GROWTH, CAPITAL FLOWS AND VOLATILITY IN THE TRINIDAD AND TOBAGO ECONOMY, 1970-2000

by

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Introduction

There has long been concern about the vulnerability of small open economies to internal and external shocks and their ability to adopt counteracting measures to mitigate the effects of slowdowns and recessions. Varying levels of development in both money and goods markets, and the limited scope for monetary and fiscal policies under both fixed and flexible exchange rate regimes, often lead to the adoption of widespread controls on both current and capital transactions. The global policies towards a more open world economy and the increasing integration of trade and financial markets through liberalization has not only opened up new opportunities for commerce and investment, but has also created an environment for increased volatility and rapid reversals of economic gains made. Terms of trade shocks to which developing countries are particularly prone, or changes in the volume of trade, can easily be compounded by capital movements, interest rate changes, declining foreign exchange reserves and pressures on the exchange rate.

Different countries have shown different capacities to absorb shocks, and the implications for growth, poverty, income distribution, employment, inflation, government revenue and expenditure can vary widely. The uncertainty that accompanies volatility can also impact on investment, capital flight and a worsening social environment. A recent report notes that "if domestic capital markets were perfect and economic downturn

temporary, all economic agents could borrow to smooth consumption and maintain welfare. But capital markets are imperfect and segmented."[1] In the same way that the poor may have greater difficulty in accessing credit at the domestic level, developing countries may also encounter the same kind of challenge at the international plane.

The increasing emphasis on the private sector as the engine of growth in the post-1980s period has radically changed the framework within which private capital moves, and national policies are now generally more favourable and inviting. In the two or three decades following the end of the Second World War, controls on both current and capital transactions were widespread. Under the Bretton Woods monetary system, the fixed exchange rate system was a key pillar, and the question of capital controls was left largely in the hands of national governments.[2] It was widely accepted that free capital movements was incompatible with a fixed exchange rate regime, and this allowed for the exercise of a fair amount of discretion. In the early post-independence years the governments in many developing countries found themselves adopting ambiguous policies in the context of attempting to attract capital for development while trying to bring under local control key sectors of the economy. The failure of the protectionist strategies and the adoption of stabilization and structural adjustment programs in more recent decades have accelerated moves towards more liberalized trade and capital markets. The experience has shown that there are benefits as well as risks to this process, and a range of policies relating to sequencing and reforms in the domestic financial sector are necessary to deal with the effects of destabilizating flows. Debt problems and a larger role for private investment have intensified the competition for private foreign capital, but flows have been concentrated in a few countries in the developing world. In Latin

America and the Caribbean, for example, Argentina, Brazil, Mexico and Chile accounted for 83% of the US$90.5 billion FDI inflows to the region in 1999. In South, East and South East Asia, China and Honk Kong received 66% of the total to the region in the same year.[3]

In the post-war aid literature it is generally accepted that foreign capital can assist development by supplementing local resources and breaking the low-income low-savings low-investment 'vicious circle' of poverty. There has also, however, been strong skepticism over the extent of the contribution foreign capital can make in transforming economies and raising the standard of living in poor countries. The volatility in the 1990s raised additional concerns. While there is some evidence that private capital flows can re-enforce the growth process, there is some controversy over whether capital flows drive growth, or domestic growth drives capital flows.[4]

Despite receiving a fair amount of foreign exchange from exports and foreign direct investment (FDI), economic growth and transformation in the Trinidad and Tobago economy have been modest and limited. While there has been some progress towards diversification, production is still highly skewed and the economy remains vulnerable to external shocks. Private foreign capital has played a major role in recent economic performance. The aim of this paper is to examine the performance of the economy in recent decades and guage the impact of foreign capital on selected variables and on the functioning of the economy. The rest of the discussion is organised as follows. The first part of the paper reviews the thinking influencing the emerging framework governing capital movements. The second discusses the performance of the economy and the behaviour of key variables over a relatively long period. In the third section we look at

and firms can reduce their vulnerability to domestic economic disturbances."[8] In other words capital mobility leads to greater efficiency and a better allocation of capital. On the other hand, critics argue that "liberalized financial markets are so distorted by incomplete information and other problems that transactions often yield outcomes harmful to the general welfare."[9] To improve economic efficiency financial markets will have to "evaluate correctly the portfolio preference of savers, identify and fund the most productive investments, establish asset prices that appropriately reflect the underlying risks and returns and help overcome limitations introduced by uncertainty and incomplete information."[10]

Short term capital and long term capital respond to different factors. In the case of the former, interest rate differentials and exchange rate expectations are major influences. Because of the volatility associated with short term flows, and high levels of indebtedness in some cases, greater emphasis is being placed on long term investment, not only because it tends to be less volatile, but because of the expected benefits stemming from the transfer of technology, management, expertise, markets access, etc. There is no one theory of foreign direct investment that provides a complete explanation of the patterns and trends associated with this activity.[11] Outward and inward investment are influenced by different factors. Hypotheses have been based on both perfect and imperfect markets. In one explanation capital is seen as flowing from countries with low rates of return to countries with high rates of return. Another sees global investment as a means of diversifying risks or taking advantage of market size. Firms may re-act to the threat of loss of market by investing overseas, and in an oligopolistic setting by other firms to maintain market share. Other theories stress imperfections in the market place

which encourage firms to replace market transactions with internal transactions and allow others to increase market power from economies of scale, knowledge, etc. Factors like the structural imperfections of markets, the social and political environment, labour costs, relative strength of currencies and natural resources have also been used as explanatory tools. Dunning[12] develops an eclectic approach that pulls together the strands of the industrial organization theory, the internalization theory and the location theory in providing an explanation for foreign investment flows. Most of these theories are more concerned with explaining movements and location rather with explaining impact on capital importing countries. What benefits host countries derive often depends on the policy and institutional environment. "Countries where trade, industrial and competition policy regimes result in a distorted incentives structure, as is usually the case with import substitution and where government bureaucracies are incompetent and corrupt, foreign MNCs are more prone to inefficiency and rent seeking activities. In general, countries which pursue market-oriented and exported-oriented policies have better experience with FDI."[13]

