

A Preliminary Investigation into the relationship between Stabilisation and Growth in Micro-States

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Abstract

Much of the Monetarist/Neoclassical literature on growth and stabilisation policies have been premised on conditions that are more typical of large economies. This study examines the growth cost of pursuing stabilisation policies in a panel of 30 microstates, utilising data for the period 1970 to 1997. Stabilisation and growth variables are compared using correlation and ANOVA. Following this preliminary step, fixed effect models using generalised least squares are estimated, and the resulting coefficients are compared using Wald Coefficient tests. It is found that stabilisation diminished in its contribution to economic growth in the decade of the 1990s relative to the previous two decades. Moreover, the growth costs of stabilisation policies were found to be in terms of the negative impact on GDP growth of the dampening import growth. In addition, the intervention by the State was not found to be significant to GDP growth, rather, foreign direct investment was found to be significant in most decades.

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1.0 Introduction

In recent times the neoclassical/monetarists orthodoxy that monetary and fiscal policies should be devoted to the attainment of stabilisation rather than seek to directly address economic growth, has gained momentum both on the theoretical and empirical front.¹ They contend that tight monetary policy and fiscal discipline should be pursued in order to dampen inflation and create an environment conducive for growth.² In testing this hypothesis, many of the studies have been conditioned on closed economies. While large economies may fit neatly into these models, it is of interest as to whether the models of stabilisation and growth are directly applicable to micro-economies.³

Early arguments concerning the implication of economic policy with respect to country size were made by Kuznets (1960) and later by Demas (1965). Demas (1965) argued that small economies are less likely to realise sustained growth, compared to large economies.⁴ Micro-States are heavily dependent on external trade and as such their domestic prices and growth are strongly influenced by demand and supply conditions exhibited by their trading partners, import prices, as well as their exchange rate dynamics.

¹ See for example, Friedman (1977), Fisher (1993), Kim and Willet (2000). The latter two studies found a negative impact of inflation on growth. Barro (1995) and (1996) found that though inflation turned out to be harmful to growth, its impact was small. Anderson and Wascher (1999) found that the growth cost of pursuing lower inflation tended to increase as inflation was lowered.

² Tight policies often involves getting prices right and non-interventionism owing to the notion that growth is sustainable through efficient and well functioning markets in the economy.

³ Burdekin et al (1994) found that inflation had a stronger negative impact on industrial countries, compared to developing ones. However, their study do not isolate micro-states.

⁴ Demas (1965) referred to self sustained growth as "a state of affairs in which a country can experience continued economic growth by relying on its own domestic savings to finance its domestic investment".

The internal capacity of microstates to generate growth through stabilisation may therefore be weakened, compared to large economies.

There have been some recent attempts to empirically examine the relationship between stabilisation and growth from an open economy construct. For example, Loungani et al (2000) found that capital mobility impacted on the inflation and output nexus, while Dungey and Pitchford (2000) found that import prices can upset the steady relationship between domestic inflation and economic growth. Gylfason (1991) found that external debt also affected the nexus between inflation and growth. Tharakan (1999) found that exchange rate uncertainty adversely affected economic growth. However, these studies have not focussed directly on microstates.

Apart from their openness, small size may impose limitations on knowledge development, investments, production, trade and the ability to diversify the economy, so that stabilisation in itself may be insufficient for micro-states to realise sustainable economic growth.⁵ Micro economies tend to be at a disadvantage with respect to experiencing the scale effects of research and development and consequently their competitiveness tends to be eroded by economic agents that experience such scale effects.⁶ Furthermore, these economies tend to be highly specialised, as their small size limits their capacity to absorb a diverse range of industries. Such specialisation leaves them susceptible to the vagaries of the global economies as prices and demand may fluctuate for their narrow range of export commodities. The concentration of their

⁵ Lewis (1955) and Demas (1965) develop these arguments in great detail.

⁶ See for example Long and Wong (19xx)

production is exacerbated by the fact that foreign direct investment typically tends to be concentrated in the dominant export sector. Moreover, microstates typically exhibit monopoly and oligopolistic market structures as a result of economies of scale constraints.

