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Economic Performance in Small Open Economies

The Caribbean Experience, 1980–92

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Six small Caribbean islands did remarkably well during a period of significant economic problems, while four larger islands did poorly. Why? The difference in performance cannot be explained by external shocks alone.

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Summary findings

McCarthy and Zanalda study the economic performance of ten Caribbean islands from 1980 to 1992. They study the islands in two groups: six small islands from the Organization of Eastern Caribbean States (OECS) and four larger islands: Barbados, Dominican Republic, Jamaica, and Trinidad and Tobago.

These islands all experienced significant economic problems in 1980–92, but the OECS group did remarkably well (averaging an annual GDP growth rate of 5.2 percent) while the larger islands grew at only 0.7 percent a year.

Why?

McCarthy and Zanalda compute external shocks together with each island's performance response to them. Some islands resorted inordinately to external financing to cope with adverse shocks. Others tried to compensate by

stimulating exports and tourism. The buildup of debt created problems for some of the governments later in the decade, resulting in the need for strong contractionary measures.

But the difference in performance between islands cannot be explained by external shocks alone.

The OECS group achieved superior performance even though they faced roughly the same shocks as the larger islands. It helped that they had a monetary board that encouraged high investment levels. But this was complemented by concessionary flows used productively and by foreign direct investment.

Now the question is how well these economies will fare when they face the inevitable reduction in concessionary flows in coming years.

This paper — a product of the Office of the Vice President, Development Economics — is part of a larger effort in the Bank to analyze external shocks, policy response, and economic performance. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Miligros Divino, room N6-056, telephone 202-473-3739, fax 202-522-1157, Internet address mdivino@worldbank.org. November 1995. (53 pages)

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**ECONOMIC PERFORMANCE IN SMALL OPEN ECONOMIES
THE CARIBBEAN EXPERIENCE: 1980-1992**

by

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ABSTRACT

This paper considers the performance of ten islands in the Caribbean area over the period 1980-92. The islands are divided into two groups, six from the Organization of Eastern Caribbean States (OECS) and a second group composed of four larger islands, Barbados, Dominican Republic, Jamaica and Trinidad and Tobago.

These islands all experienced significant economic problems during this period. However the OECS group did remarkably well and averaged an annual GDP growth rate of 5.2 percent while the corresponding figure for larger islands was only 0.7 percent. The question is why?

For each island the external shocks together with the performance response to them are computed. It is noted that some resorted inordinately to external financing when faced with adverse shocks. Others sought to compensate by stimulating exports and tourism. The buildup of debt created problems for some of the governments later in the decade and resulted in the need for strong contractionary measures. However the difference in performance between islands cannot be explained by external shocks alone.

In a broader context it seems that the OECS group did achieve a superior performance even though they were faced by roughly similar shocks to the other group. This was helped by having a monetary board which was conducive to high investment levels. However this was complemented by concessionary flows used in a productive manner and by foreign direct investments.

A more pressing question is how well these economies will fare when they face a seemingly inevitable reduction in the availability of concessionary flows in the coming years.

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I. INTRODUCTION

1. The Caribbean area is composed of a number of relatively small islands with similar characteristics but also a remarkable range of diversity in terms of their socio-political arrangements, resource endowments and economic structures. Domestic markets are small and most islands are not well endowed with resources—Trinidad is the only oil exporter in the group. Generally export bases have been narrow and heavily dependent on a few commodities such as sugar, bananas, nutmeg, bauxite. Most of the islands have relied on preferential trade arrangements for their main exports. This access has certain advantages but it has also helped foster a level of competition in a number of industries below what might have resulted in a more open market situation. Historically there has always been a certain amount of tourism in the area and more recently most of the islands have sought to expand in this area and also diversify into other service industries.

2. This paper considers the performance of ten of these islands divided into two groups over the period 1980-1992. Selected economic characteristics are presented in Tables 1 and 2. The first group, hereafter called OECS¹, is composed of six small islands, Antigua and Barbuda, Dominica, Grenada, St. Kitts and Nevis, St. Lucia and St. Vincent and the Grenadines.² The second group aggregates four bigger islands, Barbados, Dominican Republic, Jamaica and Trinidad and Tobago.³ All these countries, except Dominican Republic, are part of the Caribbean Community (CARICOM).⁴ To a casual observer the OECS countries in the period under analysis achieved far superior growth rates to most of the countries in the second group. The question is why? Were they particularly lucky in the external environment or was it their domestic policy or institutional arrangements?⁵

3. Some of the islands achieved independence in the 1960s, Jamaica and Trinidad and Tobago in 1962, Barbados and Guyana in 1966. The small islands of the Eastern Caribbean attained

¹ Organization of the Eastern Caribbean States (OECS). The United Kingdom dependency Montserrat and Anguilla are also members of the OECS.

² Hereafter, Antigua refers to Antigua and Barbuda, St. Kitts to St. Kitts and Nevis, St. Vincent to St. Vincent and the Grenadines, Trinidad to Trinidad and Tobago.

³ Available data for Belize and Guyana were not sufficient to compute external shocks and performance measures for the period under review. Therefore we had to exclude these two countries from our analysis.

⁴ CARICOM consists also of the following countries and UK dependencies: the Bahamas, Belize, Guyana, Anguilla, Cayman Islands, Montserrat, Turks and Caicos Islands, British Virgin Islands.

⁵ Some of the OECS institutional characteristics are presented in Appendix 1.

Table 1: GNP per Capita, Population and Trade

	GNP per capita		Population 'c	Trade/Output 'd			Currency Board
	1993 'a	1980-92 'b		1990	1992	1980-92 'e	
OECS							
Antigua and Barbuda	6,390	5.0	66,569	176.1	169.2	170.7	yes, ECCB 'f
Dominica	2,680	4.6	72,265	118.1	126.4	120.0	yes, ECCB 'f
Grenada	2,410	3.8	91,000	132.0	107.2	121.5	yes, ECCB 'f
St. Kitts and Nevis	4,470	5.7	41,380	169.8	148.2	149.6	yes, ECCB 'f
St. Lucia	3,040	4.4	157,600	165.0	162.8	147.7	yes, ECCB 'f
St. Vincent and the Grenadines	2,130	5.0	109,700	172.5	131.5	153.1	yes, ECCB 'f
OTHERS							
Barbados	6,240	1.0	259,700	136.6	96.5	116.3	
Dominican Republic	1,080	-0.5	7,447,000	42.8	55.6	55.6	
Jamaica	1,390	0.2	2,415,000	106.9	149.9	113.3	
Trinidad and Tobago	3,730	-2.6	1,282,000	136.2	82.0	85.9	

a. Atlas methodology. Current US\$. World Bank, STARS.

b. Percent. Average annual real growth rate. St. Lucia and Grenada 1980-93. World Bank, World Development Report 1994.

c. World Bank, STARS.

d. Percent. Imports and exports of goods and nonfactor services in U.S. dollars as a ratio of GDP, at market prices. World Bank STARS.

e. Percent. Period average.

f. Eastern Caribbean Central Bank

Table 2 : Average Sectoral Growth Rates, 1980-90

	Agriculture	Industry (Manufacturing)		Tourism and Services
OECS				
Antigua and Barbuda	-0.5	7.5	(4.6)	6.6
Dominica	4.8	4.3	(6.9)	4.4
Grenada	1.5	8.2	(7.5)	4.6
St. Kitts and Nevis	-2.8	4.5	(-1.1)	7.3
St. Lucia	6.6	7.0	(7.4)	6.8
St. Vincent and the Grenadines	10.4	5.0	(3.8)	6.0
OTHERS				
Barbados	-2.5	0.5	(-0.8)	1.5
Dominican Republic	0.6	1.1	(0.5)	2.5
Jamaica	-0.5	2.1	(2.4)	1.2
Trinidad and Tobago	-4.1	-6.2	(-9.2)	-2.1

Source: World Bank (1994a), p.9.

their independence in the late 1970s and early 1980s. Even though trade shares were quite large during the seventies, it was only in the early eighties that most of the countries began to dismantle much of the trading restrictions. Today there is a general agreement on the need for openness to the rest of the world. This is particularly important for providing access to new technology and ideas together with access to larger markets. As the economies become increasingly open they stand to gain from the opportunities in the global market but at the same time they become more exposed to the variability of the external world. At this juncture global trading arrangements such as the completion of the Uruguay Round and NAFTA are introducing major challenges for policy-makers in this area. OECS countries in particular, given the uncertainty of the new banana regime in the European Union, are going to be less protected from changes in the world economy.⁶

4. The external environment plays an extremely important role in determining the economic progress, or lack thereof, throughout this area. Historically, the Caribbean economies have been exposed to a variety of external shocks. In recent years there has been an increasing tendency towards globalization of trade, services and capital flows. This has brought into sharper focus the issue of external shocks and how to deal with them. Generally when shocks are unfavorable, authorities in these countries treated them as temporary in the sense that they relied often heavily on external financing but when shocks turned favorable they did not seek to reduce external indebtedness.

5. In doing this analysis one is limited by available data sources. Given the size of some of these countries it is inevitable that the resources available for gathering data is somewhat limited so it is important to bear this caveat in mind. In the following section an analysis of the main external shocks is presented while Section III discusses the responses to them. The main purpose of such study is to offer some insights on explaining how these economies fared, and may be useful for analysis in the future on how to deal with these problems.

6. Section IV provides a brief overview of economic performances during the period 1980-92. It considers investment, savings, inflation, exchange rate, and the role of external resources. An interesting point is that the OECS countries have a monetary board so one is tempted to draw

⁶ The cost and the inefficiency of the new European Union's banana scheme are analyzed in Borrell (1994).

some conclusions as to whether this played a pivotal role in their seemingly better growth performance during this period. Section V provides some insight on this issue. However, there are other considerations that seem to have been relevant such as access to concessionary finance and the level of investment. Further details are given on a country by country basis in Appendix 1.

II. EXTERNAL SHOCKS

7. There is an extensive literature on whether open economies are better at handling the impact of external shocks. Balassa (1981) argued that openness to trade was positively related to economic performance. Sachs (1985) compared the economic performance of newly industrializing countries in East Asia and the economies of Latin America when faced with similar shocks. He argued that the superior performance of the former was due to greater export orientation but he also emphasized the role of a political culture more in tune with maintaining competitiveness. More recently Edwards (1993) in his study of Latin American countries investigated the interaction between trade, policy and productivity growth. He found that countries that were more open to the rest of the world have experienced faster growth in total productivity than countries with high trade barriers. Thus while most of the islands have reduced distortions and moved towards freer trading regimes the overall economic performance has not shown a uniformly dramatic improvement. Some of the explanation for this may be found in analyzing the external shocks they experienced and in particular the performance response to them.

8. The analytical approach adopted in this paper is an extension of some earlier work by Balassa and more recently by McCarthy, Neary, Zanalda (1994). The basis of this approach is to construct a counterfactual which seeks to generate what may be construed as normal for the external environment. In this analysis, based on the methodology presented in Appendix 2, the impact of the external environment is assessed by considering four direct and one indirect shocks. These are measured by the terms of trade effect, nonfactor services effect, export volume effect and the international interest rate effect. The indirect shock is the cumulative impact of net external borrowing resulting from the policies adopted in response to previous shocks. While the four direct shocks are

Table 3: External Shocks as a percent of GDP
(Positive values correspond to unfavorable shocks)

	(annual average over corresponding period)						
	1980-86	1987-92	1980-92		1980-86	1987-92	1980-92
Terms of Trade Effect							
Antigua	0.76	2.58	1.59	Barbados	0.98	1.31	1.14
Dominica	2.37	2.79	2.58	Dominican Republic	0.45	0.71	0.57
Grenada	1.13	3.30	2.13	Jamaica	0.00	1.29	0.59
St. Kitts and Nevis	0.76	3.03	1.80	Trinidad and Tobago	0.97	-0.85	0.13
St. Lucia	1.28	2.35	1.77				
St. Vincent	2.30	2.01	2.17				
Nonfactor Service Effect*							
Antigua	-0.07	-2.31	-1.10	Barbados	-0.30	-1.18	-0.70
Dominica	0.03	0.11	0.06	Dominican Republic	0.15	-0.43	-0.12
Grenada	-0.21	-0.65	-0.41	Jamaica	0.15	-0.41	-0.11
St. Kitts and Nevis	-0.02	-0.58	-0.28	Trinidad and Tobago	0.02	0.08	0.05
St. Lucia	-0.12	-0.63	-0.36				
St. Vincent	-0.20	-0.13	-0.17				
Export Volume Effect							
Antigua	0.37	-0.08	0.16	Barbados	0.11	-0.17	-0.02
Dominica	0.22	-0.47	-0.10	Dominican Republic	0.13	-0.22	-0.03
Grenada	0.28	-0.29	0.00	Jamaica	0.37	-0.24	0.09
St. Kitts and Nevis	0.49	-0.31	0.12	Trinidad and Tobago	0.65	-0.44	0.15
St. Lucia	0.25	-0.38	-0.04				
St. Vincent	0.23	-0.58	-0.15				
Additional Debt Service							
Antigua	1.07	1.41	1.22	Barbados	0.23	0.29	0.26
Dominica	2.74	1.62	2.23	Dominican Republic	0.55	0.89	0.71
Grenada	0.62	0.72	0.68	Jamaica	2.40	2.78	2.57
St. Kitts and Nevis	1.55	2.22	1.88	Trinidad and Tobago	0.09	1.03	0.52
St. Lucia	0.79	0.68	0.74				
St. Vincent	-0.22	-0.54	-0.37				
Interest Rate Effect							
Antigua	0.00	0.00	0.00	Barbados	-0.07	-0.04	-0.06
Dominica	0.00	0.00	0.00	Dominican Republic	-0.11	-0.08	-0.10
Grenada	-0.04	-0.02	-0.03	Jamaica	-0.22	-0.14	-0.18
St. Kitts and Nevis	0.00	0.00	0.00	Trinidad and Tobago	-0.05	-0.13	-0.09
St. Lucia	0.00	0.00	0.00				
St. Vincent	0.00	0.00	0.00				
Total Shocks**							
Antigua	2.13	1.58	1.88	Barbados	0.96	0.21	0.62
	(1.6)	(1.9)	(1.7)		(2.1)	(1.5)	(1.8)
Dominica	5.37	4.05	4.76	Dominican Republic	1.18	0.86	1.03
	(8.2)	(5.1)	(6.7)		(2.7)	(3.5)	(3.0)
Grenada	1.76	3.05	2.36	Jamaica	2.70	3.28	2.97
	(4.9)	(3.7)	(4.3)		(2.0)	(1.5)	(1.7)
St. Kitts and Nevis	2.77	4.35	3.50	Trinidad and Tobago	1.68	-0.31	0.76
	(3.2)	(2.2)	(2.8)		(10.5)	(4.0)	(7.9)
St. Lucia	2.20	2.02	2.11				
	(2.5)	(3.4)	(2.8)				
St. Vincent	2.10	0.76	1.48				
	(3.7)	(4.5)	(4.0)				

* Nonfactor Services include shipment, passenger and other transport services, travel.