3. Economic Performance and Volatility

Between 1970 and 2000 the economy of Trinidad and Tobago is estimated to have grown by an average(compound) annual rate of just over 2%. The 1970s decade witnessed the best performance, over 5% per year and this coincided with a significant increase in oil prices rather than with any structural change in the economy. The worst decade was the 1980s in which was a significant fall in real income (averaging –3.0% per year between 1982 and 1993) as a result of a steep decline in oil prices in international

markets. With the stabilization of oil prices and the growth of the gas-based export-oriented industries the economy again entered a steady growth path with income growing at an average annual rate of 5.2% between 1994 and 2000. Real GDP surpassed the 1982 level for the first time in 2000. Real per capita income has followed a similar pattern to total production, growing at the lower rate of 1.5% per year in the three decades between 1970 and 2000. Both total income and per capita income appear to have been less volatile in the 1990s than in the previous two decades. The explanation may lie in a decreasing dependence on the oil sector, the increase in natural gas production, the steady expansion of the petro-chemical industries and relatively large capital inflows. The contribution of petroleum sector to GDP (at current prices) increased from 22% in 1970 to 42% in 1980 but declined to 25% in 2000. While real value added in the petroleum sector (excluding petro-chemicals) increased by 13% between 1991 and 2000, the corresponding increase for petrochemicals was over 100%. The contribution of non-oil sector increased by 41% in real terms over the period. Even though both oil and petro-chemicals (the two major group of exports) are subject to frequent fluctuation in prices the correlation coefficient between the real GDP growth rate and the movements in the net barter terms of trade was estimated to be around 0.30% in the period between 1970 and 2000 (See also figure 1).

In the 1970s the unemployment rate was generally less than 15%, declining from 15.2% in 1974 to around 10% in the early 1980s. The bulk of employment creation was in the services sectors (construction, transport, commerce, etc.) which provided jobs for over 70% of the employed labour force at the turn of the 1980s. With the decline of oil prices and economic activity in the 1980s, the unemployment rate grew sharply averaging

Figure 1
BTOT=net barter terms of trade(%)
RGDP=rate of growth of real GDP(%)