This study focuses on the growth costs associated with stabilisation in microstates. Indeed, while the neoclassicals argue that government policies should be dedicated to achieving stabilisation, the structuralist contend that the suppression of demand to achieve stabilisation may in fact reduce consumption and investment, thereby dampening economic expansion.⁷ The question therefore arises as to whether there exist a sustainable non-inflationary growth path that would not trigger excessive import growth in microstates. The relevance of the study lies in the fact that such a growth path can be thwarted by stabilisation policies if tradeoffs between stabilisation and growth do exist.

Defining microstates involves some bit of arbitrariness. For the purpose of this study, micro-states are treated as a subset of small ones, being defined as those independent countries with populations averaging under 3 million over the period 1970 to 1997. This measure does not conflict with the recent study, by Downes and Mamingi (2000). They used multivariate statistical techniques of principal components and cluster analysis to define small states on the basis of population, landmass and GDP. Most of the microstates used with this study were absorbed by their study. However, two additional

⁷ The debate between the Neoclassical/Monetarist School and the structuralist is highlighted by Agenor and Montiel (1996)

countries were added, Botswana and Mongolia. A panel was consequently formulated consisting of 30 such states.

The model employed for the panel estimation is described in the following section. This is followed by an outline of the data used in the study in Section 3 and an outline of stylized facts obtained from the sample in Section 4. The results of the statistical investigation are then reported, beginning in Section 5, where high and low growth economies are compared using ANOVA. A similar exercise is undertaken with respect to high and low inflation economies. Panel estimation results are then reported in Section 6 after which the study is concluded in Section 7.

2.0 The Model for Panel Estimation

Based on the identity relationship, economic growth (Yg) can be viewed as a function of annual increments in consumer demand (Cg), new investment (I), net government annual expenditure (G) and net exports (NE). That is:

$$Yg = f^0(Cg, I, G, NE)$$

These variables in turn were hypothesised as been influenced by the stabilisation objectives as well as investment and trade factors. In the context of micro economies, stabilisation objectives were defined to include the restraint of the growth in import demand given the characteristically high propensity to import, the maintenance of low inflation rates and a stable and competitive exchange rate. Apart from the variables that are pertinent to stabilisation, economic growth was hypothesised as being influenced by

investment, which in the context of microstates was assumed to be largely driven by foreign direct investment and government net fiscal injections into the economy.

Following from f^0 , it was therefore hypothesised that

$$Cg = c_1(Mg)$$

$$Ig = I_1(FDIY, Mg, INF)$$

$$G = g_1(FBY)$$

$$NE = e(ERg, Mg, INF)$$

Where,

Mg denotes import growth

$FDIY$ denotes the percentage of foreign direct investment to nominal GDP

INF denotes inflation

FBY denotes the percentage of fiscal balance to nominal GDP

ERg denotes growth in exchange rates

The final models to be estimated were hypothesised as

$$Yg_{it} = f^1(INF_{it}, ERG_{it}, Mg_{it})$$

and

$$Yg_{it} = f^2(FBY_{it}, FDIY_{it})$$

The subscripts i and t denote country and time respectively, so that $i=1..30$ and $t=1970..1997$.

The relation f^1 denotes growth as a function of stabilisation factors, while f^2 denotes growth as a function of investment variables. It may be a bit surprising that import growth is included in the set of stabilisation variables. Admittedly, import growth can contribute to economic growth, both in terms of satisfying the demand for consumption and capital goods. In addition, import growth helps to foster competition, thereby

reducing the impact of the monopoly and oligopolistic market structure that is typical in small markets where scale economies are limited. Given the high propensity to import in small open economies, however, if import growth is left unchecked, it can have a destabilising effect on the balance of payments.

Inflation is included in the investment function, since high rates tend to create uncertainty with respect to long-term contracts, thereby impacting negatively on investments and consequently on economic growth.⁸ Moreover, it can also reduce the competitiveness of exports relative to imports, thereby putting pressure on the external accounts of microstates. The role of a depreciation in the exchange rate as a stimulant for growth is a bit uncertain, since on the one hand it can improve the competitiveness of exports relative to imports, but on the other, it can lead to higher inflation levels, thereby having a reversal effect on the balance of payments.⁹

In the Monetarist/Neoclassical framework, net fiscal injections are said to have a destabilising influence on income growth, as it can fuel inflation, cause excessive demand for imports and its persistence tend to be unsustainable.¹⁰ However, it may be no coincidence that the majority of micro-economies in the sample recorded net fiscal injections throughout the decades (See Chart 2 in Appendix 1). Such injections may be generated by a host of factors, including crises, equity goals by the state, infrastructural

⁸ Ball and Cecchetti (1990) found evidence that high rates of inflation in the US tended to create uncertainty in the long-term.