**Figures in parentheses are standard deviations.

Source: Appendix 1 and Appendix 2.

exogenous, the cumulative impact of net external borrowing is due in part to the policies adopted in reaction to previous shocks. Fluctuations in each of these typically affect GNP growth, and the current account in particular, and so lead to changes in economic welfare. Other shocks, which also had an impact on GDP and welfare, such as the various hurricanes which devastated the Caribbean at the end of the seventies and in the eighties are not explicitly measured.

9. While the general character of the external shocks may be similar, each country involves a distinct set of economic, socio-political and institutional features so that it is essential to consider countries on an individual basis. All countries except Trinidad and Tobago are oil importers and so were vulnerable to the oil shocks of the seventies. Trinidad, being an oil exporter, benefited from these prices increases. There were also significant swings in commodity prices, both favorable and unfavorable, where volatility posed a further challenge for policy-makers trying to steer a prudent course. Most islands were also severely impacted by changes in interest rates as they went from negative real levels in the seventies to over 10 percent in the early eighties. Others, such as Jamaica, were adversely affected by the US dollar depreciation during this period. Shocks, together with standard deviations (a measure of volatility) are shown in Table 3. The individual country details are given in Appendix 1. It is noted that the OECS group typically suffered more severe shocks than the countries in the non-OECS sample except for Jamaica. Yet the OECS group did better during this period in terms of growth rates. Table 5 shows the comparative growth performances in the two sets of countries in the period 1980-92. OECS countries experienced average real growth rates above 5 percent with the exception of Grenada (3.6 percent), well above the rates recorded by countries in the second group. In order to seek an answer the performance responses of these countries are first examined.

III. PERFORMANCE MEASURES

10. As countries are impacted by external shocks, policymakers take various measures to address them. The appropriate type of ideal response depends on many factors: characteristics of the specific type of shock, whether it is permanent or not; whether its primary impact is on the supply or

demand side; what is politically feasible in the economy; what degrees of freedom policymakers may have in their particular institutional framework; how much access, if any, they have to financing. In this analysis the resulting performance response is estimated by computing a number of measures such as export expansion, import intensity, economic compression, and additional net external financing as defined in the methodological appendix (Appendix 2). The actual response is related through a complex array of variables to the shocks. Typically it involves fiscal, monetary and exchange rate policy and in most instances changes in external financing. It could also involve structural changes in trade regime or perhaps incomes policy if it were deemed an appropriate instrument to moderate aggregate demand. However, rigid labor markets in many of the islands here considered would tend to reduce the effectiveness of incomes policy.

11. Summary statistics of the performance measures of these countries is given in Table 4. Again individual country details are given in the Appendix 1. Even these broad patterns suggest significant differences in responses.

12. **OECS.** In terms of export expansion the OECS group was far more successful throughout the period and especially during the first half. This was mainly driven by the recovery in the production of the main export crops after a temporary collapse caused by natural disasters. One also notes the OECS group tended to increase their imports per unit of output, as reflected in the negative import intensity measures, during the first sub-period. The negative economic compression measures indicate that output expansion had been quite substantial in four of the OECS countries in the period 1980-86. The main picture which emerges from these performance measures is that both exports and imports grew over the entire period and that the expansion in imports was partially explained by output growth. Large investments in infrastructure boosted demand for imports, particularly in the period 1983-89. Exports expanded over the period, and countries, except St. Vincent, used additional net external financing (ANEF) to partially offset the impact of adverse shocks.

13. **Barbados** during the first sub-period achieved some export expansion and did resort to modest levels of additional net external financing. This was accompanied by some economic compression and increased import intensity. During the second sub-period the pattern was quite

Table 4: Performance Measures as a percent of GDP

	(annual average over corresponding period)				(annual average over corresponding period)		
	1980-86 (as a percent of GDP)	1987-92 (as a percent of GDP)	1980-92 (as a percent of GDP)		1980-86 (as a percent of GDP)	1987-92 (as a percent of GDP)	1980-92 (as a percent of GDP)
Export Expansion*							
Antigua	0.75	0.75	0.75	Barbados	1.23	-1.30	0.06
Dominica	5.64	0.24	3.15	Dominican Republic	-0.10	-1.37	-0.69
Grenada	0.50	-0.17	0.19	Jamaica	-2.75	0.69	-1.16
St. Kitts and Nevis	0.59	-0.07	0.29	Trinidad and Tobago	-4.09	-1.50	-2.90
St. Lucia	2.91	2.04	2.51				
St. Vincent	7.70	-1.65	3.39				
Import Intensity**							
Antigua	-5.78	5.13	-0.74	Barbados	-1.77	2.48	0.19
Dominica	-2.28	-1.26	-1.81	Dominican Republic	-0.16	-0.38	-0.26
Grenada	-2.64	3.69	0.28	Jamaica	0.54	-0.61	0.01
St. Kitts and Nevis	-2.63	0.14	-1.35	Trinidad and Tobago	1.99	-0.01	1.07
St. Lucia	-0.49	-1.82	-1.10				
St. Vincent	-1.87	1.86	-0.15				
Economic Compression***							
Antigua	0.19	1.10	0.64	Barbados	0.77	1.00	0.87
Dominica	-2.39	0.38	-1.11	Dominican Republic	0.34	-0.04	0.17
Grenada	0.77	0.99	0.87	Jamaica	-0.08	-0.25	-0.16
St. Kitts and Nevis	-0.44	0.07	-0.16	Trinidad and Tobago	2.07	-0.61	0.83
St. Lucia	-1.64	0.81	-0.41				
St. Vincent	-0.96	0.24	-0.41				
ANEF****							
Antigua	6.99	-5.40	1.28	Barbados	0.73	-1.97	-0.51
Dominica	4.39	4.68	4.52	Dominican Republic	1.10	2.66	1.82
Grenada	3.12	-1.45	1.01	Jamaica	4.98	3.45	4.28
St. Kitts and Nevis	5.13	4.21	4.70	Trinidad and Tobago	1.72	1.82	1.76
St. Lucia	1.18	0.98	1.09				
St. Vincent	-2.77	0.30	-1.35				
Total Performance Measures							
Antigua	2.13	1.58	1.88	Barbados	0.96	0.21	0.62
Dominica	5.37	4.05	4.76	Dominican Republic	1.18	0.86	1.03
Grenada	1.76	3.05	2.36	Jamaica	2.70	3.28	2.97
St. Kitts and Nevis	2.77	4.35	3.50	Trinidad and Tobago	1.68	-0.31	0.76
St. Lucia	2.20	2.02	2.11				
St. Vincent	2.10	0.76	1.48				

* Export expansion refers to merchandise export. Positive values correspond to improvements in the country's export share.

** Import Intensity refers to merchandise import. Positive values correspond to import compression.

*** Positive values correspond to GDP compression.

**** Additional Net External Financing. Positive values correspond to an increase in external financing.

Source: Appendix 1 and Appendix 2.

different. While there was some further economic compression, export expansion efforts faltered, import substitution increased and there was a decline in net additional external financing.

14. **Jamaica** on the other hand suffered the largest shock among the non-OECS group and took a different tack. During the first sub-period it primarily resorted to additional external borrowing and actually retrogressed on export expansion. This set the stage for an even poorer performance during the second sub-period. The situation was further compounded by the structure of the Jamaican debt. It contained a basket of currencies so that US dollar service repayments increased substantially when that currency depreciated during the eighties against the yen and D-mark.

15. **Dominican Republic** also relied on increased additional net external borrowing during the first sub-period and advanced little on export expansion. During the second sub-period it relied even more on ANEF and allowed its export expansion efforts to deteriorate even further.

16. **Trinidad and Tobago** was the only oil exporter among all the countries considered in this analysis. During the first sub-period it increased its ANEF and allowed its export share to deteriorate. During the second sub-period when oil prices fell, its export position continued to deteriorate and imports were not compressed so that it had to resort again to ANEF. This in turn resulted in a more difficult economic situation than at the beginning of the period as most of the problems like poor competitiveness and high unemployment still remained and now, in addition, Trinidad has a much higher external debt.

17. Thus the broad pattern that emerges is that the OECS group seems to have done much better than the non-OECS group. Each group seems to have resorted to ANEF during the period. The OECS group seems to have moved towards a more import intensive growth pattern and also seems to have done better on export expansion. We now consider some of the underlying economic performance measures to throw some light on this.

IV. ECONOMIC PERFORMANCE MEASURES

18. A number of economic performance measures are given in Table 5. These give some indication of the policies pursued. The table includes some of the typical flow variables but also includes some measures of debt and also of social progress. Ideally one would also like to include information on the environment in order to make an overall assessment of the sustainability of the strategy followed but this was not available to us at this time.

19. **Growth.** The OECS countries recorded higher output growth than the larger economies over the period here considered. This disparity is even more evident in terms of GNP per capita growth. While the OECS countries achieved annual growth rates around 5 percent, Trinidad and Dominican Republic with negative growth rate were the worst performers. Jamaica and Barbados attained real per capita growth rates of 0.2 and 1 percent respectively. It is important to notice that the OECS economies started the 1980s from a lower base than the other economies here considered. At the sectoral level (see Table 2) one notes that the OECS group was particularly successful in the tourism and service sector but also achieved good growth rates in manufacturing.

20. **Inflation and REER.** The OECS group had a good record on inflation while Barbados was the best performer among the non-OECS group. It is notable that the OECS group had currency board arrangement and that the Barbados dollar is pegged to the US dollar which no doubt helped. Historically, this kind of arrangement has been very effective in keeping inflation under control, in particular in small countries such as the OECS islands, extremely sensitive to changes in the world inflation.⁷ Both groups of countries started the decade of the eighties with annual rates of inflation above 15 and then followed different paths: the OECS islands and Barbados managed to keep the annual rate of inflation below 8 percent, while Jamaica and Dominican Republic recorded rates above 20 percent. Volatility of the inflation rate at around 20 percent for the period 1980-92 was another source of instability in the economy of these two countries. This is also reflected in the high variability of the Real Effective Exchange Rate (REER), Table 5 and Figure 1. These two wrought a

⁷ However, Hanke, Jonung and Schuler (1993) suggest that a currency board would be appropriate also for large economies that have a history of high inflation.