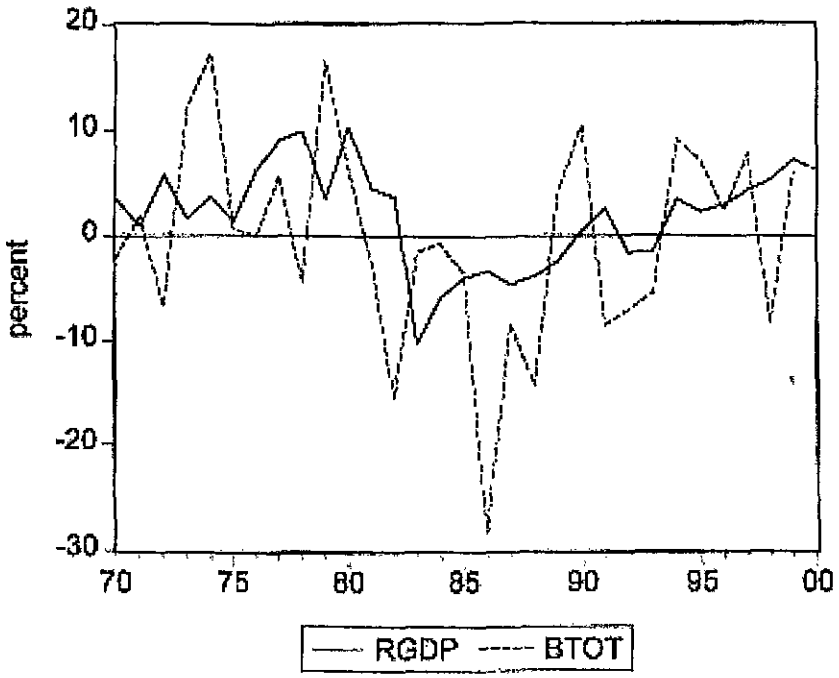


Figure 2
Growth of Real GDP

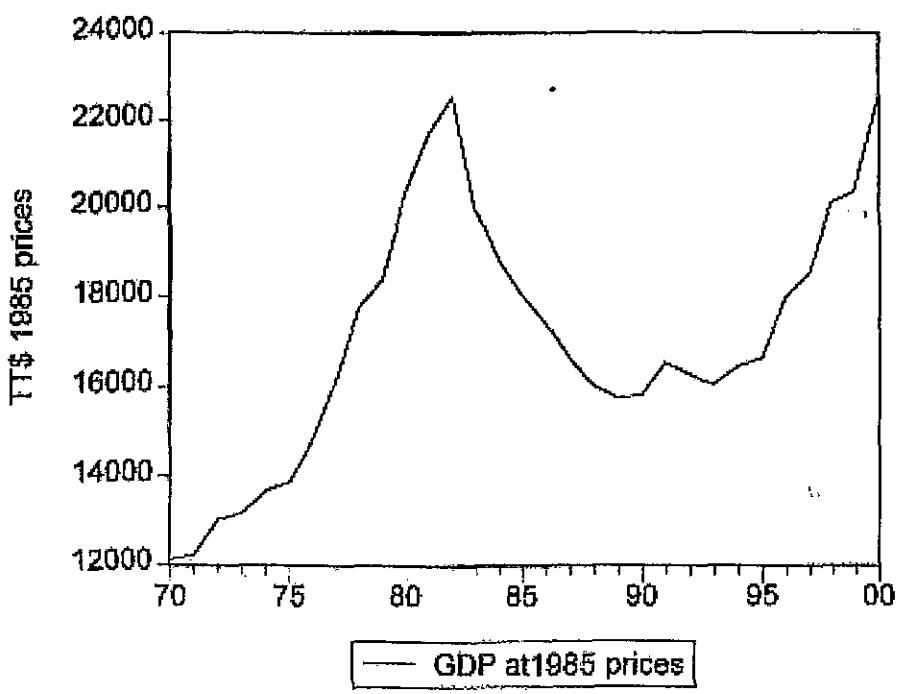


Table 1

Economic Performance and Volatility Indicators, 1970-2000

	Indicators	Mean				Standard Deviation (S.D.)			
		1970-1980	1980-1990	1990-2000	1970-2000	1970-1980	1980-1990	1990-2000	1970-2000
1.	Expenditure/GDP Ratios								
	Private Consumption	50.7	55.6	56.2	54.5	5.9	4.5	3.8	5.3
	Public Consumption	13.3	19.5	16.0	16.4	1.6	4.1	1.3	3.7
	Exports of Goods and Services	47.6	38.0	48.3	44.5	6.0	6.5	7.9	8.4
	Imports of Goods and Services	39.7	35.1	39.2	38.3	4.5	4.3	10.5	7.1
	Gross Investment	27.3	22.1	19.7	23.3	3.5	5.8	7.4	6.4
2.	Macro-economic Indicators								
	Real GDP Growth (%) – Average annual	5.2	-1.3	2.9	2.1	3.4	5.7	2.9	4.9
	Growth of Real GDP Per Capita (%) – Average annual	5.0	-2.5	2.8	1.5	3.9	5.8	3.2	5.4
	Gross Domestic Savings/GDP Ratio	35.9	24.7	28.5	29.3	7.4	8.2	5.9	8.4
	Gross National Savings/GDP Ratio	28.4	19.2	20.8	22.4	7.5	8.5	6.1	8.2
	Annual Inflation Rate (%)	12.0	11.7	5.6	9.7	5.8	3.4	2.9	5.0
	Un-employment Rate (%)	12.6	15.7	16.8	15.0	1.8	5.1	2.7	3.7
	Prime Lending Rate (%)	8.5	12.2	15.3	12.0	1.2	0.9	1.4	3.2
	MI/GDP (%) – Narrow Money Supply	9.1	10.5	10.2	9.8	1.4	1.1	0.6	1.5
3.	Fiscal Balance								
	Current Balance/GDP (%)	11.3	3.3	1.1	5.0	8.1	8.0	1.7	7.7
	Overall Balance/GDP (%)	1.5	-6.4	-1.0	-2.0	6.2	4.8	1.8	5.8

Table 1 (cont'd)

	Indicators	Mean				Standard Deviation (S.D.)			
4.	Balance of Payments	1970-1890	1980-1990	1990-2000	1970-2000	1970-1980	1980-1990	1990-2000	1970-2000
	Current Balance/GDP (%)	1.7	-2.2	2.9	0.3	9.7	7.8	6.3	8.1
	Overall Balance/GDP (%)	8.0	-3.1	1.0	1.9	5.9	7.2	3.6	7.3
	Capital Account Balance/GDP (%)	6.9	0.2	1.2	3.2	4.5	4.1	6.9	5.6
	Foreign Direct Investment/GDP (%)	3.4	1.7	7.2	4.2	4.9	1.0	4.5	4.5
	Other Private Flows/GDP (%)	0.5	-0.6	-1.2	-0.3	1.9	1.9	4.8	3.3
	Public Sector Flows/GDP (%)	0.5	-0.4	-1.2	-0.2	2.6	2.9	4.0	2.0
	Errors and Omissions - % of GDP	-0.9	-0.7	-.05[a]	-0.5[b]	2.0	1.2	2.1	2.1
5.	Other								
	Oil Price Per Barrel (US$) – U.K. Brent	13.59	25.81	19.22	18.81	11.7	8.4	4.1	9.48
	Terms of Trade: (% Change)								
	Net Barter	4.35	-4.83	1.42[a]	-0.26[b]	8.1	11.2	7.8	9.8
	Net Barter (excluding oil)	2.61	1.77	5.91[c]	1.79[d]	20.6	20.8	18.7	17.8
	Income	3.18	-0.38	5.57[c]	5.57[d]	12.0	15.0	15.4	15.4
	Nominal Exchange Rate (TT$ per US)	2.19	3.09	5.56	5.56	0.2	0.8	0.9	0.9
	Real Effective Exchange Rate (% Change)	..	1.3	0.5	0.9	..	13.1	5.2	10.0

a. 1990-1999
b. 1970-1999
c. 1990-1998
d. 1970-1998
.. not available

Source: Computed from official data and IMF International Financial Statistics, Various Issues.

Figure 3

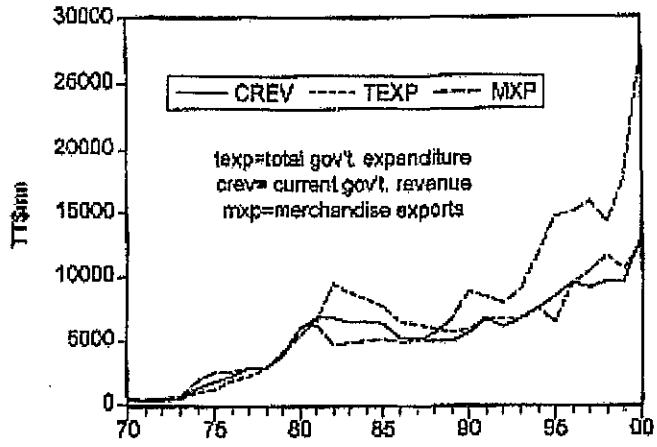


Figure 4

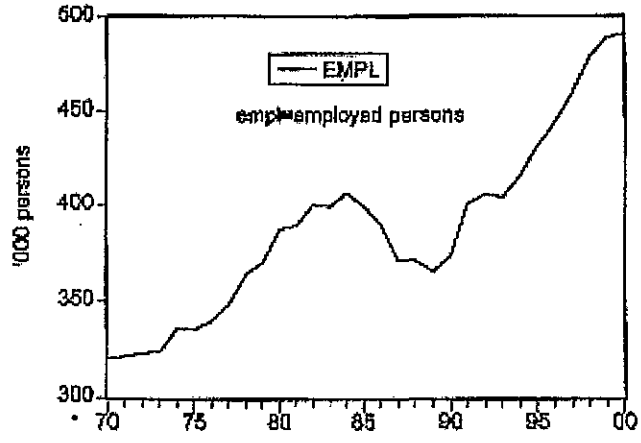


Figure 5

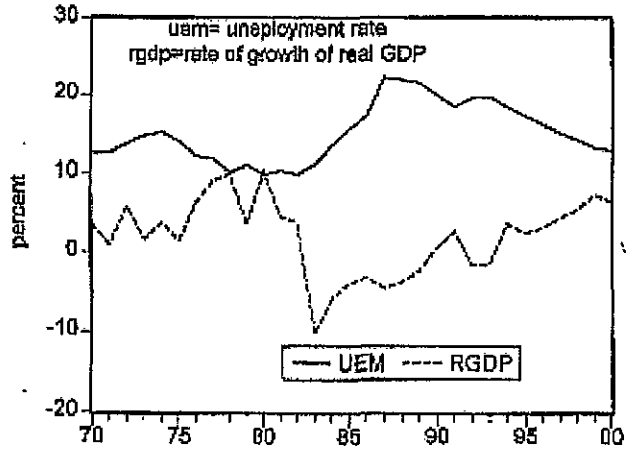


Table 2

Correlation Coefficients

	Current Revenue/Exports	Current Revenue/GDP	Exports/GDP	Total Expenditure/GDP
1970-80	0.99	0.99	0.98	0.99
1980-90	-0.23	0.13	0.35	0.40
1990-2000	0.97	0.97	0.95	0.94
1970-2000	0.91	0.96	0.96	0.92