⁹ See the study by Birchwood (2000)

¹⁰ Darrat (2000) produces recent evidence of budget deficit impacting on inflation in Greece.

expense relative to the tax-base and governments' active participation in markets.¹¹ Notwithstanding, governments' expenditure in small countries may tend to exhibit diseconomies of scale, so that its impact on growth can in fact be negative.

In addition to government's net expenditure, microstates tend to be highly dependent on foreign savings, especially foreign direct investment, in order to augment investment funded by local sources (See Chart 1). The proportion of foreign direct investment to GDP is included therefore, as it can potentially contribute significantly to overall investment and consequently to economic growth in microstates.

3.0 Data

The list of countries used in the study are: Antigua and Barbuda, Barbados, Belize, Botswana, Costa Rica, Cyprus, Dominica, Fiji, Gambia, Grenada, Guinea-Bissau, Guyana, Jamaica, Lesotho, Maldives, Malta, Mauritius, Mongolia, Qatar, Samoa, Seychelles, Singapore, St. Kitts and Nevis, St. Lucia, St. Vincent, Suriname, Swaziland, and Trinidad and Tobago. The major source of data is the IFS statistics, but data are also obtained from the Caribbean Development Bank on some territories in the Caribbean for which data are missing in the IFS publication. Data for many microstates outside of what were used in the sample, tended to be inadequate.

Exchange rates were extracted from line rf when it was available, or line ae when rf was not available. Its growth was calculated as a percentage annual change, for which a

¹¹ See the report by the United Nations Economic Commission for Latin America and the Caribbean UNECLAC (1998) for recent elaboration of fiscal behaviour.

positive value would indicate a depreciation, while a negative value would indicate appreciation of the rate. The CPI, from which inflation was computed as an annual percentage change, was obtained from line 64. Import data were taken from line 71 and its growth was computed as an annual percentage change. Foreign direct investment data were extracted from line 78bed and expressed as a percentage of Gross Domestic Product. Its growth was expressed as the difference between the current year and the last year. Fiscal balance was extracted from line 80 and it was treated in the same fashion as foreign direct investment. Gross domestic product data were extracted from line 99b while GDP as a volume measure was obtained from line 99bvp at 1995=100 and population data were collated from line 99Z. The growth in real GDP was calculated as the percentage growth in the volume measure of GDP.

4.0 Stylised facts

Over the period 1970 to 1997, the largest average population size of the microstates in the sample was 2.7 million, in the case of Singapore. Only two other countries besides Singapore, Costa Rica and Jamaica, reflected average populations of over 2 million. Four other countries, Botswana, Lesotho, Mongolia and Trinidad and Tobago, exhibited average populations between 1 and 2 million. The other countries contained populations averaging between 40 thousand in the case of St. Kitts and under 1 million.

The microstates grew at an average of about 5.6 percent per annum over the period 1970 to 1997, which compared favourably with the rest of the world (See Table 1). However, income volatility of microstates, measured by the coefficient of Variation, was higher

than world averages. The relative instability of economic growth in microstates raises the issue concerning whether economic stabilization would smoothen out growth, or whether the pursuit of stabilisation in itself contains growth costs.

Table 1 Average Growth Rates: 1970 - 1997

	World	Industrial Countries	Developing Countries	Micro-States
Average	3.7	3.6	4.9	5.6
Coefficient of Variation	0.35	0.41	0.27	0.51

Notes: Average Growth rates for the World, Industrialised Countries and Developing Countries are calculated from the IFS 2000 Year Book. Calculations for microstates are based on the sample used for the study.

Much of the monetarist/neoclassical literature on the relation between stabilisation and growth are based on the implicit assumption that the resources necessary for both are intermediated by markets. Yet one of the striking features that can be observed from the data is that in the large majority of cases, the government sector consistently made net injections into their respective economies over the decades (See Chart 2). In fact, net fiscal injections peaked in the 1980s for these economies. In addition, many microstates attempted to lure foreign savings into their economies, mainly in the form of debt financing or through foreign direct investment (See Chart 1).