Table 5: ECONOMIC PERFORMANCE MEASURES, 1980-92 *

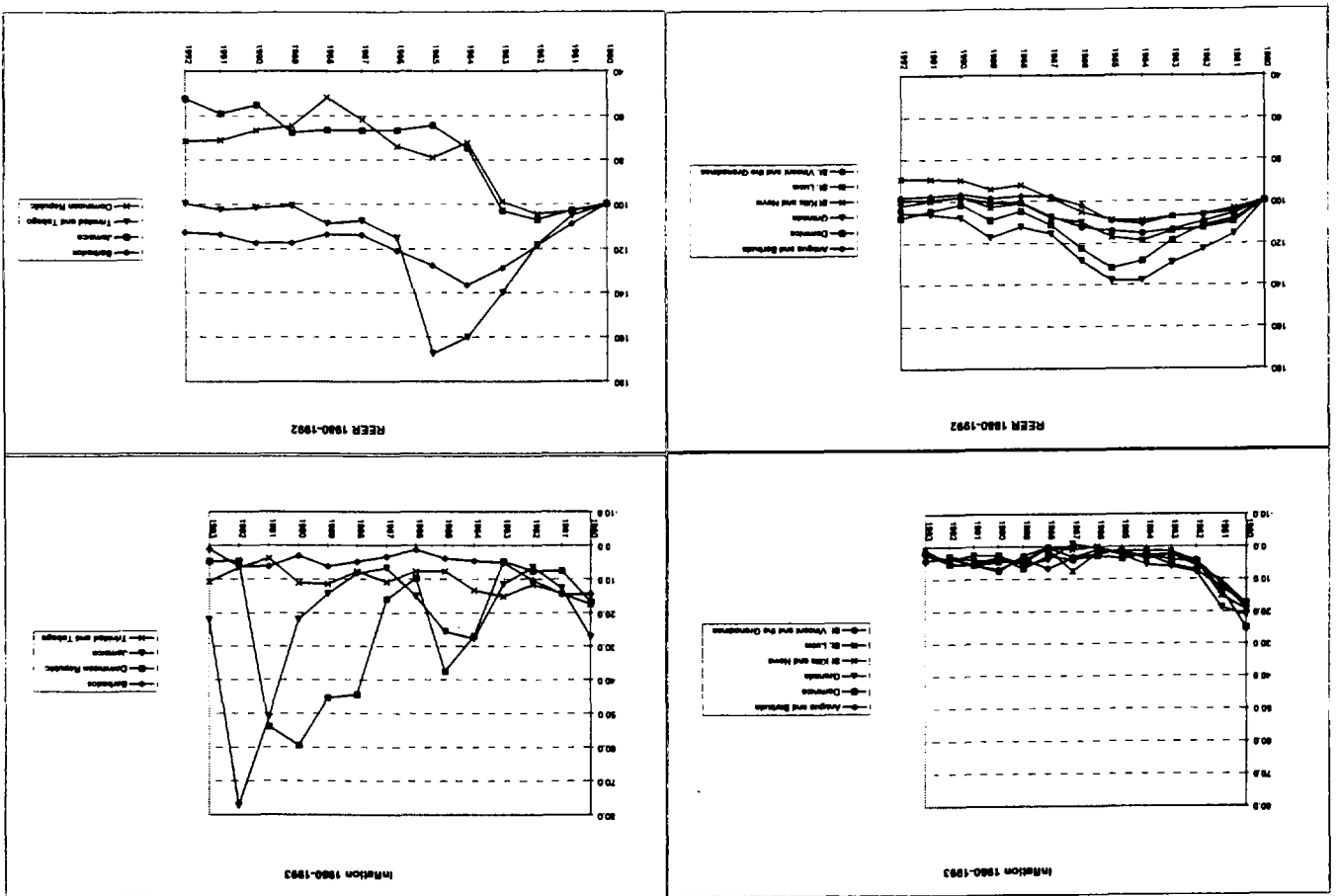
	<u>GDP Growth</u> ¹	<u>Inflation</u> ²	<u>REER</u> ³	<u>External Debt</u> ⁴	<u>Interest over Debt</u> ⁵
OECS					
Antigua and Barbuda	5.9	5.7 (4.8)	102 (5.0)	43.7	6.8
Dominica	5.0	6.4 (6.3)	112 (10.1)	27.5	2.4
Grenada	3.6	6.2 (6.6)	118 (12.3)	30.8	2.7
St. Kitts and Nevis	5.6	4.6 (4.8)	100 (7.7)	7.8	2.5
St. Lucia	5.3	5.6 (5.6)	107 (7.0)	7.8	3.5
St. Vincent and the Grenadines	5.8	5.5 (4.8)	106 (6.5)	10.1	3.5
OTHERS					
Barbados	0.4	6.5 (4.1)	118 (9.4)	20.9	7.0
Dominican Republic	2.4	25.7 (20.0)	78 (17.5)	30.3	5.3
Jamaica	1.5	23.6 (20.2)	76 (19.9)	78.8	6.4
Trinidad and Tobago	-1.4	10.7 (3.9)	117 (23.3)	34.9	8.4
	<u>GDI</u> ⁶	<u>Public Inv.</u> ⁷	<u>National Savings</u> ⁸	<u>Foreign Savings</u> ⁹	
OECS					
Antigua and Barbuda	36.0	13.0	14.2	21.8	
Dominica	32.3	18.1	11.1	21.2	
Grenada	36.4	21.5	14.6	21.9	
St. Kitts and Nevis	39.2	10.5	23.8	15.4	
St. Lucia	25.3	10.3	11.6	13.6	
St. Vincent and the Grenadines	30.6	12.7	16.7	13.9	
OTHERS					
Barbados	18.7	6.8	17.6	1.1	
Dominican Republic	23.2	7.3	18.0	5.3	
Jamaica	20.6	8.6	11.9	8.7	
Trinidad and Tobago	20.4	8.4	18.4	2.0	
	<u>HDI</u> ¹⁰	<u>Life Expectancy</u> ¹¹	<u>Inf. Mort. Rate</u> ¹¹	<u>Public Exp on Educ.</u> ¹²	<u>Adult Illiteracy Rate</u> ¹³
OECS					
	<u>1992</u>	<u>1982</u>	<u>1992</u>	<u>1992</u>	<u>1980-88</u>
Antigua and Barbuda	0.79	72	74	29	20
Dominica	0.75	71	72	20	18
Grenada	0.71	67	71	39	29
St. Kitts and Nevis	0.73	64	68	45	34
St. Lucia	0.71	69	70	25	19
St. Vincent and the Grenadines	0.73	68	71	31	20
OTHERS					
Barbados	0.89	73	75	17	10
Dominican Republic	0.64	64	68	50	41
Jamaica	0.75	71	74	18	14
Trinidad and Tobago	0.66	69	71	31	15
					<u>1989-90</u>
Antigua and Barbuda					2.9
Dominica					4.9
Grenada					5.7
St. Kitts and Nevis					4.6
St. Lucia					7.4
St. Vincent and the Grenadines					5.9
Barbados					5.8
Dominican Republic					1.8
Jamaica					5.9
Trinidad and Tobago					5.1
					1.0
					20.0
					8.0
					4.0

* Figures in parenthesis are standard deviations

Notes:

1. Annual real GDP growth rate. GDP at factor cost for all OECS except St. Vincent and the Grenadines. World Bank (1994).
2. Annual rate of inflation. Based on CPI from IMF, IFSBA, BESD database.
3. Real Effective Exchange Rate. Index numbers 1980=100. Period average. IMF.
4. Total External Debt (% of GNP). Difference between 1980 and 1992 (percentage points). World Bank, World Debt Tables, DX.
5. Total Interest Payments to Total External Debt (%). Annual average. World Bank, World Debt Tables, DX.
6. Gross Domestic Investment (% of GDP). Annual average. National authorities, IMF and IBRD.
7. Public Investment (% of GDP). Average annual. National authorities, IMF and IBRD.
8. National Savings = Gross Domestic Saving + Net Factor Income + Current Transfers. Annual average. World Bank (1994) p. 175
9. Foreign Savings = Gross Domestic Investment - National Savings. Annual average. World Bank (1994) p. 175
10. Human Development Index. This index is based on measures of longevity, knowledge and decent living standards.
HDI > 0.8 = high human development; HDI < 0.5 = low human development. UNDP (1994)
11. World Bank, World Tables, STARS 1994
12. Public Expenditure on Education (% of GNP). World Bank (1994) p. 238
13. Percent. Grenada (1979). World Bank (1993a) p. 52

Figure 1: Inflation and Real Effective Exchange Rates 1980-1992/3



significant depreciation. All other countries in this sample had modest appreciation on average over the period. The OECS currency, the Eastern Caribbean dollar, has been pegged to the US dollar since 1976 and much of the fluctuation in the REER reflects changes in the external value of the US dollar. Trinidad, whose performance was different from all other islands, managed to reduce its annual rate of inflation from 13 percent in the period 1980-86 to 8 percent in the period 1987-92 and to restore the REER at its 1980 level after a strong appreciation in the middle of the decade.

21. **Investment-Savings.** Here again one notes striking differences between the two groups with the OECS islands having average investment ratios above the 30 percent level while the corresponding value for the non-OECS group was around 20 percent (see Table 5). The OECS group also had public investment shares above 10 percent of GDP or about double the level of the non-OECS group. Within the OECS group, St. Kitts, St. Lucia and St. Vincent have maintained high levels of public savings to partially fund their investment programs. The financing patterns also differ widely. The OECS group relied on both foreign and national savings while among the non-OECS group, Dominican Republic and Jamaica had significant external foreign financing but not nearly as much as the OECS group. Thus one notes that the OECS group had much higher investment shares. In Antigua, Dominica and Grenada these were financed primarily by external sources and in the other three by an almost equal proportion of domestic and external sources. Given the high unit costs of infrastructure and the high number of emergency investments, it is difficult to assess the profitability of investment in the OECS countries. The ICORs are somewhat unstable and not particularly informative. However, data do suggest that the high investment shares in the OECS were associated with strong growth performance which supports the view that investment in these countries was reasonably effective.

22. **Debt and Debt Service.** The debt to GNP ratio increased in all countries in the sample over the period 1980-92 (Table 5). St. Kitts, St. Lucia and St. Vincent in the OECS group had only modest increases of 10 percent or less. These three also enjoyed the lowest interest to debt payment ratio. At the other end of the spectrum is Jamaica whose debt/GDP ratio increased by 78 percent over the period. It is notable that all of the OECS countries but Antigua had interest/debt

ratios less than anyone of the non-OECS group.⁸ However it seems that the financing of this investment highlights crucial differences. While the OECS countries did increase net external borrowing the terms seem to have been particularly favorable. Thus the interest rate burden for the OECS group was less than their average growth rate. For the non-OECS group, on the other hand, the interest burden/debt ratio was higher than their average growth rate so that it became inevitable that their approach to economic growth was not sustainable even within a narrow economic definition. This difference is also confirmed by the larger portion of concessional debt as a share of total debt (see Figure 2) contracted by the OECS countries, again with the exception of Antigua.

23. **Social Variables.** Over a relatively short period of 12 years it is difficult to assess the progress or lack thereof in most countries. The 1992 Human Development Index (HDI) of the United Nations suggests that the OECS group and the four other countries compare favorably with other middle-income developing countries. Barbados and Trinidad rank respectively 20th and 35th in the "high human" development group. All others are in the "medium human" development cohort. Life expectancy and infant mortality rates have improved in all countries. Public expenditure on education as a percent of GNP was on average around 5 percent for the entire sample in the period 1980-88.

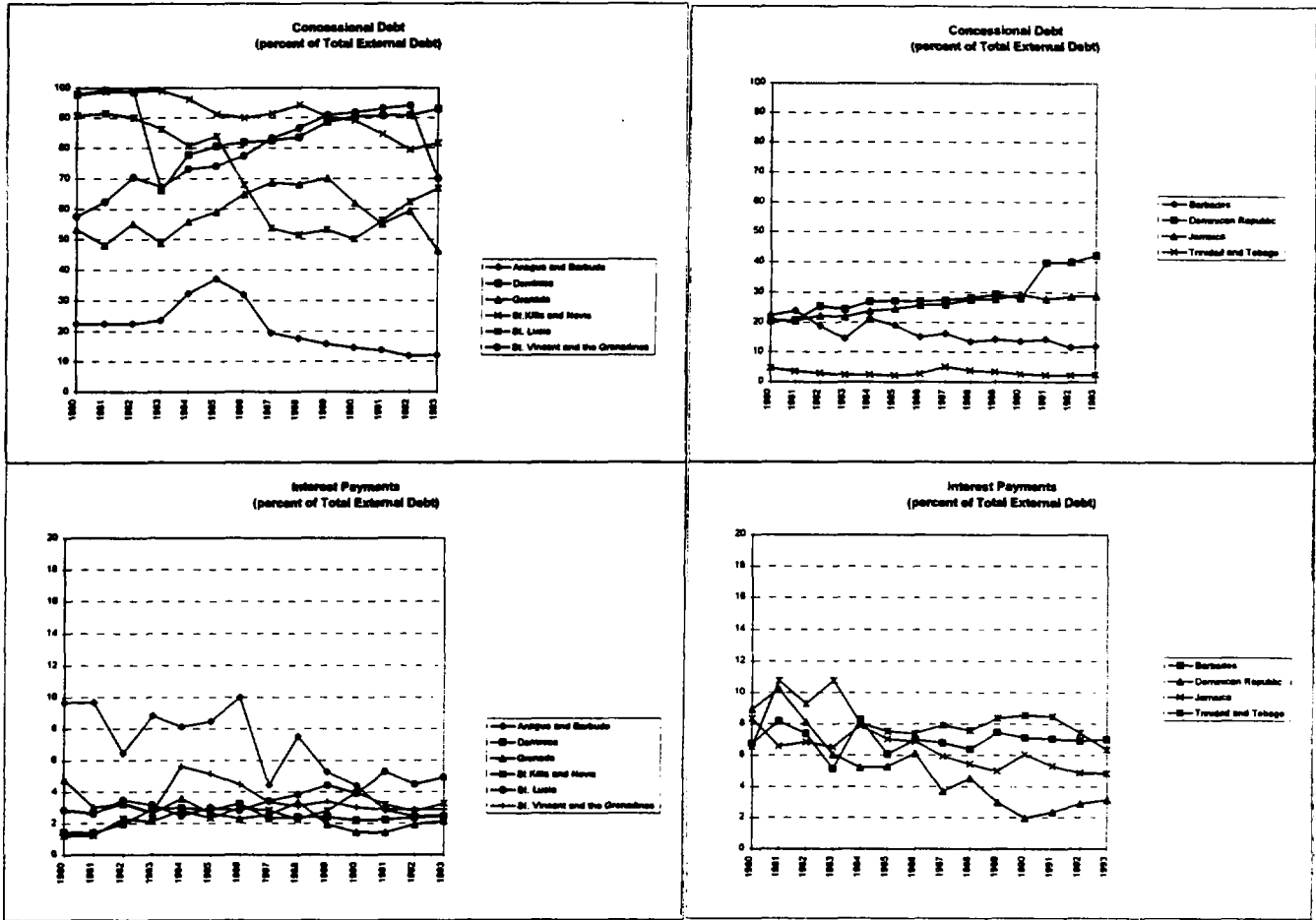
V. ANALYSIS

24. A number of regression estimates were made to try to clarify some of the relations discussed in the previous sections. Results of the estimated equations for the period 1980-92 with investment (gross domestic investment) as the dependent variable are reported in Table 6 and with real GDP growth as the dependent variable in Table 7.

25. Investments (GDI) were regressed on the flow of Official Development Assistance (ODA), change in inflation (INFL), public sector balance (PSBALA), terms of trade shocks (TOT), black market premium (BMP) and foreign direct investments (FDI) for the period 1980-92. A dummy

⁸ Presently, Antigua is not considered creditworthy for IBRD lending. The country has heavily relied on commercial loans with short-term maturities, and cumulated arrears over the period under analysis.