The Trinidad and Tobago economy remains a highly open one, heavily dependent on foreign trade and foreign capital. Exports of goods and services as a proportion of GDP is close to 50%, but the average for the period 1970-2000 was 'pulled down' to 45% as a result of the significant fall in the ratio in the 1980s. The import ratio also fell in the 1980s, but the norm is close to 40%. Both the export ratio and the import ratio were more volatile in the 1990s than in the previous two decades.

With respect to the other categories of expenditures on GDP, private final consumption expenditure is the most significant amounting to over 50%. Real private consumption increased by over 100% between 1971 and 1981 but fell by 33% between 1981 and 1991. Private consumption was less volatile in the 1990s than in the previous two decades. The same could be said of government real consumption expenditure which, however, fell less dramatically than private consumption. Capital formation fell by some 66% between the beginning of the 1980s and the end of the decade, after growing at an average rate of over 8% in the 1970s.

An investment rate of over 25% in the 1970s was helped by foreign capital inflows, but relatively significant government and private sector savings fuelled by the oil windfall of the period played a crucial role. The decline in the investment rate in the

1980s coincided with the decline in oil revenues and government savings as well as direct investment inflows.

4. Balance of Payments and Capital Inflows

The current account balance as a % of GDP fluctuates widely from year to year. The balance in the 1990s decade not only improved significantly but was less volatile than in the previous two decades when petroleum and petroleum products contributed more than 80% to total exports. In the 1990s, the share of crude and related oil exports in total exports fell to around 40 to 50% reflecting a decreasing dependence on this sector. Chemicals exports which accounted for less than 10% in the 1970s have increased their share to 20-25% in recent years. This diversification in exports would have reduced vulnerability to external shocks, but the fluctuation in prices of major exports continues to be a destabilising factor. The average price of a barrel of oil in the 1990s was US$19.22 as compared to US$25.81 in the 1980s and US$13.59 in the 1970s. The price of oil rose from less than US$3.00 per barrel in 1970 to over US$35.00 per barrel in the early 1980s, and has been fluctuating since. Prices for Ammonia, Urea and Methanol and iron and steel products are susceptible to market conditions, and have also shown a tendency to fluctuate.

Figure 6
cub=current external balance as a % of GDP
cab=capital external balance as a % of GDP

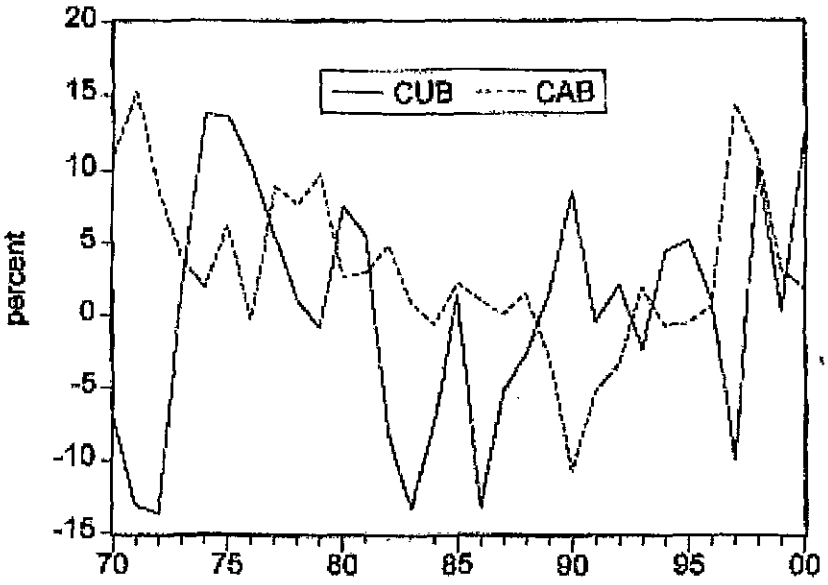
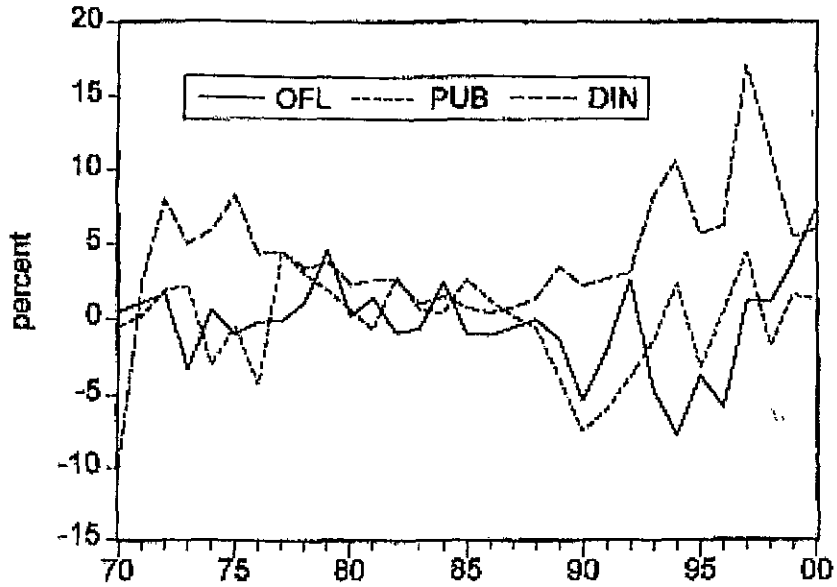


Figure 7
ofl=other private flows as a % of GDP
pub=net public sector flows as a % of GDP
din=net foreign direct investmentas a % of GDP



Despite the fluctuations in oil prices the trade balance tends to be more in surplus than in deficit, but the investment income component of the current account, which includes interest on foreign loans, dividends and profits remittances has been consistently negative. Between 1990 and 2000, for example, net investment income outflows amounted to US$4.7 billion as compared to US$3.1 billion net earnings on the trade account. On average about 70% of gross investment income outflows were associated with foreign investment. It is sometimes tempting to measure the benefits of FDI by comparing new inflows with profit outflows, i.e. the balance of payments effect. Such a short term view, however, "neglects to take into account the re-investment of profits by foreign investors in the host country and fails to note the impact of foreign investment on export promotion and import savings."[14] Movements in the country's foreign reserves very often gives a better guage of the net impact of trade and investment on the balance of payments.