The correlations between the stabilisation and growth variables are highlighted in Table 2 for short-term intervals. To complement the stabilization variables, foreign direct investment and government net injections as percentages of GDP were also examined to see how they are correlated with growth. In addition, the correlations between some of the stabilisation variables were examined.

Table 2 Correlations between Stabilisation and Growth Variables

Correlation between Variables	Period	Number of countries	Correlation without outliers
Inflation and Real Economic Growth	93-97	24	-0.13
	88-92	24	-0.05
	81-87	23	-0.48
	73-80	17	-0.09
Imports Growth and Real Economic Growth	93-97	26	0.04
	88-92	26	0.17
	81-87	22	0.39
	73-80	18	0.52
Exchange Rate Growth and Real Economic Growth	93-97	26	-0.04
	88-92	26	-0.21
	81-87	25	-0.28
	73-80	19	-0.07
Net Fiscal Injections/GDP and Real Economic Growth	93-97	23	-0.28
	88-92	24	-0.63
	81-87	21	-0.52
Foreign Direct Investment/GDP and Growth	93-97	23	0.25
	88-92	24	-0.24
	81-87	20	0.32
Import Growth and Fiscal Balance	93-97	24	0.15
	88-92	24	0.26
	81-87	24	-0.01
	73-80	22	0.42
Fiscal Balance and Inflation	93-97	23	0.11
	88-92	23	0.26
	81-87	24	-0.012
	73-80	22	0.42
Exchange Rate Growth and Inflation	93-97	27	0.63
	88-92	26	0.83
	81-87	27	0.72
	73-80	24	0.74

The results indicated a weak but consistently negative association between inflation and growth. With the exception of the period 1981 to 1987, the correlation tended to be low, thus suggesting that the Phillips curve was not boldly defined by the data. In fact, an examination of the scatter plots suggested that a few countries with inflation rates between 5 and 12 percent were able to achieve growth rates of over 5 percent.

In contrast, import growth was positively associated with economic growth. Interestingly, the correlation between both variables progressively weakened, being strongest for the interval 1973 and 1980, and declining in subsequent intervals. Almost a similar decline in the magnitude of correlation between growth in the exchange rate and economic growth can be noticed, except that the decline begins from in 1981. The negative relationship observed between these variables suggests that a depreciation in the exchange rate was associated with lower economic growth and vice versa. Moreover, the correlation results suggested that a depreciation in the exchange rate was strongly associated with higher levels of inflation.

Net fiscal injections as a percentage of GDP were found to be negatively associated with economic growth. The strongest correlations were exhibited for the period 1981 to 1992. Net fiscal injections were also associated with higher levels of inflation and higher growth in imports for most periods. On the other hand, foreign direct investment was positively associated with economic growth in most periods.

The correlation results therefore portrayed a generally weak association between the stabilisation variables and growth. Moreover, conflicts between stabilisation variables were evident, the most notable being that depreciations in exchange rates were strongly correlated with higher inflation rates. In addition, net fiscal injections were associated with lower GDP growth, as well as higher rates of inflation and imports.

5.0 High Growth and High Inflation vs Low Growth and Low Inflation Economies

Another aspect of the discussion, concerns whether there are contrasting features between high growth economies compared to low growth ones and between high inflation and low inflation economies. Fifty percent of the countries with the higher GDP growth and inflation rates, were separated from those with lower GDP growth and inflation rates, respectively. ANOVA was used to compare the means of various variables.

In the 1970s, high growth countries exhibited significantly higher imports compared to low growth countries (See Table 3). The other stabilization variables were not found to be significant, however. The pattern changed in the 1980s, as high growth countries were found to exhibit significantly lower inflation rates and higher levels of foreign direct investment, compared to countries with lower levels of economic growth (See Table 4). By the 1990s, none of the variables were found to be significantly different between the two groups of countries (See Table 5).

Table 3: Comparison of High Growth and Low Growth Countries: Tests for Equality of Means (1970-1979)

		GDP Growth	Inflation	Import Growth	Exchange Rate Growth	Fiscal Balance to GDP
High Growth	Mean	10.13 (8)	8.07 (5)	24.7 (7)	1.17 (7)	-3.16 (6)
	Standard Deviation	3.79	2.95	6.02	3.26	3.37
Low Growth	Mean	2.71 (8)	12.92 (7)	15.67 (8)	5.13 (8)	-4.52 (7)
	Standard Deviation	2.93	6.41	6.30	10.88	5.02
Anova F-Statistic		19.18***	2.44	2.801**	0.851	0.317

Notes: *** indicates significance at a 1 percent level, ** indicates significance at a 5 percent level and * indicate significance at a 10 percent level. Figures in parenthesis indicate number of countries.