Figure 2: Concessional Debt and Interest Payments as a percent of Total External Debt 1980-1993



variable (OECS DUM) was introduced to separate the OECS countries from the other group. The results show that external financing through ODA and FDI, both significant, exerted a positive impact on GDI while inflation, albeit negative, and terms of trade shocks were not significant. In equations C and D the coefficients for black market premium and public sector balance were both significantly negative. A possible explanation of the latter result is that an increase in the public sector surplus or a reduction in the deficit depresses investments, at least in the short run. In equation D with the introduction of the OECS dummy variable, the coefficient of inflation becomes significant at the 10 percent level and positive. One interpretation of this result is that investment decisions are not affected by low levels of inflation as those experienced by the OECS countries during the period under analysis (see Figure 1). Other studies such as Cardoso and Fishlow (1990), Little and al. (1994), Bruno and Easterly (1994) show that only relatively high inflation inhibits growth. Equation D also indicates that presence in the OECS group, picked up by the dummy variable has an economically and statistically positive influence. Since the OECS group members have currency board arrangements, advocates of currency boards such as Hanke (1994) would certainly support the view that currency boards are good for reducing uncertainty, increasing confidence and so lead to improved investment performance. While the present evidence supports this view, it is not clear to what extent other variables also played a role.

26. The results for GDP growth are presented in Table 7. In the first four equations (E, F, G, H) growth was regressed on GDI, ODA, INFL, TOT, PSBALA and alternatively on government consumption (PUBCONS) and public savings (PUBSAV). Again, a dummy variable (OECS DUM) was introduced to separate the OECS from the non-OECS countries. In general the investment ratio (GDI) was always significant and it has also typically a coefficient of about 0.15 which is similar to results obtained by other researchers for other countries. The terms of trade shock (TOT) coefficient is negative but insignificant. This is probably because countervailing action is taken to offset its effect. Thus the effect of external shocks will often show up in increased debt ratios or reduced expenditures in public sector areas such as for health and education. However, estimates for the two periods 1980-86 and 1987-92, not shown in Table 7, suggest that the volatility of the terms of trade shocks, measured by the standard deviation of the terms of trade shocks over the period considered, did exert a significant and negative influence on growth. This is presumably because it introduces a degree of

TABLE 6: PARAMETER ESTIMATES FOR GROSS DOMESTIC INVESTMENT (GDI)

Dependent variable: Gross domestic investment as a share of GDP

1980-1992, 10 countries

Figures in parentheses are standard errors

Independent Variables:	Constant	ODA	INFL	PSBALA	TOT	BMP	FDI	OECS DUM	R ²
Equation no.									
A	19.639*** (1.315)	0.693*** (0.114)	-0.001 (0.055)		0.108 (0.168)		0.870*** (0.110)		0.45
B	23.005*** (1.303)	0.281* (0.146)	-0.087 (0.060)	-0.511*** (0.097)	0.119 (0.186)				0.33
C	24.333*** (1.426)	0.238* (0.145)	-0.063 (0.060)	-0.527*** (0.095)		-0.066** (0.033)			0.35
D	17.025*** (1.643)	-0.134 (0.137)	0.096* (0.057)	-0.482*** (0.082)		-0.001 (0.030)		11.742*** (1.756)	0.52

* Statistically significant at the 10% level

** Statistically significant at the 5% level

*** Statistically significant at the 1% level

Variables:

GDI= Gross domestic investment/GDP

ODA = Net Official Development Assistance/GDP

INFL = Rate of change in inflation

PSBALA= Overall public sector balance/GDP

TOT= Terms of trade shocks/GDP

BMP= Black market premium

FDI= Foreign direct investments/GDP

OECS DUM=dummy variable with the value of one in OECS countries and zero elsewhere.

Source: Appendix 2

TABLE 7: PARAMETER ESTIMATES FOR GDP GROWTH

Dependent variable: Real GDP growth rate

1980-1992, 10 countries

Figures in parentheses are standard errors

Independent Variables	Constant	GDI	ODA	INFL	PSBALA	PUBCONS	PUBSAV	TOT	OECSUM	R ²
Equation no.										
E	-0.308 (1.073)	0.161*** (0.039)	0.206*** (0.065)	-0.092*** (0.026)	0.131*** (0.047)			-0.007 (0.082)		0.29
F	-0.208 (1.058)	0.106** (0.045)	0.141** (0.070)	-0.061** (0.029)	0.109** (0.047)			-0.022 (0.081)	2.250** (1.012)	0.32
G	5.466*** (1.860)	0.125*** (0.035)	0.233*** (0.066)	-0.134*** (0.028)			-0.303*** (0.091)			0.31
H	-0.138 (1.043)	0.103*** (0.035)	0.165*** (0.060)	-0.094*** (0.026)			0.208*** (0.064)			0.31
<hr/>										
	Constant	GDI	ODA	XGNFS	TOUR		PUBSAV		OECSUM	R ²
I	-8.557*** (1.504)	0.076** (0.033)	0.154** (0.065)	0.154*** (0.025)	0.091*** (0.029)					0.40
J	-6.000*** (1.731)	0.030 (0.036)	0.050 (0.074)	0.112*** (0.029)	0.093*** (0.029)				2.633*** (0.953)	0.43
K	-8.163*** (1.496)	0.075** (0.033)	0.149** (0.064)	0.140*** (0.026)	0.088*** (0.029)		0.145** (0.070)			0.42
L	-5.442*** (1.716)	0.027 (0.036)	0.039 (0.073)	0.094*** (0.029)	0.090*** (0.028)		0.157** (0.068)		2.788*** (0.937)	0.46

* Statistically significant at the 10% level

** Statistically significant at the 5% level

*** Statistically significant at the 1% level

Variables:

GDI= Gross domestic investment/GDP

ODA = Net Official Development Assistance/GDP

INFL = Rate of change in inflation

PSBALA= Overall public sector balance/GDP

PUBCONS=Government consumption/GDP

PUBSAV=Public savings/GDP

TOT= Terms of trade shocks/GDP

XGNFS= Exports of goods and nonfactor services/GDP

TOUR= Annual rate of growth in tourist arrivals

OECSUM=dummy variable with the value of one in OECS countries and zero elsewhere.

Source: Appendix 2

uncertainty into investment decisions. Similar results were achieved adding a variable representing the real effective exchange rate volatility.

27. The ODA and inflation coefficients were both significant at the 1 percent level in equations E, G and H (at the 5 percent level in equation F) with the expected signs suggesting that high levels of official aid from multilateral and bilateral donors enhanced economic growth. Substituting ODA with the stock of concessional debt variable (concessional debt as a share of total external debt) did not change these results significantly. PSBALA, PUBCONS and PUBSAV were used as a proxy for fiscal policy. In all equations they were statistically significant. While improvements in public sector balances and public savings seemed to have had a positive impact on growth, government consumption had the opposite effect. This supports the common observation that sound economic fiscal management engendered successful economic performances. The positive and significant coefficient of the dummy variable in equation F suggests that other characteristics peculiar to OECS countries might explain their higher growth.

28. The results of the last four equations reported in Table 7 point out that the openness to international trade, measured by exports to GDP ratio, and tourism, measured by the rate of growth in tourist arrivals, also had a positive and highly significant relationship to real GDP growth. The explanatory power of tourism and public savings is enhanced by the introduction of the OECS dummy.

29. In summary the results show that investment-GDP share is positively correlated with whether the island is in the OECS group and to the availability of external financing. Growth is positively related to investment-GDP share, availability of concessional external financing, and sound fiscal management. On the contrary it is negatively related to inflation, terms of trade shocks variability and real effective exchange rate volatility.

VI. CONCLUSION

30. Countries in the Caribbean area have been relatively open. This has meant that they have been subject to a variety of external shocks especially due to terms of trade effects and changes in the external demand for their exports. The response to these shocks has varied significantly so that the economic performance has been quite different between countries. The OECS group in particular has achieved quite impressive growth rates while the non-OECS group considered in this paper has not been so fortunate. Both groups achieved some progress on a number of social measures but also increased their external indebtedness over the period. The question then is why did the OECS group do better. It seems that this group was able to achieve significantly higher growth rates based on higher investment rates. The OECS group also had monetary board arrangements which may have been supportive of greater confidence in the policy regime, in keeping inflation under control, and in maintaining fiscal discipline.⁹ One of the findings of this paper is that part of the success of this group was due to the corresponding interest burden/debt ratios. For the OECS group it was less than the average GDP growth rate which contrasts sharply with the non-OECS group where the opposite was true.¹⁰ Thus access to concessional lending, if it is channeled into productive investment, seems to be a key element in the strong economic performance of the OECS group.

31. There is of course an obverse side to this analysis. If the OECS countries are to continue their strong economic growth performance then they will need to maintain high investment shares and ensure that this is used productively. In order to do this they will need either continuing access to concessionary financing or increasing their share of domestic savings or attracting more direct investments. As concessionary flows become less available globally, these economies will need to persevere in their policies to ensure continuing donors' support and foreign investors' interest. However, given the high exposure to changes both in the economic and climatic external environment it would be desirable to continue supporting countries who are undertaking serious reforms to restructure their economy.

⁹ On the effectiveness of currency board in promoting growth in developing countries see Hanke and Schuler (1994).

¹⁰ An interesting evaluation of a country's debt sustainability can be found in Cohen (1985) and (1988).

APPENDIX 1: Country-by-Country Analysis

This appendix provides, in the first section, a brief overview of the external environment faced by the OECS countries. In the second section, shocks, performance response measures and selected economic variables for each country included in this study are described. Each description is accompanied by a table which provides annual data on external shocks, policy performance measures and selected economic variables.¹¹

A. OECS

The OECS countries started the decade of the 1980s suffering setbacks in all economic sectors. The second oil shock, and its inflationary consequences at world level, caused an increase in the price of their imports and affected the availability of intermediate inputs. Meanwhile, on the export side, sugar prices dropped after 1980 and banana prices recorded strong fluctuations in the period 1980-85. The recession in the industrial world after the second oil shock had a strong negative impact on tourism, the major resource of foreign exchange for most of these countries. The effects of changed external circumstances were aggravated by a few destructive natural disasters, including a volcanic eruption, hurricanes such as Hurricane David in 1979 and Hurricane Hugo in 1989, and several storms.

After 1983 the OECS countries recovered through the exploitation of new trade opportunities, especially in terms of developing business and financial services. The recovery in the world economy also provided a boost in tourism.

The international environment worsened again after 1986 and in particular at the end of the decade. The Gulf War in 1990, besides leading to a temporary increase in the oil price, provoked a further shock through a decrease in tourist arrivals with different effects within the OECS group. These shocks occurred after hurricane Hugo had damaged agricultural crops and infrastructure. The

¹¹ This analysis greatly benefited from the work of Worrel (1987), Harker (1992) and World Bank reports.

slowdown in the US and Europe in the first years of the 1990s represented another blow to these economies.

High real interest rates in international financial markets in the 1980s imposed severe foreign exchange losses on countries which had borrowed heavily abroad in their efforts to balance external receipts and payments during the 1970s. Given the high portion of concessional debt over total external debt, the OECS countries did not suffer as much as other countries in the Caribbean region and in Latin America.

It is commonly accepted that these islands were able to navigate through the unstable external environment of the 1980s by expanding tourism, which is at present the most important source of foreign exchange, and by exporting agricultural products, particularly bananas and sugar, under preferential market agreements to the European Union. However, the country by country analysis shows that other factors contributed to the positive overall performance of these small open economies.

One of the most important institutional arrangements of these islands is the Eastern Caribbean Central Bank (ECCB), which replaced the East Caribbean Currency Authority in 1983. The main objectives of the ECCB are the maintenance of the international value of the Eastern Caribbean dollar, fixed since 1976 at EC\$2.7 to US\$1, and the promotion of monetary stability. Any change in the exchange rate of the Eastern Caribbean dollar requires unanimous agreement of all member states. The ECCB has worked well in the past and has succeeded in keeping foreign exchange cover well above the required 60 percent of its liabilities (currency and other demand liabilities). Credit to member governments, and therefore credit expansion, has been circumscribed within tight limits.