Between 1970 and 1979, net foreign reserves increased by over US$2 billion. In the same period the cumulative trade balance amounted to US$0.7 billion (35%) and direct investment inflows US$1.2 billion (60%). With FDI flows contributing less than 25% to gross capital formation in the period, it appears that domestic savings and public sector borrowing played a crucial role in financing investment in this period.

With the decline of oil earnings and the emergence of large current account deficits in the balance of payments in the 1980s, net foreign reserves dropped sharply from US$3.2 billion at the end of 1981 to minus US$6 million by the end of 1988 and to minus US$32 million at the end of 1992. The fall off in direct investment did not help and though net inflows associated with public sector borrowing were positive for most of

the decade, this could not offset the effects of the current account deficits. The errors and omissions column in Table 3 indicates that particularly in the early 1980s there were significant outflows of funds which could not be identified.

Coinciding with the adoption of a structural adjustment program in the late 1980s and the return of some stability in the oil market the trade balance improved and has been negative in only two years since 1987. Despite arrangements agreed to in 1988 to reschedule part of the public sector debt, service payments have exceeded new inflows in every year but two since. The growth of net foreign reserves since 1992 has coincided with significant inflows of foreign direct investment. Between 1991 and 2000 FDI inflows totaled US$4.5 billion while net foreign reserves increased by US$1.6 billion. The stock of FDI in Trinidad and Tobago is now estimated to be over US$6 billion as compared to US$2 billion in 1990 and less than one billion in 1980. Since 1989 FDI inflows as a proportion of gross capital formation has averaged 34%, per year, as compared to 23% for the 1970s and 6.3% for the 1980-88 period. The bulk of FDI (around 80% on average) is in the export-oriented petroleum and gas-based industries. Around 75% of this investment originates in the United States. While the domestic production of crude oil has been falling since the mid-1970s, natural gas production increased from 495 million cubic feet a day in 1987 to 1,498 million cubic feet a day in 2000. (See Table 4)

Other private capital flows (which include transactions of the commercial banks) have generally had a negative impact on the balance of payments since the late 1980s.

Table 3

Selected Capital Movements Data

US$mn. (except where otherwise stated)

		Capital Flows				Net Foreign Reserves			
Year	Current A/C Balance	Direct Investment	Other Private	Public Sector	Net Errors & Omissions	Stock (end of year)	Change over Previous Year	FDI Stock (end of year)	FDI Flows as a % of Gross Capital Formation
1970-1979	693[a]	1,209[a]	182[a]	169[a]	-246	54[b]	2,028[c]	-	23.4[d]
80	472	143	37	37	80	2,640	558	976	7.5
81	394	183	-51	-51	-100	3,203	563		9.4
82	-673	211	230	230	12	2,983	-220		8.9
83	-1,027	82	44	44	22	2,080	-903		4.9
84	-557	113	33	33	-146	1,188	-892		6.1
85	-107	50	196	196	-133	1,461	273	1,719	3.6
86	-632	20	60	60	-210	329	-1,132		1.9
87	-248	33	8	8	-31	79	-250		3.6
88	-118	63	-5	-16	-85	-6	-85		10.7
89	-67	149	-61	-162	69	102	108		20.8
90	430	109	-242	-374	-66	188	86	2,093	15.6
91	-21	144	-134	-316	-4	3	-185		16.1
92	123	171	-128	-207	23	-37	-40		22.8
93	-108	373	-218	-64	168	206	169		60.8
94	221	521	-382	-115	-8	515	309		82.7
95	270	296	-189	-167	-210	460	-55	3,634	34.9
96	68	356	-339	23	102	701	241		25.5
97	-578	1,000	71	-259	-87	854	153		47.3
98	-645	732	68	-111	32	985	131	5,721	22.1
99	31	379	-271	-259	-86	1,073	88	6,354	26.4
2000[p]	775	488	-596	23	n.a.	1,600	527		32.2

a. total for period n.a. not available. P. provisional

b. end of 1970

c. accumulation between 1970 and 1979

d. average for 1970-79

Source: Official Publications; U.N. *World Investment Report*, 2000.

Table 4

Production and Exports of Selected Commodities, 1987 and 2000.

Products	Unit of Measurement	1987		2000	
		Production	Exports	Production	Exports
Natural Gas Liquids [1]	'000 barrels	-	-	6,933	6,800
Natural Gas	Mn cubic feet/day	495		1,498	
Fertiliser	'000 tonnes	1,837	1,549	3,719	3,341
Methanol	'000 tonnes	424	426	2,480	2,439
Steel:	'000 tonnes				
Direct Reduced Iron		441	107	1,525	677
Billets		376	24	744	0.0
Wire Rods		276	240	631	590
Crude Oil	Mn barrels	56.6	28.6	43.7	19.2

1. Natural Gas Liquids production commenced in May, 1991.
Source: Official Publications.

Between 1973 and 1980, the public sector outstanding external debt increased by US$306 million while net foreign reserves increased by US$2,606 million. In 1980 the outstanding external debt amounted to 7% of GDP while the external debt service ratio was around 6%. In the 1980s not only did foreign borrowing increased, but the foreign currency savings which were put aside for special projects were also drawn down as current revenue came under pressure with the decline in oil prices. Between 1981 and 1986 the outstanding external debt doubled while net external reserves fell from US$3.2 billion (the equivalent of almost 20 months imports) in 1981 to US$329 in 1986 (the equivalent of less than 3 months imports). The declining economic situation had a political fall out in that the political party that had formed the government for 30 consecutive years lost the general election of 1986. In the following five years, with a weak fiscal position and with foreign reserves in a precarious state, the new government

continued to borrow, having been successful in rescheduling part of the debt in 1988. The debt service ratio which was less than 5% in the early part of the decade increased to almost 30% in 1987. Since 1988 debt service payments have exceeded new inflows in every year except two. In the 1990s the outstanding external debt has declined and the debt service ratio has been reduced to under 10%.