Table 4: Comparison of High Growth and Low Growth Countries: Tests for Equality of Means (1980-1989)

		GDP Growth	Inflation	Import Growth	Exchange Rate Growth	Fiscal Balance to GDP	Foreign Direct Investment to Population	Foreign Direct Investment to GDP
High Growth	Mean	7.37 (13)	6.23 (12)	9.88 (12)	2.15 (12)	-3.41 (13)	170.06 (11)	6.46 (11)
	Standard Deviation	1.92	5.90	5.89	5.69	6.50	216.98	4.67
Low Growth	Mean	2.07 (13)	13.94 (13)	11.84 (13)	14.58 (13)	-7.96 (12)	55.84 (11)	2.85 (12)
	Standard Deviation	2.20	8.43	9.61	35.15	11.47	64.44	4.63
Anova F-Statistic		42.80***	6.92**	0.368	1.461	1.52	2.80	3.46*

Notes: *** indicates significance at a 1 percent level, ** indicates significance at a 5 percent level and * indicate significance at a 10 percent level. Figures in parenthesis indicate number of countries.

Table 5: Comparison of High Growth and Low Growth Countries: Tests for Equality of Means (1990-1997)

		GDP Growth	Inflation	Import Growth	Exchange Rate Growth	Fiscal Balance to GDP	Foreign Direct Investment to Population	Foreign Direct Investment to GDP
High Growth	Mean	5.32 (14)	8.36 (13)	9.54 (13)	7.99 (13)	-1.66 (12)	255.58 (12)	8.0 (12)
	Standard Deviation	1.68	7.91	6.69	15.43	6.86	521.18	10.28
Low Growth	Mean	1.13 (14)	20.17 (14)	6.74 (14)	78.48 (14)	-2.88 (12)	208.92 (12)	5.40 (13)
	Standard Deviation	2.05	35.84	7.83	254.42	3.02	183.18	4.45
Anova F-Statistic		35.17***	1.35	0.99	0.992	0.318	0.089	0.692

Notes: *** indicates significance at a 1 percent level, ** indicates significance at a 5 percent level and * indicate significance at a 10 percent level. Figures in parenthesis indicate number of countries.

No statistically significant difference in decadal means between high and low growth countries could therefore be found on a consistent basis. Instead, statistical differences were instead time specific. Import growth, inflation and foreign direct investment featured in different decades.

In terms of the difference between countries exhibiting high inflation and those exhibiting low inflation, none of the variables turned out to be significant in the decade of the 1970s (See Table 6). However, in the decade of the 1980s and 1990s, exchange rate growth

turned out to be consistently and significantly different between both groups (See Tables 7 and 8). The depreciation in the exchange rate was significantly associated with countries with higher inflation rates, while countries with lower inflation rates had more stable or fixed exchange rates. None of the other variables were significantly different between both groups in the decade of the 1990s, but in the decade of the 1980s, the evidence suggests that countries with lower inflation rates also recorded significantly higher foreign direct investments to GDP levels and higher GDP growth rates.

Table 6 Comparison of High and Low Inflation Countries: Tests for Equality of Means 1970-1979

		Inflation	Exchange Rate Growth	Fiscal Balance to GDP	Foreign Direct Investment to GDP	Import Growth	GDP Growth
High Inflation	Mean	14.02 (11)	4.27 (11)	-3.48 (10)	3.18 (4)	24.11 (11)	6.95 (7)
	Standard Deviation	4.58	9.25	3.70	2.24	9.19	6.25
Low Inflation	Mean	8.08 (10)	0.54 (10)	-1.87 (8)	12.35 (5)	20.55 (10)	5.77 (7)
	Standard Deviation	1.93	2.15	2.43	10.22	7.04	3.20
Anova F-Statistic		14.45***	1.54	1.11	3.03	0.98	0.20

Notes: *** indicates significance at a 1 percent level, **indicates significance at a 5 percent level and * indicate significance at a 10 percent level. Figures in parenthesis indicate number of countries.