1. Antigua and Barbuda

Shocks. Antigua experienced adverse shocks at the beginning of the 1980s and after 1986 (see Table 8). These were mainly determined by unfavorable terms of trade shocks. However, while the shocks in the second half of the decade are explained by adverse movements in export and import prices, the 1981 shock was due to a constraint in the capacity to export and to the difficulty in

Table 8 Antigua and Barbuda

EXTERNAL SHOCKS AND PERFORMANCE MEASURES
(percent of GDP)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
External Shocks													
Terms of Trade	5.2	3.0	-0.7	-1.3	-0.4	-0.8	0.3	5.3	0.8	0.9	3.7	3.6	1.1
Nonfactor Services Effect	-3.4	-0.2	0.9	0.7	0.8	1.1	-0.3	-2.4	-1.3	-1.4	-4.5	-2.9	-1.2
Export Volume	0.0	0.7	2.0	0.4	-0.7	0.1	0.0	-0.2	-0.3	-0.1	0.0	0.1	0.1
Interest Rate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	1.8	3.5	2.2	-0.2	-0.3	0.4	0.0	2.7	-0.8	-0.7	-0.8	0.7	-0.1
Additional Debt Service	0.0	0.6	2.2	2.5	0.6	1.3	0.4	2.5	2.4	2.1	1.3	0.2	-0.1
TOTAL (Total +Additional Debt Service)	1.8	4.0	4.4	2.3	0.2	1.8	0.4	5.2	1.6	1.4	0.5	0.9	-0.1
Performance Measures													
Additional Net External Financing	3.9	13.9	12.2	-19.1	12.5	-8.5	34.0	1.4	-4.8	-6.2	-12.5	-4.6	-5.8
Export Expansion	8.0	8.9	-9.1	-0.9	-1.7	-2.1	2.2	-0.5	-0.1	1.3	-1.0	0.0	4.7
Import Intensity	-10.1	-20.4	-4.7	23.7	-9.5	14.6	-34.0	5.9	6.0	4.9	11.1	4.0	-1.2
Economic Compression	0.0	1.6	6.0	-1.5	-1.0	-2.3	-1.8	-1.7	0.4	1.4	2.8	1.4	2.2
TOTAL	1.8	4.0	4.4	2.3	0.2	1.8	0.4	5.2	1.6	1.4	0.5	0.9	-0.1

	80-86		87-92		80-92	
	Average	Sdev	Average	Sdev	Average	Sdev
External Shocks						
Terms of Trade	0.8	2.4	2.6	1.9	1.6	2.3
Nonfactor Services Effect	-0.1	1.6	-2.3	1.3	-1.1	1.8
Export Volume	0.4	0.8	-0.1	0.1	0.2	0.6
Interest Rate	0.0	0.0	0.0	0.0	0.0	0.0
Total	1.1	1.5	0.2	1.4	0.7	1.4
Additional Debt Service	1.1	0.9	1.4	1.1	1.2	1.0
TOTAL (Total +Additional Debt Service)	2.1	1.6	1.6	1.9	1.9	1.7
Performance Measures						
Additional Net External Financing	7.0	17.2	-5.4	4.4	1.3	14.0
Export Expansion	0.8	6.3	0.7	2.1	0.7	4.6
Import Intensity	-5.8	19.7	5.1	4.0	-0.7	15.2
Economic Compression	0.2	2.9	1.1	1.6	0.6	2.3
TOTAL	2.1	1.6	1.6	1.9	1.9	1.7

Sources: Appendix 2

SELECTED ECONOMIC VARIABLES

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
GDP GROWTH RATE (%) ¹¹	6.7	5.0	0.4	6.9	7.5	8.8	9.7	9.0	7.7	6.3	3.4	4.3	1.7
INFLATION (%) ¹²	19.0	11.5	4.2	2.3	3.9	1.0	2.3	3.6	6.8	3.7	7.0	5.7	3.0
GROSS DOMESTIC INVESTMENT (% of GDP) ¹³	39.0	50.4	37.0	20.4	24.9	22.7	74.0	43.8	45.5	37.6	25.3	25.0	21.7
NATIONAL SAVINGS (% of GDP) ¹⁴	13.9	16.1	5.3	10.4	23.8	10.4	18.5	15.6	19.7	15.2	9.9	14.5	11.1
FOREIGN SAVINGS (% of GDP) ¹⁵	25.1	34.3	31.7	10.0	1.1	12.3	55.5	28.2	25.8	22.4	15.4	10.5	10.6
PUBLIC SECTOR BALANCE (% of GDP) ¹⁶	-4.3	-10.4	-11.6	-6.2	-4.2	-1.3	-46.5	-17.5	-11.0	-9.6	-6.0	-6.6	-3.2
REER (1980=100) ¹⁷	100.0	104.7	106.2	107.1	110.9	110.9	109.4	102.1	97.9	97.5	98.8	96.6	97.5
FOREIGN DIRECT INVESTMENT (% of GDP) ¹⁸	17.8	17.9	18.5	7.6	2.5	7.7	10.2	12.2	17.5	12.5	10.6	10.5	5.6
ODA FLOWS (% of GDP) ¹⁹	5.0	7.2	3.6	2.2	1.4	1.5	2.1	1.9	2.5	1.2	1.2	1.7	1.1
TOTAL EXT. DEBT (% of GNP) ¹¹⁰	29.6	26.5	24.3	23.1	22.5	31.4	44.0	70.1	60.3	63.9	64.8	64.4	73.3
INTEREST/ TOTAL EXT. DEBT (%) ¹¹¹	9.7	9.7	6.5	8.8	8.1	8.5	10.0	4.4	7.5	5.3	4.4	2.8	2.4
LIFE EXPECTANCY ¹¹²			72					73					74
INFANT MORTALITY RATE ¹¹³			29					22					20
PUBLIC EXPENDITURE ON EDUC (% of GNP)	3.1	3.2	3.3	3.3	2.5	2.2	2.8	2.4					

1 Factor cost

2 Annual rate of inflation based on CPI. IMF. IFSBA from BESD database

3 National authorities, IMF and IBRD

4 National Savings = Gross Domestic Saving + Net Factor Income + Current Transfers World Bank (1994) p. 175

5 Foreign Savings = Gross Domestic Investment - National Savings. World Bank (1994) p.175

6 Public Sector Overall Balance. World Bank (1994a)

7 Real Effective Exchange Rate Period Average IMF

8 World Bank (1994a)

9 Net disbursements of ODA from all sources = ODA Loans net + Grants. Grants include technical cooperation grants. (OECD)

10 Total External Debt (% of GNP) World Bank. World Debt Tables. DX

11 Total Interest Payments to Total External Debt (%) World Bank. World Debt Tables. DX

12 Life expectancy at birth (years)

13 Per 1000 live births

cutting imports. Indeed, the economy was recovering from the devastation created by Hurricane David in 1979, and therefore it was not able to take advantage of the favorable terms of trade movement.

Overall, the adverse shocks in the decade have been offset by gains in the nonfactor services. Nonfactor receipts accounted for almost 50 percent of GDP in 1980 and 96 percent in 1990, which is the highest share among Caribbean countries (World Bank 1994a, p. 11). The other main source of unfavorable shocks is the additional debt service. On average it has been above 1 percent of GDP throughout the period and it is explained by the reliance on external borrowing which accelerated in 1987.

Responses. The negative and volatile import intensity measures (6 percent of GDP with a standard deviation at 20 percent of GDP) in the period 1980-86 reflects the increased demand for imports per unit of output determined by the recovery after the hurricane. The construction activity, mainly hotels, continued despite the recession, and official borrowings financed major projects such as a new airline terminal. The ANEF measure suggests that the current account balance deficits in the first part of the decade were financed with external resources. Strong capital inflows, in particular FDI, permitted the country to maintain a high level of gross domestic investment.

After 1987, Antigua recorded lower growth rates than in the previous five years. The central government's financial position weakened as the growth in expenditure exceeded the growth in revenue. The government was forced to reduce its investment expenditures and experienced difficulty in meeting its scheduled debt obligations. The steady worsening of the overall balance of payments was financed through the accumulation of arrears.

Antigua, among OECS countries, has the highest outstanding external debt (total debt was 73 percent of GNP in 1992) and the worst composition. The stock of external arrears is about 50 percent of GDP and most of the debt, primarily short-term, is owed to commercial banks.

2. Dominica

Shocks. The high volatility of growth rates in Dominica in the first years of the 1980s reflects the natural shock caused by the hurricane in 1979 and its dependency on banana exports. The destruction of the crop and the damage to the infrastructure reduced the country's export capacity. The real output fluctuated from a negative 20 percent in 1979 to a 16 percent positive growth in the following year. Other major shocks, favorable and unfavorable, occurred in 1986 and 1987. The 1990 shock is again explained by another major hurricane which curtailed banana production. Real GDP growth fell from 8 percent in 1988 to negative 1 percent in 1989, rebounding to around 6 percent in 1990, and then stabilizing around 2 percent.

Responses. After the fluctuations in the real output growth already mentioned, Dominica was able to stabilize real GDP growth at around 5 percent in the period 1984-91. Gains in export shares were driven by recovery in the banana industry and are reflected in the high value of export expansion in the period 1981-83 and 1986-87. Given the high dependency on food imports, import intensity and GDP compression could not be actively used by the government. The positive value of the import intensity measure in the first years of the 1990s is explained by the lower public and private investment expenditure. Throughout the entire period under analysis the government secured large capital inflows which partially sustained gross domestic investments (annual rate of GDI/GDP was 30 percent in the period 1980-92).

Private and official capital flows more than compensated for the current account deficits. Remittances from Dominicans migrated to the United Kingdom, United States and Canada have steadily grown throughout the entire period under analysis. Moreover, after 1979, a sharp increase in remittances took place in response to a boom in the construction sector to repair damage caused by Hurricane Hugo in neighboring countries.

The external debt, mainly concessional, doubled from 23 percent of the GNP in 1980 to 50 percent in 1992. Given the high dependency on banana exports and a large public sector deficit (negative 14 percent of GDP in 1992), Dominica is particularly exposed to future shocks.

Table 9 Dominica

EXTERNAL SHOCKS AND PERFORMANCE MEASURES
 (percent of GDP)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
External Shocks													
Terms of Trade	11.5	10.1	5.6	-2.9	0.8	-1.5	-6.9	11.9	-0.9	0.9	5.1	-1.1	0.8
Nonfactor Services Effect	0.2	0.2	0.0	0.1	0.0	0.0	-0.2	0.5	0.1	0.0	0.0	0.1	-0.1
Export Volume	0.1	0.4	1.8	0.8	-1.8	0.3	-0.1	-0.8	-1.7	-0.9	0.1	0.2	0.2
Interest Rate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	11.8	10.7	7.4	-2.0	-0.9	-1.3	-7.3	11.6	-2.5	0.1	5.1	-0.8	1.0
Additional Debt Service	0.0	6.5	4.4	2.3	1.9	2.6	1.5	0.8	1.0	1.8	2.9	2.1	1.2
TOTAL (Total +Additional Debt Service)	11.8	17.1	11.8	0.3	1.0	1.3	-5.7	12.3	-1.5	1.9	8.1	1.3	2.1
Performance Measures													
Additional Net External Financing	44.5	-4.0	-6.6	-4.4	16.2	-4.1	-10.9	4.0	8.0	19.2	1.8	-3.5	-1.5
Export Expansion	-4.5	21.2	18.2	1.6	-2.5	-0.3	5.7	9.2	-2.6	-9.7	5.7	-1.7	0.8
Import Intensity	-21.0	10.8	1.3	1.5	-12.0	2.5	1.0	0.6	-5.5	-12.6	2.8	6.4	1.0
Economic Compression	-7.2	-10.9	-1.1	1.6	-0.7	3.1	-1.5	-1.5	-1.3	5.0	-2.0	0.1	2.1
TOTAL	11.8	17.1	11.8	0.3	1.0	1.3	-5.7	12.3	-1.5	1.9	8.1	1.3	2.1

	80-86		87-92		80-92	
	Average	Sdev	Average	Sdev	Average	Sdev
External Shocks						
Terms of Trade	2.4	6.9	2.8	5.0	2.6	5.8
Nonfactor Services Effect	0.0	0.2	0.1	0.2	0.1	0.2
Export Volume	0.2	1.1	-0.5	0.8	-0.1	1.0
Interest Rate	0.0	0.0	0.0	0.0	0.0	0.0
Total	2.6	7.3	2.4	5.1	2.5	6.1
Additional Debt Service	2.7	2.1	1.6	0.8	2.2	1.7
TOTAL (Total +Additional Debt Service)	5.4	8.2	4.0	5.1	4.8	6.7
Performance Measures						
Additional Net External Financing	4.4	19.7	4.7	8.2	4.5	14.9
Export Expansion	5.6	10.2	0.2	6.6	3.2	8.8
Import Intensity	-2.3	10.6	-1.3	6.8	-1.8	8.7
Economic Compression	-2.4	5.0	0.4	2.7	-1.1	4.2
TOTAL	5.4	8.2	4.0	5.1	4.8	6.7

Sources: Appendix 2

SELECTED ECONOMIC VARIABLES

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
GDP GROWTH RATE (%) ¹	16.4	6.4	2.4	2.1	5.4	1.7	6.8	6.8	8.0	-1.2	6.4	2.2	2.1
INFLATION (%) ²	25.2	13.3	4.4	4.1	2.2	3.7	2.8	4.0	2.9	6.8	3.2	5.5	5.3
GROSS DOMESTIC INVESTMENT (% of GDP) ³	50.1	31.9	28.4	27.3	38.5	28.5	21.1	23.2	29.7	42.1	38.8	32.9	27.7
NATIONAL SAVINGS (% of GDP) ⁴	-5.9	-3.5	10.8	14.0	16.9	7.6	14.1	17.5	20.8	12.1	14.3	11.7	14.1
FOREIGN SAVINGS (% of GDP) ⁵	56.0	35.4	17.6	13.3	21.6	20.9	7.0	5.7	8.9	30.0	24.5	21.2	13.6
PUBLIC SECTOR BALANCE (% of GDP) ⁶	-29.5	-21.7	-18.1	-15.5	-20.2	-11.8	-3.2	-4.8	-7.8	-20.1	-21.9	-8.1	-13.6
REER (1980=100) ⁷	100.0	108.2	111.5	118.6	128.4	132.0	122.4	111.4	104.8	109.1	101.6	104.6	108.1
FOREIGN DIRECT INVESTMENT (% of GDP) ⁸	0.0	0.0	0.3	0.3	2.7	3.0	2.4	7.7	4.7	5.4	4.3	6.0	6.2
ODA FLOWS (% of GDP) ⁹	30.3	22.8	23.8	12.9	18.5	17.0	10.5	12.5	12.1	15.0	11.4	9.3	6.7
TOTAL EXT. DEBT (% of GNP) ¹⁰	23.7	21.3	28.1	44.4	53.9	56.0	51.3	57.5	51.2	52.7	54.4	53.9	51.2
INTEREST/TOTAL EXT. DEBT (%) ¹¹	1.4	1.4	2.0	2.9	3.0	2.9	3.3	2.3	2.4	2.4	2.2	2.2	2.4
LIFE EXPECTANCY ¹²			71					72					72
INFANT MORTALITY RATE ¹³			20					22					20
PUBLIC EXPENDITURE ON EDUC. (% of GNP)					5.7	5.2	5.3	4.4	3.9				

1 Factor cost

2 Annual rate of inflation based on CPI. IMF. IFSBA from BESD database

3 National authorities, IMF and IBRD

4 National Savings = Gross Domestic Saving + Net Factor Income + Current Transfers World Bank (1994) p. 175

5 Foreign Savings = Gross Domestic Investment - National Savings World Bank (1994) p. 175

6 Public Sector Overall Balance World Bank (1994a)

7 Real Effective Exchange Rate Period Average IMF

8 World Bank (1994a)

9 Net disbursements of ODA from all sources = ODA Loans net + Grants. Grants include technical cooperation grants. (OECD)

10 Total External Debt (% of GNP) World Bank World Debt Tables, DX

11 Total Interest Payments to Total External Debt (%) World Bank World Debt Tables, DX

12 Life expectancy at birth (years)

13 Per 1000 live births

3. Grenada

Shocks. The terms of trade shocks at the beginning of the 1980s wiped out earlier terms of trade gains and caused a large balance of payments deficit in 1981. Terms of trade movements were the principal evidence of the effects of world economic fluctuations during the period under analysis. In 1986 the country was able to take advantage of the contemporary increase in banana prices and decline in oil prices. Unfortunately, this gain was more than wiped out in the following years. Furthermore, nutmeg and mace exports, the country's major export crops, dropped with the collapse of a marketing arrangement with Indonesia. Tourism became an important source of revenues in the 1990s with the increase of cruise ship visitors.