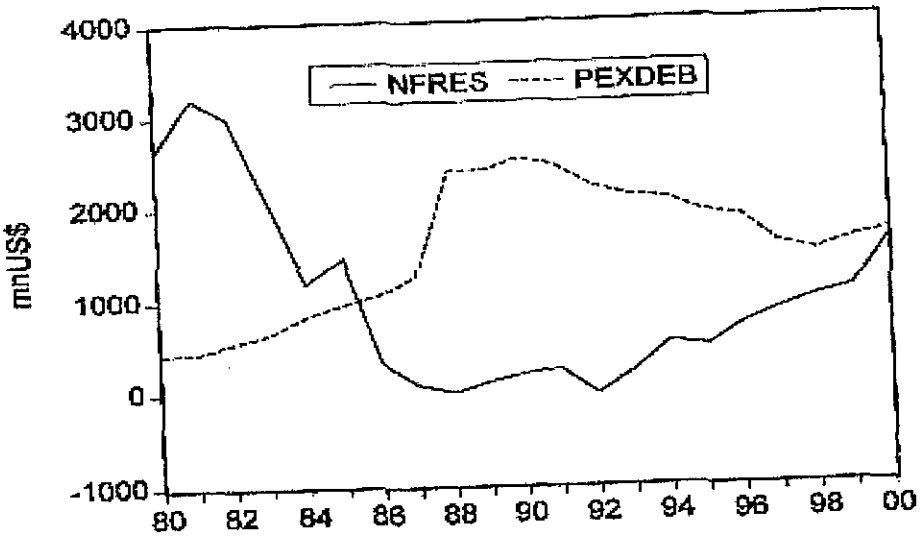
Table 5

Public Sector External Debt Outstanding, 1973-2000.

	(1)	(2)	3
Year	Outstanding Public Sector External Debt US$ mn.	Debt Service Ratio % (actual)	(1) as a % of GDP
1973	131	2.3	10.0
80	437	6.1	7.0
81	448	2.1	6.4
82	558	2.4	6.8
83	646	6.8	8.3
84	839	5.5	10.8
85	954	11.1	12.9
86	1,062	19.5	22.1
87	1,249	29.1	26.0
88	2,396	21.9	53.3
89	2,401	19.7	56.0
90	2,521	19.9	50.7
91	2,438	20.0	45.9
92	2,215	26.7	40.7
93	2,102	30.6	46.0
94	2,063	25.5	42.1
95	1,905	15.0	37.1
96	1,877	13.4	31.7
97	1,565	15.4	26.7
98	1,471	9.9	23.3
99	1,585	8.0	23.1
2000	1,680	6.9	20.8

Source: Official Publications.

Figure 9
nfres= net foreign reserves
pexdeb=public sector external debt



At the very beginning of the oil boom in the early 1970s, the then government gave a clear outline of its development strategy and its attitude towards the resource-based and basic industries sectors. In pursuit of the objective of 'meaningful participation', it would be necessary to "seek out private or official partners for joint venture operations", because projects in these sectors were not only expensive, but depended on complex and rapidly changing technology and required an export market.[15] A significant part of the borrowing in the 1970s and early 1980s was related to the setting up of energy-based industries which by the late 1980s had not only accumulated huge cash deficits but were a net drain on foreign earnings after debt service was taken into account. "At the beginning of 1987, the foreign debt of state enterprises represented 39 per cent of total foreign debt. 92 per cent of the state enterprises external debt was government guaranteed, but although this is a contingent liability, government is in fact meeting the external debt-servicing liabilities of some five (5) of the largest debtors."[16]

Without a coherent policy on government participation in the economy the state had become involved in a wide range of enterprises numbering sixty-six (66) by the mid-1980s. Thirty-four (34) of these were wholly owned, fourteen (14) majority owned, one (1) was in equal participation and in seventeen (17) the state had a minority ownership.[17] Faced with debt servicing problems and strapped for cash and foreign exchange, the National Alliance for Reconstruction (NAR) government elected in 1986 entered into two Stand-by arrangements with the IMF in the late 1980s and negotiated a Structural Adjustment loan with the World Bank. Related to these developments was a commitment to rationalise the state enterprises sector, and a process of pruning,

restructuring, leasing, privatising or reducing state participation began. Concomitant with this policy was a commitment to liberalize the economy and the creation of a more favourable climate for both local and foreign investment. Subsequent governments elected in 1991, 1995 and 2000 have stuck to these policies which have moved the economy from a highly controlled paradigm to one that is more open and competitive. In the first half of the 1990s, the state terminated or sharply reduced its ownership in a number of key enterprises both in the energy and non-energy sectors.

5. Capital Flows, Investment and Growth – Some Statistical Relationships

In the 1990s net long term resource flows to developing countries averaged US$253.3 billion per year. Private flows far exceeded official flows which have shown a declining trend in recent years. Between 1991 and 2000 total net long-term flows to developing countries amounted to US$2,533 billion of which US$487.3 billion (19.2%) was official and US$2,045.8 (80.8%) was private. Of the total private flows, debt flows (including bank lending and bond financing) accounted for 26%, equity flows for 16% and foreign direct investment for 58%.[18]

Based on the arguments of increased efficiency and favourable effects on productivity and growth, national and international policies have favoured less restrictions on capital movements, and the competition for private investment has increased significantly. The share of developing countries in global FDI flows increased from 22.3% in 1991 to 36.5% in 1997 but declined to 15.9% in 2000. As indicated earlier, much of this investment is concentrated in a small group of countries.