Table 7 Comparison of High and Low Inflation Countries: Tests for Equality of Means 1980-1987

		Inflation	Exchange Rate Growth	Fiscal Balance to GDP	Foreign Direct Investment to GDP	Import Growth	GDP Growth
High Inflation	Mean	15.23 (14)	9.56 (14)	-6.70 (13)	1.68 (13)	9.30 (13)	3.57 (13)
	Standard Deviation	7.18	13.02	12.20	2.26	11.45	4.09
Low Inflation	Mean	3.93	-0.16 (14)	-3.54 (13)	7.42 (12)	9.03 (14)	5.84 (12)
	Standard Deviation	2.82	1.08	3.12	4.93	5.64	2.11
Anova F-Statistic		30.00***	7.75***	0.37	14.35***	0.006	2.97*

Notes: *** indicates significance at a 1 percent level, **indicates significance at a 5 percent level and * indicate significance at a 10 percent level. Figures in parenthesis indicate number of countries.

Table 8 Comparison of High and Low Inflation Countries: Tests for Equality of Means 1990-1997

		Inflation	Exchange Rate Growth	Fiscal Balance to GDP	Foreign Direct Investment to GDP	Import Growth	GDP Growth
High Inflation	Mean	29.29 (15)	8.07 (13)	-2.42 (14)	4.5 (14)	8.45 (15)	3.1 (14)
	Standard Deviation	37.51	11.10	5.83	6.02	9.11	3.01
Low Inflation	Mean	2.61	-0.45 (14)	-2.14 (15)	8.58 (13)	7.38 (15)	3.84 (13)
	Standard Deviation	1.81	0.45	4.59	8.52	5.13	2.07
Anova F-Statistic		7.57**	8.22***	0.02	2.09	0.16	0.55

Notes: *** indicates significance at a 1 percent level, **indicates significance at a 5 percent level and * indicate significance at a 10 percent level. Figures in parenthesis indicate number of countries.

It would appear therefore, that the distinction in the attributes of high inflation countries and low inflation ones, were more so in the 1980s and beyond, rather than in the 1970s. The stability of exchange rates was a decisive factor in distinguishing between high and low inflation rate countries between 1980 to 1997. In the 1980s, foreign direct investment and the magnitude of economic growth were also decisive factors.

6.0 Panel Estimation

Given that the various countries used in the sample possess diverse economic histories and systems, the variance of their parameters can be expected to be heteroskedastic. As such, generalised least squares was used in the context of a fixed effects model. Two types of models were tested, stabilisation models and investment models. These models were both tested using long-term data, 1970 to 1997 and by the decades, to estimate short-term time specific changes.

Table 9: Fixed Effects Generalised Least Squares

Dependent Variable	Inflation	Import Growth	Change in Foreign Direct Investment to GDP	Exchange Rate Growth	Change in Fiscal Balance to GDP	Adjusted R ²	F Statistic
GDP Growth (1970 – 1997)	-0.09***	0.07***		0.004***		0.45	249.97***
GDP Growth (1970 – 1979)	-0.17***	0.10***		0.07**		0.11	2.5 X 10 ³³
GDP Growth (1980 – 1989)	-0.18***	0.09***		0.05***		0.55	160.2***
GDP Growth (1990 – 1999)	-0.05***	0.006**		0.002***		0.65	197.87***
GDP Growth (1970 – 1997)			0.09***		0.02	0.37	234.05***
GDP Growth (1970 – 1979)			0.33**		0.27***	0.35	4.7X10 ³¹
GDP Growth (1980 – 1989)			-0.06***		0.01	0.74	560.00***
GDP Growth (1990 – 1997)			0.03***		-0.02	0.64	336.38***

***Indicates significance at a 1 percent level and ** indicates significance at a 10 percent level. The adjusted R² is taken from the weighted statistics except for the 1970 to 1979 estimations, where it is extracted reported for the unweighted statistics owing to missing data.