Stable growth averaging at around 5 percent was maintained during the period 1984-90, and then slowed again to about 1.5 percent as the adverse effects of the recession in the developed countries and the decline in agricultural sector were compounded by poor fiscal management.

Responses. The negative import intensity (-3 percent) trend in the first period was reversed in the following years (4 percent in 1987-92). Both import intensity and export expansion measures were extremely volatile (see Table 10).

Fiscal policy was expansionary over the period up to the beginning of the 1990s. In the first part of the 1980s the government initiated a program of massive public investment to sustain output which is reflected by the largest public investment share in terms of GDP among OECS countries (30 percent in 1980-86). The fiscal situation became critical after the 1987 and 1990 shocks. In 1991 the current account of the BOP recorded a deficit of about 23 percent of GDP, while the overall BOP deficit reached 9 percent of GDP which was financed by accumulation of external arrears. In 1991 and 1992 the government was unable to meet its debt obligations. The stock of external debt as a percent of GNP is well above 50 percent (21 percent in 1980, 65 percent in 1992) and above 100 percent as a percent of exports of goods and nonfactor services in 1992 (42 percent in 1980). The government is now reducing its arrears on both external debt and on obligations to regional and international organizations.

Table 10 Grenada

EXTERNAL SHOCKS AND PERFORMANCE MEASURES

(percent of GDP)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
External Shocks													
Terms of Trade	7.0	8.7	2.0	-2.7	0.3	-1.6	-5.8	10.3	1.1	1.8	4.0	-1.1	3.7
Nonfactor Services Effect	-2.4	-0.2	0.1	0.1	0.0	0.2	0.8	-1.5	-1.3	-0.3	-0.8	0.4	-0.4
Export Volume	0.1	0.6	1.5	0.5	-1.1	0.2	-0.1	-0.5	-1.1	-0.4	0.0	0.1	0.1
Interest Rate	0.0	0.0	0.0	-0.1	0.1	-0.2	-0.2	0.0	0.1	0.1	-0.1	-0.1	-0.1
Total	4.7	9.1	3.6	-2.1	-0.6	-1.4	-5.3	8.5	-1.2	1.1	3.1	-0.8	3.3
Additional Debt Service	0.0	1.0	0.8	0.7	0.7	0.5	0.7	1.1	0.8	0.8	0.6	0.6	0.3
TOTAL (Total +Additional Debt Service)	4.7	10.1	4.4	-1.4	0.1	-1.0	-4.5	9.6	-0.4	1.9	3.7	-0.2	3.6
Performance Measures													
Additional Net External Financing	6.3	0.3	2.0	-0.7	0.0	7.0	7.0	-4.2	-0.3	-0.7	2.7	-1.3	-5.0
Export Expansion	-12.1	8.6	6.1	-0.4	-1.9	3.0	0.3	7.5	-5.9	-3.3	0.2	0.0	0.4
Import Intensity	6.6	-1.5	-3.2	-2.3	3.6	-10.3	-11.4	6.5	5.5	5.3	0.1	-0.8	5.5
Economic Compression	3.7	2.7	-0.4	2.0	-1.6	-0.6	-0.4	-0.2	0.3	0.6	0.7	1.9	2.7
TOTAL	4.7	10.1	4.4	-1.4	0.1	-1.0	-4.5	9.6	-0.4	1.9	3.7	-0.2	3.6

	80-86		87-92		80-92	
	Average	Sdev	Average	Sdev	Average	Sdev
External Shocks						
Terms of Trade	1.1	5.2	3.3	3.9	2.1	4.6
Nonfactor Services Effect	-0.2	1.0	-0.7	0.7	-0.4	0.9
Export Volume	0.3	0.8	-0.3	0.5	0.0	0.7
Interest Rate	0.0	0.1	0.0	0.1	0.0	0.1
Total	1.1	4.9	2.3	3.5	1.7	4.2
Additional Debt Service	0.6	0.3	0.7	0.3	0.7	0.3
TOTAL (Total +Additional Debt Service)	1.8	4.9	3.1	3.7	2.4	4.3
Performance Measures						
Additional Net External Financing	3.1	3.5	-1.5	2.8	1.0	3.9
Export Expansion	0.5	6.7	-0.2	4.5	0.2	5.6
Import Intensity	-2.6	6.7	3.7	3.2	0.3	6.1
Economic Compression	0.8	2.0	1.0	1.1	0.9	1.6
TOTAL	1.8	4.9	3.1	3.7	2.4	4.3

Sources: Appendix 2

SELECTED ECONOMIC VARIABLES

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
GDP GROWTH RATE (%) ¹	-1.5	2.1	5.3	1.4	5.6	4.9	5.5	6.0	5.3	5.7	5.2	2.6	-0.9
INFLATION (%) ²	21.2	18.8	7.8	6.1	5.6	2.6	0.5	-0.9	4.0	5.6	2.7	2.6	3.8
GROSS DOMESTIC INVESTMENT (% of GDP) ³	26.1	42.0	44.8	42.2	32.0	33.5	39.0	35.0	34.3	36.5	36.8	38.2	33.3
NATIONAL SAVINGS (% of GDP) ⁴	8.3	10.6	6.5	10.7	12.1	11.5	14.4	17.6	19.9	17.1	20.2	20.1	20.3
FOREIGN SAVINGS (% of GDP) ⁵	17.8	31.4	38.3	31.5	19.9	22.0	24.6	17.4	14.4	19.4	16.6	18.1	13.0
PUBLIC SECTOR BALANCE (% of GDP) ⁶	-19.5	-36.7	-43.2	-35.4	-21.3	-25.5	-22.5	-13.6	-10.6	-12.6	-11.1	-8.3	-0.5
REER (1980=100) ⁷	100.0	115.6	122.7	129.3	137.9	138.0	128.5	115.6	112.3	117.3	107.9	106.3	105.7
FOREIGN DIRECT INVESTMENT (% of GDP) ⁸	0.0	0.0	2.1	2.7	2.7	3.5	3.5	9.8	9.0	5.6	6.4	7.2	10.7
ODA FLOWS (% of GDP) ⁹	4.3	7.6	7.6	8.0	26.9	30.0	18.5	12.7	12.1	7.9	6.8	7.6	5.6
TOTAL EXT. DEBT (% of GNP) ¹⁰	21.2	35.6	47.3	61.8	49.9	46.1	45.4	49.4	50.8	46.8	54.5	56.4	52.0
INTEREST/TOTAL EXT. DEBT (%) ¹¹	4.8	3.0	3.2	2.6	3.6	2.7	2.3	2.5	3.4	1.9	1.4	1.4	1.9
LIFE EXPECTANCY ¹²			67					69					71
INFANT MORTALITY RATE ¹³			39					34					29
PUBLIC EXPENDITURE ON EDUC. (% of GNP)	7.2				6.4	6.1	5.5	4.6	4.6				

1 Factor cost

2 Annual rate of inflation based on CPI. IMF. IFSBA from BESD database.

3 National authorities, IMF and IBRD

4 National Savings = Gross Domestic Saving + Net Factor Income + Current Transfers. World Bank (1994) p. 175

5 Foreign Savings = Gross Domestic Investment - National Savings. World Bank (1994) p. 175

6 Public Sector Overall Balance. World Bank (1994a)

7 Real Effective Exchange Rate, Period Average IMF

8 World Bank (1994a)

9 Net disbursements of ODA from all sources = ODA Loans net + Grants. Grants include technical cooperation grants (OECD)

10 Total External Debt (% of GNP). World Bank World Debt Tables, DX

11 Total Interest Payments to Total External Debt (%). World Bank World Debt Tables, DX

12 Life expectancy at birth (years)

13 Per 1000 live births

4. St. Kitts and Nevis

Shocks. The country's economic performances followed closely the trends in the production and prices for sugar, which continues to be the most important economic activity. The collapse and stagnation of sugar prices in the 1980s, the impact of the Gulf war and the effect of Hurricane Hugo on the 1990 sugar crop are reflected in the adverse terms of trade shocks in the period 1980-92. The impact of these shocks was mitigated by the fact that St. Kitts exported nearly all of its sugar output to the United Kingdom and the United States under quota arrangements and at prices higher than those in the free market. Favorable NFS and export volume shocks also partially offset the adverse terms of trade shocks. After a negative real GDP growth rate in 1983, the country grew on average at 6 percent in the period 1985-92.

Responses. The diversification of the economy played a crucial role in helping St. Kitts to navigate through the 1980s and the beginning of the 1990s. In the 1980s St. Kitts recorded the highest growth rate (7.3 percent) in the tourism and services sector among all the countries considered in this study (see Table 2) while the agriculture sector declined by 2.8 percent. Only Trinidad and Tobago had a larger decrease in this sector. The import intensity measure turned positive at the beginning of the 1990s as a consequence of the slowdown in the construction activity and of a lower demand for electronic equipment from the United States caused by the recession in that country. On average economic compression doesn't seem to have been an important response to external shocks. In 1991 the ANEF measure turned negative for the first time in the period under analysis. This is explained partially by the combined effect of favorable and unfavorable external shocks in 1991-92 and reflected by the improvement in the trade account and travel receipts.

A high share of GDI/GDP at an annual rate of 40 percent over the period has been financed by an almost equal combination of foreign and domestic savings, both private and public. The overall public sector balance deficit declined after 1987 and turned into a surplus in 1992. The share of total external debt, mainly concessional, at the end of the period was around 20 percent of GNP. St. Kitts is the first OECS country to graduate from IDA funding.

Table 11 St. Kitts and Nevis

EXTERNAL SHOCKS AND PERFORMANCE MEASURES
 (percent of GDP)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
External Shocks													
Terms of Trade	-0.7	3.3	3.5	-1.1	0.6	0.0	-0.3	7.4	5.1	1.3	3.9	-0.8	1.4
Nonfactor Services Effect	-0.7	0.0	0.0	0.1	0.2	0.3	-0.1	-1.0	-1.4	-0.3	-0.7	0.4	-0.5
Export Volume	0.1	1.2	2.7	0.8	-1.5	0.3	-0.1	-0.6	-1.2	-0.4	0.1	0.1	0.1
Interest Rate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	-1.2	4.4	6.2	-0.3	-0.6	0.6	-0.5	5.9	2.5	0.5	3.2	-0.3	1.0
Additional Debt Service	0.0	1.7	1.9	1.7	2.8	1.5	1.1	1.5	2.1	3.0	3.2	2.3	1.2
TOTAL (Total +Additional Debt Service)	-1.2	6.1	8.2	1.5	2.2	2.1	0.6	7.4	4.6	3.5	6.5	1.9	2.2
Performance Measures													
Additional Net External Financing	12.0	4.9	3.3	11.7	-5.8	2.7	7.1	10.1	10.1	11.2	0.1	-3.6	-2.6
Export Expansion	-2.1	1.2	-1.1	0.8	2.3	-0.3	3.3	4.7	-3.5	-1.4	-1.7	0.5	1.1
Import Intensity	-11.1	0.0	7.4	-15.6	9.7	0.2	-9.0	-6.5	0.8	-6.8	5.3	5.3	2.7
Economic Compression	0.0	0.0	-1.4	4.6	-4.0	-0.6	-0.7	-0.9	-2.8	0.5	2.8	-0.2	1.0
TOTAL	-1.2	6.1	8.2	1.5	2.2	2.1	0.6	7.4	4.6	3.5	6.5	1.9	2.2

	80-86		87-92		80-92	
	Average	Sdev	Average	Sdev	Average	Sdev
External Shocks						
Terms of Trade	0.8	1.9	3.0	3.0	1.8	2.6
Nonfactor Services Effect	0.0	0.3	-0.6	0.6	-0.3	0.5
Export Volume	0.5	1.3	-0.3	0.5	0.1	1.0
Interest Rate	0.0	0.0	0.0	0.0	0.0	0.0
Total	1.2	2.9	2.1	2.2	1.6	2.5
Additional Debt Service	1.5	0.9	2.2	0.8	1.9	0.9
TOTAL (Total +Additional Debt Service)	2.8	3.2	4.4	2.2	3.5	2.8
Performance Measures						
Additional Net External Financing	5.1	6.1	4.2	7.0	4.7	6.2
Export Expansion	0.6	1.9	-0.1	2.8	0.3	2.3
Import Intensity	-2.6	9.6	0.1	5.5	-1.4	7.8
Economic Compression	-0.3	2.6	0.1	1.9	-0.1	2.2
TOTAL	2.8	3.2	4.4	2.2	3.5	2.8