In the literature, there remains considerable controversy over the impact of foreign capital on domestic investment and growth. On the one hand it is argued that foreign flows, particularly of a long term nature can supplement local savings and raise the investment rate.[19] The basic premise here is that capital accumulation is an essential ingredient for growth. There is a view, however, which holds that an increase in domestic investment – whether financed by capital inflows or not – does not necessarily translate into faster growth. Some studies emphasise the role of total factor productivity rather than capital accumulation as the ultimate driving force behind growth.[20] Another school of thought argues that foreign capital inflows may in fact have a negative effect on domestic savings and growth.[21] It has to also been argued that in a liberalized environment the relationship between private capital inflows and domestic saving may weaken. As countries "become more integrated into international markets, domestic saving and investment decisions are less correlated, and hence the relationship between capital flows and investment weakens."[22] A country's ability to translate foreign capital into domestic investment depends on a number of factors such as the level of human capital, political stability, the depth of domestic financial markets, etc. There has also been some questioning of the link between capital accumulation and economic growth. As far as theory is concerned, the impact of foreign capital flows on domestic investment is ambiguous. "Inbound capital may raise domestic investment, but it may also increase imports and hence dampen domestic production and investment. Moreover, even if access to foreign capital allows one firm to increase investment, that firm's expansion may induce another to reduce investment."[23] It is also contended that foreign capital

flows can lead to increased efficiency of production, and thus generate higher growth rates.[24]

Most of the empirical work point to a strong relationship between private capital inflows and investment, but the strength of the relationship varies over time and across regions. Some of the factors affecting the relationship include the domestic macro-economic framework, political stability, health of the financial system, the educational attainment of the workforce, the quality of infrastructure, the efficiency of government services, and the degree of corruption.[25]

The data for Trinidad and Tobago shown in Table 6 indicate a fairly low correlation between domestic savings and domestic investment and between capital inflows and domestic savings. However, there appears to be a strong relationship between capital inflows and domestic investment. In order to further explore these relationships some simple regression exercises are undertaken in the following section.

Table 6

Correlation Coefficients of Selected Variables 1970-2000

Variables	1970-1980	1980-1990	1970-2000
Gross Domestic Savings/Gross Domestic Investment	-0.51	0.31	0.32
Gross National Savings/Gross Domestic Investment	-0.29	0.53	0.45
Gross Domestic Savings/Net Capital Inflows	-0.64	-0.05	0.17
Gross Domestic Savings/Foreign Direct Investment	0.39	0.57	0.27
Gross Domestic Investment/Net Capital Inflows	0.63	0.72	0.81
Gross Domestic Investment/Foreign Direct Investment	0.06	0.13	0.20

Note: All variables are expressed as a % of GDP.

When gross domestic investment (GDI) was regressed on the capital account balance (CAB), Equation (1) was obtained. The initial result was corrected for first order serial correlation. Both variables are expressed as a proportion of GDP. Capital inflows as a whole explain some 70% of the changes in domestic investment. The coefficient of

Eq. (1) GDI = 20.98 + 0.78 CAB
(1.17) (0.15)

Adj. R^2 = 0.70

D.W. = 2.0

Sample Period = 1971-2000

Figures in parentheses are standard errors

the explanatory variable is significant at the 1% level. The inclusion of the basic prime lending rate (BPR) as a independent variable did not significantly change the R^2 or the D.W. statistic, but came out with the expected negative sign and the coefficient was significant. See Equation (2).

Eq. (2) GDI = 29.60 + 0.76 CAB - 0.70 BPR
(3.86) (0.14) (0.29)

Adj. R^2 = 0.74

D.W. = 2.1

Sample: = 1971-2000

Figures in parentheses are standard errors

The relationship between capital flows and investment can vary from period to period, depending on the nature and size of inflows, investment opportunities, the investment climate, etc. When foreign capital was disaggregated into foreign direct

investment (FDI), other private short term inflows (OFL) and public sector borrowing (PUB), the fit did not improve significantly as can be seen in Equation (3). The adjusted R^2 increased slightly, but the D.W. Statistic fell below 2. The FDI statistic is highly significant while 'other private capital inflows' is associated with a high standard error and a negative sign. The variable reflecting net government borrowing was significant at the 5% level.

Eq. (3) GDI = 16.94 + 0.80 FDI - 0.02 OFL + 0.40 PUB
(3.34) (0.18) 0.10) (0.21)

Adj.R^2 = 0.77
D.W. = 1.68
Sample: 1971-2000
Figures in parentheses are standard errors.
(All variables expressed as a % of GDP).

As indicated earlier, the question of what factors influence foreign investment outflows and inflows has been the subject of a great deal of speculation and numerous investigations. Economic growth, size of markets, the exchange rate, domestic investment, labour cost, market structures, the desire to retain market shares, macro-economic environment are some of the variables in a range of competing theories and hypotheses.

In an effort to identify some of the main factors influencing FDI flows into Trinidad and Tobago we experimented with several variables. Real GDP and per capita real GDP did not appear to have much effect. The annual growth rate versions of these variables proved to be more useful. The attraction of foreign investment to the energy sector in recent years is not predicated on the size or even the growth of the local market,

but on the availability of an energy resource. Natural gas production in Trinidad and Tobago doubled between 1989 and 2000. As another determinant we used openness, OP, (imports and exports as a % GDP) as a policy variable. We included the nominal exchange rate (NER) since on the basis of casual empiricism some economists believe that "over-valuation of a currency is associated with outflows of FDI and under-valuation with inflows of FDI..."[26] RGDP is the rate growth of real GDP.

Eq. (4)	FDI	-5.72	+	1.83 NER	+	0.03 OP	+ 0.07 RGDP
		(5.27)		(0.71)		(0.07)	(0.19)

Adj. R^2 = 0.52

D.W. = 1.74

Sample: 1980-2000

F = 8.56

Figures in parentheses are standard errors.

Even though this formulation explains over half of the variation in FDI (expressed as a % of GDP), only the exchange rate variable is significant. When ran over the longer period (i.e. 1971-2000), the adjusted R^2 fell to 40%. 'Other private short term flows' was regressed on the nominal exchange rate and the one-year deposit interest rate, but these proved to be poor explanatory variables.

