flows has also contributed to the relative stability of the exchange rate. Despite attracting large inflows of foreign direct investment during the 1990s, short-term and other "hot-money" flows have been insignificant for Trinidad and Tobago. Another seldom noted result of the floatation of the Trinidad and Tobago dollar was the complete illumination of the parallel market. Prior to liberalization, like most developing countries, there existed a thriving unofficial market for foreign exchange in the country. At the time of liberalization of the exchange rate, the parallel market premium was between 25 to 75 cents. That is, the official exchange rate was TT\$4.25 while the parallel rate was TT\$4.75 to TT\$5.00. In

effect, the immediate post-float rate was much greater than the speculative premium. Additionally, on the second day of the float, the Commercial Banks stated that they “would not condone speculation in any form when foreign exchange trading resumed today” [Express, 1993, April 13, p.4]. This appears to have had the desired impact.

Collusion by Commercial Banks

When announcing the float in 1993, the Minister of Finance stated that “with immediate effect the Central Bank will no longer determine the exchange rate, and this role will be ascribed to the banking system and licensed dealers in foreign exchange” [Trinidad Guardian, 1993, April 8]. Additionally, the few days after the float when the rate appeared to be stable, Dennis Pantin asserted that “exchange control has been decentralized and placed into the hands of a cartel of commercial banks” [Trinidad Express, 1993, April 15]. Subsequent data appears to support this view. The increase in profitability outlined in section 3 of this paper supplies the motive for any form of collusion.

5. Summary and Recommendations

The experience of Trinidad and Tobago clearly shows that having access to a reliable source of foreign exchange can make a drastic difference with regards to the effects of financial liberalization. In 1993 the TT dollar was allowed to float. After a sharp depreciation the rate became stable. Since 1997 when the exchange rate hit the TT\$6.29 per US dollar mark it has shown very little variation. This “exchange rate inertia” can be explained by a number of factors: profitability of the commercial banks, intervention

by the central bank, the accumulation of reserves at the Central Bank, the large US dollar deposits at the commercial banks and, possible collusion on the part of these banks. These factors combine to force a kind of stalemate in the exchange rate resulting in an "anchored float".

In many respects, I am raising a similar argument regarding the exchange rate in Trinidad and Tobago that Worrell [1997] made with respect to interest rates in the region. The main issue is that the current exchange rate may most likely be undervalued and hence resulting in higher import prices for firms and consumers. This welfare loss is accrued to commercial banks via continued high interests and large exchange rate spreads. Perhaps the Central Bank may wish to consider relaxing what seems like a policy of "exchange rate stability at all cost" approach to monetary policy.

References

- Aizenman, Joshua and Hausman, Ricardo (2001) "Exchange Rate Regimes and Financial-market Imperfections", National Bureau of Economic Research (NBER), July 2001, F31.
- Bennett, K. (1998) "The Impact of US Dollar Deposits on Caricom Economies", Presented at the XXX Annual Monetary Studies Conference, Bahamas, October 26-30.
- Bennett, Karl M. (1994) "The Jamaican Foreign Exchange Market: Lessons from the Experience with a Floating Exchange Rate Regime and the Abolition of Exchange Controls", **Social and Economic Studies**, Volume 43, Issue 4, pp 37-61.
- Best, L., Girvan, N. and Thomas, C.Y. (1993) **Economic Liberalization, and Caribbean Development**, R. Ramsaran editor, Occasional Paper Series No 1, Regional Programme of Monetary Studies.
- Bruno, M. (1991) "Opening Up: Liberalization with Stability", in Dornbusch and Helmers Eds, pp. 223-248.
- Monetary Policy Report (2002) Central Bank of Trinidad and Tobago, September 2002, Volume 2, Issue 2.
- Cheung Yin-Wong et al [2002] "Empirical Exchange Rate Models of the Nineties: Are Any Fit to Survive?" National Bureau of Economic Research(NBER), F31, F47.
- Cottani, J. and Cavallo, D. (1993) "Financial Reform and Liberalization", in Dornbusch ed., pp. 39-63.
- Craigwell, Roland (2000) "Market Power and Interest Rate Spreads in the Caribbean", XXXII Annual Monetary Studies Conference, November.
- Crosby, Mark and Voss, Graham (2000) "Theoretical Issues in Exchange Rate Determination" **The Australian Economic Review** , Volume 32, Issue 2, pp. 175-9.
- Dobson, W. and Jaquet. P. (1998) **Financial Services Liberalization in the WTO**, Institute for International Economics, Washington D.C.
- Dookeran, W. (1998) "The Trinidad and Tobago Economy: Past, Present and Future", **Quarterly Economic Bulletin**, Central Bank of Trinidad and Tobago, June, pp. 62-67.