Sources: Appendix 2

SELECTED ECONOMIC VARIABLES

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
GDP GROWTH RATE (%) ¹¹	3.9	5.1	6.3	-1.1	9.0	5.6	6.3	6.8	9.8	6.7	3.0	6.8	5.0
INFLATION (%) ¹²	17.7	10.5	5.9	2.3	2.7	2.6	0.0	0.9	0.2	5.1	4.2	4.2	2.9
GROSS DOMESTIC INVESTMENT (% of GDP) ¹³	38.2	30.2	34.0	37.2	30.2	30.3	27.3	33.6	56.6	58.8	55.3	41.5	36.8
NATIONAL SAVINGS (% of GDP) ¹⁴	23.1	21.0	22.6	7.7	24.9	25.1	24.4	23.9	35.4	26.5	25.7	24.5	25.1
FOREIGN SAVINGS (% of GDP) ¹⁵	15.1	9.2	11.4	29.5	5.3	5.2	2.9	9.7	21.2	32.3	29.6	17.0	11.7
PUBLIC SECTOR BALANCE (% of GDP) ¹⁶	-23.7	-11.4	-9.6	-9.4	-3.0	-11.5	-2.9	-2.7	-11.5	-5.3	-0.9	-1.0	3.7
REER (1980=100) ¹⁷	100.0	103.3	106.1	107.3	109.3	108.9	105.1	98.6	92.3	94.4	89.9	89.5	89.3
FOREIGN DIRECT INVESTMENT (% of GDP) ¹⁸	2.1	1.6	2.2	22.6	3.1	2.3	8.0	8.3	10.5	28.8	30.6	12.6	12.4
ODA FLOWS (% of GDP) ¹⁹	12.9	6.7	5.3	4.7	5.1	5.8	5.8	6.9	11.0	9.2	4.9	4.3	4.3
TOTAL EXT. DEBT (% of GNP) ¹¹⁰	17.8	14.8	14.3	15.6	15.1	16.7	18.3	19.8	21.7	24.0	24.2	25.7	25.6
INTEREST/ TOTAL EXT. DEBT (%) ¹¹¹	1.2	1.2	2.3	2.1	2.8	2.3	3.0	2.8	2.3	2.8	4.0	3.2	2.8
LIFE EXPECTANCY ¹¹²			64					66					68
INFANT MORTALITY RATE ¹¹³			45					40					34
PUBLIC EXPENDITURE ON EDUC. (% of GNP)	5.1	4.6	6.1	6.5	4.1	4	4	3.8	3.5				

1 Factor cost

2 Annual rate of inflation based on CPI. IMF, IFSBA from BESD database.

3 National authorities, IMF and IBRD

4 National Savings = Gross Domestic Saving + Net Factor Income + Current Transfers. World Bank (1994) p. 175

5 Foreign Savings = Gross Domestic Investment - National Savings. World Bank (1994) p. 175

6 Public Sector Overall Balance. World Bank (1994a)

7 Real Effective Exchange Rate. Period Average. IMF

8 World Bank (1994a)

9 Net disbursements of ODA from all sources = ODA Loans net + Grants. Grants include technical cooperation grants. (OECD)

10 Total External Debt (% of GNP). World Bank, World Debt Tables, DX.

11 Total Interest Payments to Total External Debt (%). World Bank, World Debt Tables, DX

12 Life expectancy at birth (years)

13 Per 1000 live births

5. St. Lucia

Shocks. St. Lucia as well as St. Kitts and Nevis was able to navigate through the turbulent decade of the 1980s maintaining high level of growth and sound fiscal policies. The development of tourism along with banana exports provided a measure of diversification in production which helped to sustain output. St. Lucia is the major OECS banana exporter.

St. Lucia started the decade of the 1980s facing a disastrous scenario. Terms of trade shocks, driven by fluctuations in export and oil prices, disruptions in the banana production following tropical storms, and a worldwide recession had a strong impact on this island. Growth slowed down (negative 0.8 percent in 1980) and inflation rose to double digit levels (20 percent in 1980). Then improvements in the terms of trade and in the world economy helped the country to restore high levels of growth and to slow inflation. The vulnerability of this country was again clear at the beginning of the 1990s when terms of trade deteriorated and world economy growth turned sluggish. This time, however, inflation was kept under control. Overall, the impact of the fluctuations in banana prices was cushioned by preferential access to the UK/EU market.

Responses. The evidence for St. Lucia suggests that policy responses were adequate throughout the entire period. Gains in export share (annual average of 2.5 percent) compensated the increase in imports (annual average of 1.1 percent) and the GDP expansion (negative economic compression of 0.4 percent). This also explains the lowest overall ANEF among OECS countries. It seems that a mix of expenditure switching policies, together with expenditure expansion, instead of reduction, have been successfully used in this country. The high volatility of these policy responses reflects the difficulty in steering the course of a small open economy. St. Lucia remains vulnerable to external shocks because of its narrow resource base and the effects of natural calamities on agricultural production.

Banana export earnings and tourism receipts contributed substantially to government revenues and to the financing of domestic activities. In addition, St. Lucia relied on constant flows of

Table 12 St. Lucia

EXTERNAL SHOCKS AND PERFORMANCE MEASURES
 (percent of GDP)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
External Shocks													
Terms of Trade	5.6	2.3	1.9	-0.7	0.4	0.0	-0.5	7.1	0.7	-0.3	3.6	-2.1	5.1
Nonfactor Services Effect	-1.9	-0.1	0.4	0.3	0.2	0.3	-0.1	-1.0	-1.5	-0.4	-0.9	0.5	-0.5
Export Volume	0.1	0.6	1.6	0.5	-1.2	0.2	-0.1	-0.7	-1.3	-0.7	0.1	0.2	0.2
Interest Rate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	3.7	2.8	3.9	0.1	-0.6	0.5	-0.7	5.4	-2.1	-1.4	2.8	-1.3	4.7
Additional Debt Service	0.0	1.9	1.9	0.9	0.1	0.5	0.3	0.2	0.6	0.6	1.5	0.6	0.6
TOTAL (Total + Additional Debt Service)	3.7	4.7	5.8	1.0	-0.5	0.9	-0.3	5.6	-1.5	-0.9	4.3	-0.7	5.4
Performance Measures													
Additional Net External Financing	12.8	3.5	-3.9	-7.7	4.7	0.5	-1.6	6.1	-0.8	12.6	-7.6	8.1	-12.5
Export Expansion	-4.0	2.8	5.0	2.7	0.3	3.2	10.4	1.0	3.0	-5.5	2.6	-6.0	17.2
Import Intensity	-5.1	-1.8	6.1	7.6	-4.1	-0.9	-5.3	-4.0	-0.2	-9.5	7.1	-6.1	1.8
Economic Compression	0.0	0.2	-1.3	-1.5	-1.5	-1.9	-3.8	2.4	-3.5	1.6	2.2	3.3	-1.1
TOTAL	3.7	4.7	5.8	1.0	-0.5	0.9	-0.3	5.6	-1.5	-0.9	4.3	-0.7	5.4

	80-86		87-92		80-92	
	Average	Stdev	Average	Stdev	Average	Stdev
External Shocks						
Terms of Trade	1.3	2.2	2.4	3.5	1.8	2.8
Nonfactor Services Effect	-0.1	0.8	-0.6	0.7	-0.4	0.8
Export Volume	0.3	0.8	-0.4	0.6	0.0	0.8
Interest Rate	0.0	0.0	0.0	0.0	0.0	0.0
Total	1.4	2.0	1.3	3.4	1.4	2.6
Additional Debt Service	0.8	0.8	0.7	0.4	0.7	0.6
TOTAL (Total + Additional Debt Service)	2.2	2.5	2.0	3.4	2.1	2.8
Performance Measures						
Additional Net External Financing	1.2	6.7	1.0	9.7	1.1	7.8
Export Expansion	2.9	4.4	2.0	8.4	2.5	6.3
Import Intensity	-0.5	5.3	-1.8	6.0	-1.1	5.4
Economic Compression	-1.4	1.3	0.8	2.6	-0.4	2.2
TOTAL	2.2	2.5	2.0	3.4	2.1	2.8

Sources: Appendix 2

SELECTED ECONOMIC VARIABLES

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
GDP GROWTH RATE (%) ¹¹	-0.8	1.2	3.0	4.0	5.0	6.0	14.9	1.7	12.7	8.5	3.9	1.6	6.6
INFLATION (%) ¹²	19.5	15.1	4.6	1.5	1.2	1.4	2.0	7.6	0.8	4.1	4.7	5.7	5.1
GROSS DOMESTIC INVESTMENT (% of GDP) ¹³	34.3	34.2	29.1	18.7	19.7	21.0	21.2	20.7	25.0	29.1	25.8	25.5	24.0
NATIONAL SAVINGS (% of GDP) ¹⁴	9.5	8.3	7.0	11.8	7.6	12.5	19.2	15.6	19.4	12.1	11.7	7.3	9.1
FOREIGN SAVINGS (% of GDP) ¹⁵	24.8	25.9	22.1	6.9	12.1	8.5	2.0	5.1	5.6	17.0	14.1	18.2	14.9
PUBLIC SECTOR BALANCE (% of GDP) ¹⁶	-7.1	-5.5	-7.8	-5.4	-4.7	-2.8	-3.2	-0.7	-0.1	-2.5	-2.7	-2.7	-2.5
REER (1980=100) ¹⁷	100.0	109.7	112.5	114.2	118.7	117.0	110.0	107.9	101.0	102.9	97.9	99.8	102.2
FOREIGN DIRECT INVESTMENT (% of GDP) ¹⁸	23.2	25.1	16.1	5.6	6.1	7.8	6.3	5.6	9.0	8.8	11.4	13.5	15.7
ODA FLOWS (% of GDP) ¹⁹	6.4	7.6	5.0	3.9	2.9	3.2	4.5	3.8	5.4	4.9	3.0	5.3	6.0
TOTAL EXT. DEBT (% of GNP) ¹¹⁰	14.0	12.3	13.0	13.5	13.4	10.8	12.4	16.5	18.1	18.0	21.3	20.4	21.8
INTEREST/TOTAL EXT. DEBT (%) ¹¹¹	2.9	2.6	3.5	3.2	2.5	3.0	2.8	3.4	3.8	4.4	3.9	5.3	4.5
LIFE EXPECTANCY ¹¹²			69					70					70
INFANT MORTALITY RATE ¹¹³			25					21					19
PUBLIC EXPENDITURE ON EDUC. (% of GNP)	6.2	7	7.8		7.2	7.5	7.2	7.8	8.6				

1 Factor cost

2 Annual rate of inflation based on CPI IMF, IFSBA from BESD database.

3 National authorities, IMF and IBRD

4 National Savings = Gross Domestic Saving + Net Factor Income + Current Transfers World Bank (1994) p. 175

5 Foreign Savings = Gross Domestic Investment - National Savings World Bank (1994) p.175

6 Public Sector Overall Balance, World Bank (1994a)

7 Real Effective Exchange Rate, Period Average, IMF

8 World Bank (1994a)

9 Net disbursements of ODA from all sources = ODA Loans net + Grants, Grants include technical cooperation grants. (OECD)

10 Total External Debt (% of GNP), World Bank, World Debt Tables, DX.

11 Total Interest Payments to Total External Debt (%), World Bank, World Debt Tables, DX.

12 Life expectancy at birth (years)

13 Per 1000 live births

Official Development Assistance and foreign direct investments in tourism and manufacturing. Despite a widening in the current account balance, the overall balance of payments improved in the first years of this decade.

The total external debt, mainly concessional, as a percentage of GNP increased from 14 percent in 1980 to 22 percent in 1992. The increase in the interest over debt ratio from 2.9 percent in 1980 to 5 percent in 1991-92 is explained by the increase in borrowing at commercial terms which took place in recent years.

6. St. Vincent and the Grenadines

Shocks. Bananas and tourism are the main industries of these islands. St. Vincent, like St. Lucia, suffered terms of trade shocks of a certain magnitude (around 5 percent of GDP) in the beginning of the 1980s. A major volcanic eruption in 1979 followed by hurricanes destroyed part of the local banana industry. Therefore, St. Vincent could not take advantage of the increase in banana prices. Real GDP increased at an average annual rate of 5.8 percent in the period 1980-92.

In 1992 the banana industry contributed about 48 percent of merchandise export earnings and employed two-thirds of all agricultural workers, still the single most important economic activity in St. Vincent and the Grenadines. Therefore, these islands are highly vulnerable to external shocks caused by weather conditions and by the removal of preferential agreements.