In an attempt to guage the key factors affecting growth, the real GDP growth rate (RGDP) was regressed on domestic savings (DS) and capital inflows (CAB), (both expressed as a % of GDP). Together these two variables explained about 46% of the variation in economic growth with the savings ratio being more significant. The disaggregation of capital inflows did not result in an improved fit. All the capital flows variables came out with high standard errors, while the FDI was associated with a

negative sign. When an export variable (export of goods and services as a % of GDP (EXR) was added as an explanatory factor, Equation (5) was obtained:

Eq. (5) $RGDP = -13.44 + 0.20\,DS + 0.21\,CAB + 0.20\,EXR$
$(3.45) \quad (0.11) \quad (0.11) \quad (0.12)$

Adj. R^2 = 0.50
D.W. = 1.82
F = 10.87
Sample: 1970-2000
Figures in parentheses are standard errors.

Domestic savings, capital inflows and exports taken together appear to have a similar effect on the growth rate. When treated individually both the export variable and domestic savings explain about 40% of the variation in real growth rates respectively. A specification using only the export ratio (EXR) and the gross investment ratio (GDI) as explanatory variables yielded a similar result. The capital inflows variable was left out because of its high correlation with the investment variable. The inclusion of the net barter terms of trade as an explanatory variable came out with a negative sign, but was associated with a high standard error and did not significantly improve the equation. In all the specifications the capital flows variable (CAB) proved to be a more powerful explanatory variable than the net barter terms of trade.

Eq. (6) $RGDP = 19.57 + 0.25\,GDI + 0.36\,EXR$
$(3.87) \quad (0.10) \quad (0.07)$

Adj. R^2 = 0.50
D.W. = 1.71
Sample: 1970-2000
Figures in parentheses are standard errors.

Following Michaely,[27] the real GDP growth rate (RGDP) was run on real exports (REX) (expressed as a proportion of real GDP), but the fit was not very encouraging, as can be seen in Equation (7). When corrected for serial correlation both the adjusted R^2 and the D.W. statistic improved, but the coefficient of the export variable was associated with a high standard error.

Eq. (7) RGDP = -7.15 + 25.58 REX
(3.77) (10.29)

Adj. R^2 = 0.15
D.W. = 0.95
Sample: 1970-2000
Figures in parentheses are standard errors

Concluding Remarks

Following a difficult period in the 1980s as a result of a sharp fall in oil prices, there was a deliberate shift in major policy areas in the late 1980s and early 1990s as part of a structural adjustment programme that had as a basic objective a more open and competitive economy and a reduced role for the state as an entrepreneur. Greater incentives and increased inflows of private foreign Capital have led to increased natural gas production and a rapid expansion of gas-based industries which have helped to diversify the sources of foreign exchange. Experience has shown, however, that the prices of the new exports can also fluctuate influencing the exchange rate, the fiscal position and foreign reserves. Government spending based on revenues from the oil and gas sectors provide the major link between the energy sector and the non-energy sector. When the export-oriented oil and petro-chemicals sectors are in difficulty, there is an immediate impact on the rest of the economy.

The energy sector is heavily dependent on foreign direct investment (FDI) for capital, technology and markets. The average growth rate of over 5% per annum in the 1990s is related to significant inflows of FDI which totaled US$4.5 billion between 1990 and 2000 as compared to a net outflow of almost US$1 billion associated with public sector borrowing and net outflow of almost US$2 billion in the form of other private flows (including commercial banks). FDI inflows in the 1990s was more than twice the amount in the previous twenty years.

Despite the growing foreign exchange capacity of the country, the petroleum and petro-chemicals sector accounts for only about 25% of real GDP. In the 1990s the non-oil sector has grown at a faster rate than the energy sector which incidentally employs less than 5% of the employed labour force. Though still highly vulnerable, it is possible to argue that the Trinidad and Tobago economy is in a stronger position than it was in the 1970s and 1980s.

Endnotes

[1] World Bank, *Global Economic Prospects and the Developing Countries, 2000*, Washington, D.C., 2000, p. 49.

[2] Article VI Section 3 of the Fund's Charter allows members to "exercise such controls as are necessary to regulate international capital movements" so long as such controls did not restrict payments for current transactions.

[3] See, U.N., World Investment Report 2001, U.N., New York, 2002, pp. 284-286.

[4] See D. Mishra et al. "Private Capital Flows and Growth" in *Finance and Development*, June 2001.

[5] Ibid.

[6] B. Eichengreen et al. *Liberalizing Capital Movements – Some Analytical Issues*, IMF., Washington, D.C., 1999, p. 3.

[7] Ibid.

[8] Ibid.

[9] Ibid.

[10] IMF, *Determinants and Systemic Consequences of International Capital Flows*, IMF, Washington, D.C., 1991, p. 20.

[11] For a summary see J.S. Lizondo "Foreign Direct Investment" in IMF *Determinants and Systematic Consequences of International Capital Flows*, (Occasional Paper 77), IMF, Washington, D.C. 1991. See also J.P. Agarwal "Determinants of Foreign Direct Investment: A Survey" in *Weltwirtschaftliches Archiv*, Vol 116, Sept. 4, 1980.

[12] See, J.H. Dunning, "Explaining the International Direct Investment Position of Countries", in *Weltwirtcharfliches Archiv*, Vol. 117, 1981.

[13] P.R. Bhatt, "Foreign Direct Investment in ASEAN Economies," *Indian Journal of Economics*, Oct., 2001.

[14] Pearson et.al., *Partners in Development*, Praeger Publishers, New York, 1969, pp. 100-101.

[15] Budget Statement, 1974.

[16] Budget Statement, 1988.

[17] Government of Trinidad & Tobago, *The Imperatives of Adjustment*, Port of Spain, 1984, p. 158.

[18] The World Bank, *Global Development Finance, 2001*, (Analysis and Summary), World Bank, Washington, D.C. p. 60.

[19] Ibid.

[20] Ibid., p. 64.

[21] See, for example, K. Griffith, "Foreign Capital, Domestic Savings and Economic Development," *Bulletin* – Oxford University Institute of *Economics and Statistics*, May, 1970.

[22] World Bank, *Global Development Finance, 2001*, op. cit., p. 60.
[23] Ibid.

[24] Ibid., p. 64.

[25] Ibid.,. p. 62.

[26] J.P. Agarawal, "Determinants of Foreign Direct Investment: A Survey," *Weltwirtchaftliches Archiv*, Vol. 116, Heft 4(1980).

[27] See Michael Michaely, "Exports and Growth," *Journal of Development Economucs*, 4(1997) 49-54.