- Dornbusch, R. ed. (1993) **Policy Making in the Open Economy**, EDI Series in Economic Development, Oxford University Press.
- Dornbusch, R. and Reynoso, A. (1993) "Financial Factors in Economic Development", in *Policy Making in the Open Economy*, Dornbusch Ed., pp. 64-89.
- Dornbusch, R. and Helmers, F.L.C.H. (1991) **The Open Economy: Tools for Policymakers in Developing Countries**, EDI Series in Economic Development, Oxford University Press.
- Downes, Andrew (2000) "Exchange Rate Regimes and Inflation in the Caribbean: The Case of Guyana and Jamaica", XXXII Annual Monetary Studies Conference, November.
- Fry, M. (1997) "In Favour of Financial Liberalization", **The Economic Journal**, 107(May), 754-770.
- Ghartey, Edward (2000) "Is the Current Foreign Exchange Regime in Jamaica Optimal", XXXII Annual Monetary Studies Conference, November
- Gabel, I. [1995] "Speculation-led economic development: a post-Keynesian Interpretation of financial liberalization programmes in the Third World", **Journal of Post-Keynesian Economics**, pp.127-147.
- Gupta, K.L. ed. (1997) **Experiences with Financial Liberalization**, London: Kluwer Academic Publishers.
- Hallwood, C.P. and MacDonald, R. (1994) **International Money and Finance**, Second Edition, Oxford: Blackwell publishers.
- Henry, L. (1998) "Capital Flight and Trade Misinvoicing: The Case of Four Caribbean Countries", Working Paper Series, Faculty of Social Sciences, University of the West Indies, St. Augustine.
- International Monetary Fund (1997), **Trinidad and Tobago-Selected Issues**, IMF Staff Country Report No. 97/41, Washington, D.C.
- Kent, Christopher and Naja Rafic (1998) "Effective Real Exchange Rates and Irrelevant Nominal Exchange Rate Regime", Reserve Bank of Australia, Research Discussion Paper 9811, October.
- Lothian, James R. and McCarthy, Cornelia H. (2000) "Real Exchange Rate Behavior under Fixed and Floating Exchange Rate Regimes", Fordham University, Graduate School of Business Administration, New York, November.
- Modeste, Nelson (1994) "The Determinants of the Real Exchange Rate: the Experience of Barbados", **Social and Economic Studies**, Volume 43, Issue 4, pp 183-196.

- Moore, W. and Craigwell, R. (2000) "Market Power and Interest Rate Spreads in Caribbean", presented at the XXXII Annual Monetary Studies Conference Kingston, Jamaica.
- Pfeffermann, G. (1995) "Competing in a Globalized World Economy", Address to the Harvard Business School Alumnae Association and the Bombay Chamber of Commerce, Bombay, India, March 28.
- Pill, H. and Pradhan, M. (1997) "Financial Liberalization in Africa and Asia", **Finance and Development**, Vol. 34, No. 2.
- Rivera-Batiz, Francisco L. and Rivera-Batiz Luis A. (1994) **International Finance and Open Economy Macroeconomics**, Second Edition, Prentice Hall, New Jersey.
- Rolle, John (1993) "Fixed Exchange Rates and Exchange Controls in the Small, Undiversified Open Economy", XXV Conference of the Regional Programme of Monetary Studies (RPMS), November.
- Singh, A. (1997) "Financial Liberalization, Stock Markets and Economic Development", **The Economic Journal**, 107 (May), pp. 771-782.
- Sondergaard, Jens (2002) "Real Exchange Rate Determination in a New Open Macroeconomics Framework-a Refinement of the Balassa Samuelson Hypothesis" Georgetown University, January 15th 2002.
- Taylor, Lance (2002) "Exchange Rate Indeterminacy in Portfolio Balance, Mundell-Fleming, and Uncovered Interest Rate Parity Models", Center for Economic Policy Analysis (CEPA), working paper 2000-21, April.
- Victor, Roland [1992] "Monetary and Financial Policy and Financial Liberalization in Trinidad and Tobago, 1966-1992", Regional Programme of Monetary Studies (RPMS), October, 1992.
- Wei, Shang-Jin (1994) "Anticipations of Foreign Exchange Volatility and Bid-Ask Spreads", Working Paper 4737, NBER, May.
- Worrell, DeLisle (1997) "Bank Behaviour and Monetary Policy in Small Open Economies with Reference to the Caribbean", **Social and Economic Studies**, Vol. 46:2&3, pp.59-74.