Table 10 Wald Coefficient Test

Variable	Null Hypothesis	F-Statistic	Conclusion
Inflation	Coefficient for the decade of the 1990s equal to coefficient for the decade of the 1980s	109.93	Null Hypothesis Rejected at 1% level of Significance
Import Growth	Coefficient for the decade of the 1990s equal to coefficient for the decade of the 1980s	1108.91	Null Hypothesis Rejected at 1% level of Significance
Exchange rate growth	Coefficient for the decade of the 1990s equal to coefficient for the decade of the 1980s	8659.87	Null Hypothesis Rejected at 1% level of Significance
Inflation	Coefficient for the decade of the 1980s equal to coefficient for the decade of the 1970s	0.99	Null Hypothesis not Rejected at 10% level of Significance
Import Growth	Coefficient for the decade of the 1980s equal to coefficient for the decade of the 1970s	2.21	Null Hypothesis not Rejected at 10% level of Significance
Exchange Rate Growth	Coefficient for the decade of the 1980s equal to coefficient for the decade of the 1970s	16.44	Null Hypothesis Rejected at 1% level of Significance

In the stabilisation model, all the variables were significant and they maintained their signs regardless of time period (See Table 9). What is evident from the Wald Coefficients

test, is that the relation between the stabilisation variables and economic growth in the 1990s was significantly smaller, compared to the two previous decades (See Table 10). The most important contributor to growth from among the stabilisation variables was the reduction in inflation. Though the maintenance of low inflation significantly contributed to economic growth in each decade, the ANOVA test results suggested that it contributed significantly less to economic growth in the 1990s compared to the earlier time periods. Thus, while a 1 unit fall in inflation was associated with 0.18 unit increase in growth in the 1980s, by the 1990s it was associated with a 0.05 unit increase in growth. However, no significant difference was found with respect to the contribution of inflation to growth in the 1980s compared to the 1970s.

Based on the magnitude of the overall coefficients, the second most important contributor to economic growth was import growth. Unlike inflation, its contribution turned out to be positive, but its contribution to growth was significantly lower in the 1990s compared to the previous two decades. This was evident as the results suggested that a 1 unit increase in import growth was associated with a 0.006 unit increase in GDP growth in the 1990s, compared to a 0.09 unit increase in the 1980s. The contribution of import growth to GDP growth did not vary significantly between the 1970s and the 1980s.

Exchange rate depreciation was the weakest contributor to growth, among the stabilisation variables. Moreover, the ANOVA tests revealed that its contribution to growth significantly weakened between the 1970s and 1980s, and between the 1980s and

1990s, moving from 0.07 units in growth in the 1970s to 0.002 units in growth in the 1990s.

In terms of investments, foreign direct investment as a percentage of GDP was a significant contributor to economic growth in most decades. The impact on growth of a one unit change in the FDI variable was largest in the 1970s, 0.33 units, compared to 0.03 units by the 1990s. The negative relation in the 1980s was not anticipated, and a deeper investigation into this phenomenon would need to be undertaken before useful comments are made. Fiscal injections as a percentage of GDP, significantly and positively impacted on growth only in the 1970s. Its insignificant impact in the other decades would seem to suggest that the magnitude of governments' net investment was not critical to growth.

7.0 Conclusion

The evidence suggest that that the monetarist/neoclassical argument that government should address stabilisation has some applicability to microstates, given the tendency for depreciation of exchange rates and the lowering of inflation to contribute to growth. However, it would appear from the results that while stabilisation policies may have marginally contributed to economic growth, its contribution to growth significantly diminished in the 1990s, compared to the previous two decades. The loosening of the relationship between stabilisation and growth may in fact reflect the further opening up of microeconomies in the globalisation process, so that growth may in fact be even more externally propelled than in the previous two decades. As such, it should not be

surprising that the evidence suggest that stabilisation in itself has become less critical to sustainable growth of microstates.

The growth cost of pursuing stabilisation policies, seemed more so in terms of where demand restraint impacted on import growth, but not in terms of the pursuit of low inflation, or exchange rate depreciation. Thus, the evidence suggests that the trade off between stabilisation and growth, is in terms of its impact on import demand. Indeed, the structuralist concerns are supported by the empirical evidence that demand restraint can negatively impact on growth if it subdues imports.

Interestingly, government net fiscal injections seemed to be significant to economic growth only in the 1970s. Thus, the evidence does not dismiss the monetarist/neoclassical contention that government should retreat from direct involvement in markets. But the results may also suggest that government spending in microstates may not reflect scale economies in microstates. In contrast, foreign direct investment was critical to growth both in the decades of the 1970s and 1990s in microstates. The results provide further evidence of the importance of capital inflows to GDP growth in micro-economies.

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Appendix 1