Responses. Export expansion gains in the 1980s, together with increased revenues from tourism, seem to have offset the negative impacts of external shocks, and financed the increase in imports up to 1988 (import intensity was positive in the period 1989-92). The fall in imports after 1988 is explained by the completion of several major public investment projects, the closure of certain industries, and decline in imports of inputs for the banana industry. High volume of ANEF, additional financing, was required to temper the impact of the largest shocks in 1980 and 1989. Since most of the external financing was represented by grants or concessional borrowing, the debt service has remained manageable. In the period 1980-92 the average level of GDI was around 30 percent of GDP, equally

Table 13 St. Vincent-Grenadines

EXTERNAL SHOCKS AND PERFORMANCE MEASURES
 (percent of GDP)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
External Shocks													
Terms of Trade	5.7	2.8	5.8	-0.4	1.9	1.5	-1.0	8.8	-1.6	-1.4	3.6	-2.1	4.6
Nonfactor Services Effect	-1.5	-0.1	0.0	0.1	0.0	0.0	0.0	-0.1	-0.3	-0.1	-0.4	0.1	-0.1
Export Volume	0.1	0.6	2.0	0.9	-2.4	0.5	-0.3	-1.2	-1.8	-1.2	0.1	0.3	0.2
Interest Rate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	4.3	3.4	7.7	0.6	-0.4	2.0	-1.3	7.5	-3.7	-2.7	3.3	-1.7	4.9
Additional Debt Service	0.0	1.7	0.0	-0.2	-0.7	-1.1	-1.4	-1.1	-0.2	-1.0	-0.4	-0.5	-0.1
TOTAL (Total +Additional Debt Service)	4.3	5.1	7.7	0.4	-1.1	0.9	-2.6	6.4	-3.9	-3.6	3.0	-2.1	4.8
Performance Measures													
Additional Net External Financing	12.7	-10.0	-2.1	-4.7	-8.8	-9.2	2.7	12.7	-8.9	6.3	-3.3	4.0	-7.9
Export Expansion	-6.9	13.0	19.3	10.1	11.2	10.2	-3.0	-6.0	9.2	-12.4	2.3	-10.1	7.1
Import Intensity	-1.8	4.9	-8.0	-3.3	-3.4	-0.5	-0.9	0.0	-2.5	3.6	4.2	1.3	4.7
Economic Compression	0.4	-2.8	-1.5	-1.6	-0.1	0.4	-1.5	-0.3	-1.6	-0.1	-0.3	2.8	1.0
TOTAL	4.3	5.1	7.7	0.4	-1.1	0.9	-2.6	6.4	-3.9	-3.6	3.0	-2.1	4.8

	80-86		87-92		80-92	
	Average	Stdev	Average	Stdev	Average	Stdev
External Shocks						
Terms of Trade	2.3	2.6	2.0	4.4	2.2	3.4
Nonfactor Services Effect	-0.2	0.6	-0.1	0.2	-0.2	0.4
Export Volume	0.2	1.4	-0.6	0.9	-0.1	1.2
Interest Rate	0.0	0.0	0.0	0.0	0.0	0.0
Total	2.3	3.1	1.3	4.6	1.9	3.7
Additional Debt Service	-0.2	1.0	-0.5	0.4	-0.4	0.8
TOTAL (Total +Additional Debt Service)	2.1	3.7	0.8	4.5	1.5	4.0
Performance Measures						
Additional Net External Financing	-2.8	8.2	0.3	8.5	-1.3	8.1
Export Expansion	7.7	9.3	-1.6	9.1	3.4	10.0
Import Intensity	-1.9	3.9	1.9	2.8	-0.1	3.8
Economic Compression	-1.0	1.2	0.2	1.5	-0.4	1.4
TOTAL	2.1	3.7	0.8	4.5	1.5	4.0

Sources: Appendix 2

SELECTED ECONOMIC VARIABLES

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
GDP GROWTH RATE (%) ¹¹	3.4	7.2	5.2	5.8	5.6	4.5	7.2	6.3	8.6	7.2	7.1	3.0	4.9
INFLATION (%) ¹²	17.2	12.7	7.2	5.5	2.7	2.1	1.0	3.3	0.2	2.8	7.6	5.6	3.4
GROSS DOMESTIC INVESTMENT (% of GDP) ¹³	39.3	32.7	28.5	24.7	27.9	28.3	29.6	32.6	31.0	29.4	31.5	31.3	31.2
NATIONAL SAVINGS (% of GDP) ¹⁴	16.7	24.9	15.8	11.3	20.4	22.5	20.9	9.7	15.5	11.2	16.8	10.9	19.1
FOREIGN SAVINGS (% of GDP) ¹⁵	22.6	7.8	12.7	13.4	7.5	5.8	6.7	22.9	15.5	18.2	12.7	20.4	12.1
PUBLIC SECTOR BALANCE (% of GDP) ¹⁶	-25.6	-13.2	-11.1	-10.9	-0.6	-0.9	-4.9	-4.4	-6.6	-2.5	-4.1	-6.5	-5.7
REER (1980=100) ¹⁷	100.0	105.7	109.5	113.5	115.3	114.2	112.3	107.1	100.6	100.8	98.2	96.3	99.5
FOREIGN DIRECT INVESTMENT (% of GDP) ¹⁸	1.9	0.7	0.7	2.2	1.4	1.6	5.8	3.5	5.7	6.1	3.9	4.8	4.1
ODA FLOWS (% of GDP) ¹⁹	16.4	12.7	9.0	5.6	3.9	4.9	9.7	9.4	10.3	6.6	7.5	6.9	6.6
TOTAL EXT. DEBT (% of GNP) ¹⁰	18.7	26.7	26.1	27.8	25.0	24.7	25.3	30.4	32.1	32.4	31.6	32.0	28.8
INTEREST/ TOTAL EXT. DEBT (%) ¹¹	2.8	2.6	3.3	2.7	5.6	5.2	4.5	3.4	3.1	3.4	3.0	2.9	2.9
LIFE EXPECTANCY ¹²			68					69					71
INFANT MORTALITY RATE ¹³			31					25					20
PUBLIC EXPENDITURE ON EDUC. (% of GNP)	6				5.9	5.7	5.8	6	6.1				

1 World Bank (1994a)

2 Annual rate of inflation based on CPI. IMF. IFSBA from BESD database.

3 National authorities, IMF and IBRD

4 National Savings = Gross Domestic Saving + Net Factor Income + Current Transfers. World Bank (1994) p. 175

5 Foreign Savings = Gross Domestic Investment - National Savings. World Bank (1994) p. 175

6 Public Sector Overall Balance before grants. World Bank (1994a)

7 Real Effective Exchange Rate. Period Average. IMF

8 World Bank (1994a)

9 Net disbursements of ODA from all sources = ODA Loans net + Grants. Grants include technical cooperation grants. (OECD)

10 Total External Debt (% of GNP). World Bank, World Debt Tables, DX.

11 Total Interest Payments to Total External Debt (%). World Bank, World Debt Tables, DX.

12 Life expectancy at birth (years)

13 Per 1000 live births

financed by national and foreign savings, particularly remittances. The majority of investments were channeled towards transport, communications, and construction sectors. Public finances have been managed prudently and most of the loss-making public enterprises have been privatized.

Most of St. Vincent external debt, 29 percent of GNP in 1992, is on concessional terms (see Figure 2). The interest to debt ratio was at the relatively low level of around 3 percent at the beginning and the end of the period under analysis.

B. Barbados, Jamaica, Dominican Republic, Trinidad and Tobago.

1. Barbados

Barbados is in terms of size, geographical location and population very similar to the OECS islands. Barbados, together with Antigua, has the highest GNP per capita (6240 US dollar in 1993) among all the countries here considered.

Shocks. The adverse terms of trade shocks which characterized the beginning of the 1980s were partially compensated by favorable nonfactor service effects in 1980 and 1981. This partially reflects the fact that Barbados at the end of the 1970s was already a diversified economy based on tourism, sugar exports and a growing manufacturing sector, mainly clothing and food processing. However, the world recession, the fall in sugar prices, the increased competition in tourism from other islands with lower prices affected real output in the first part of the decade. Only in 1986 output growth went back to the 1980 level, after being negative in 1982 and 1983 (see Table 14). This vulnerability to external events played a crucial role in shaping Barbados' economic fortune after 1989. Again real GDP growth turned negative in 1990 and inflation accelerated in 1991. However, the latter was already under control in 1993.

Responses. In the first period under analysis, the export expansion and import intensity measures were opposite in sign, contributing to restore balance of payments equilibrium in

Table 14 Barbados

EXTERNAL SHOCKS AND PERFORMANCE MEASURES
 (percent of GDP)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
External Shocks													
Terms of Trade	3.4	1.6	2.1	-0.5	0.6	-0.1	-0.1	3.5	-0.8	0.0	2.1	3.0	0.1
Nonfactor Services Effect	-4.2	-0.2	1.1	0.6	0.3	0.5	-0.1	-1.3	-0.7	-0.8	-2.3	-1.6	-0.3
Export Volume	0.1	0.5	1.1	0.5	-1.5	0.3	-0.1	-0.4	-0.6	-0.3	0.0	0.1	0.1
Interest Rate	0.0	0.0	-0.2	-0.2	0.1	-0.2	-0.1	0.0	0.0	0.1	-0.1	-0.2	-0.2
Total	-0.7	1.8	4.1	0.4	-0.5	0.5	-0.5	1.9	-2.0	-1.0	-0.2	1.3	-0.3
Additional Debt Service	0.0	0.4	1.1	0.0	-0.4	0.3	0.3	0.3	0.1	0.4	0.5	0.2	0.3
TOTAL (Total + Additional Debt Service)	-0.7	2.2	5.2	0.4	-0.9	0.8	-0.3	2.2	-2.0	-0.7	0.3	1.5	-0.1
Performance Measures													
Additional Net External Financing	2.6	6.2	-8.1	-4.0	7.1	0.8	0.5	-3.0	3.4	2.5	-2.7	3.5	-15.6
Export Expansion	-2.3	0.4	9.2	9.9	-2.7	-4.4	-1.5	-2.8	-2.0	-1.0	-0.3	-5.4	3.7
Import Intensity	-0.7	-8.3	-1.1	-6.4	-4.1	4.9	3.3	8.6	-3.1	-2.0	0.8	0.2	10.4
Economic Compression	-0.4	3.8	5.2	0.9	-1.3	-0.4	-2.5	-0.6	-0.3	-0.1	2.5	3.2	1.4
TOTAL	-0.7	2.2	5.2	0.4	-0.9	0.8	-0.3	2.2	-2.0	-0.7	0.3	1.5	-0.1

	80-86		87-92		80-92	
	Average	Stdev	Average	Stdev	Average	Stdev
External Shocks						
Terms of Trade	1.0	1.4	1.3	1.8	1.1	1.5
Nonfactor Services Effect	-0.3	1.8	-1.2	0.7	-0.7	1.4
Export Volume	0.1	0.8	-0.2	0.3	0.0	0.6
Interest Rate	-0.1	0.1	0.0	0.1	-0.1	0.1
Total	0.7	1.7	-0.1	1.5	0.4	1.6
Additional Debt Service	0.2	0.5	0.3	0.1	0.3	0.3
TOTAL (Total + Additional Debt Service)	1.0	2.1	0.2	1.5	0.6	1.8
Performance Measures						
Additional Net External Financing	0.7	5.4	-2.0	7.3	-0.5	6.2
Export Expansion	1.2	5.9	-1.3	3.0	0.1	4.8
Import Intensity	-1.8	4.8	2.5	5.6	0.2	5.5
Economic Compression	0.8	2.8	1.0	1.6	0.9	2.2
TOTAL	1.0	2.1	0.2	1.5	0.6	1.8

Sources: Appendix 2

SELECTED ECONOMIC VARIABLES

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
GDP GROWTH RATE (%)	4.7	-3.2	-5.0	0.4	3.6	1.1	5.1	2.5	3.5	3.6	-3.3	-5.4	-2.9
INFLATION (%) ¹²	14.4	14.6	10.3	5.2	4.7	3.9	1.3	3.3	4.9	6.2	3.1	6.3	6.1
GROSS DOMESTIC INVESTMENT (% of GDP) ¹³	25.3	27.6	22.6	19.9	16.2	15.4	16.0	16.0	17.5	18.4	18.3	15.6	13.9
NATIONAL SAVINGS (% of GDP) ¹⁴	22.4	15.3	18.1	15.1	17.8	19.8	15.7	14.9	18.8	20.0	15.8	16.5	18.3
FOREIGN SAVINGS (% of GDP) ¹⁵	2.9	12.3	4.5	4.8	-1.6	-4.4	0.3	1.1	-1.3	-1.6	2.5	-0.9	-4.4
PUBLIC SECTOR BALANCE (% of GDP) ¹⁶	-3.7	-5.8	-4.4	-1.7	-1.9	-5.1	-4.7	-5.6	-2.1	-0.1	-7.1	0.0	1.8
REER (1980=100) ¹⁷	100.0	108.9	118.7	128.8	136.7	127.6	120.9	113.8	113.5	117.3	117.3	113.5	112.7
FOREIGN DIRECT INVESTMENT (% of GDP) ¹⁸	0.3	0.8	0.4	0.2	-0.1	0.2	0.4	0.3	0.7	0.3	0.6	1.2	1.0
ODA FLOWS (% of GDP) ¹⁹	1.7	1.8	1.3	1.8	0.7	0.6	0.3	0.4	0.2	0.1	0.2	0.2	0.1
TOTAL EXT. DEBT (% of GNP) ¹¹⁰	19.8	24.6	33.8	55.6	34.5	38.4	45.4	41.1	47.0	38.6	40.2	40.3	40.7
INTEPEST/TOTAL EXT. DEBT (%) ¹¹¹	6.8	8.2	7.4	5.2	8.3	6.1	7.0	6.8	6.4	7.5	7.1	7.1	6.9
LIFE EXPECTANCY ¹¹²			73					74					75
INFANT MORTALITY RATE ¹¹³			17					12					10
PUBLIC EXPENDITURE ON EDUC (% of GNP)	6.5	6.1	5.7	5.8	5.5	6	5.3	5.9	5.4				

1 World Bank (1994a)

2 Annual rate of inflation based on CPI IMF, IFSBA from BESD database

3 National authorities, IMF and IBRD

4 National Savings = Gross Domestic Saving + Net Factor Income + Current Transfers World Bank (1994) p. 175

5 Foreign Savings = Gross Domestic Investment - National Savings World Bank (1994) p.175

6 Public Sector: Overall Balance World Bank (1994a)

7 Real Effective Exchange Rate, Period Average IMF

8 World Bank (1994a)

9 Net disbursements of ODA from all sources = ODA Loans net + Grants. Grants include technical cooperation grants (OECD)

10 Total External Debt (% of GNP) World Bank, World Debt Tables, DX

11 Total Interest Payments to Total External Debt (%) World Bank, World Debt Tables, DX

12 Life expectancy at birth (years)

13 Per 1000 live births

1984. In the following period, 1987-92, the situation was the reverse with a decrease in imports per unit of output and export growth below the world increase. Economic compression was relevant in the two periods 1981-83 and 1990-92 in which Barbados experienced negative real output growth rates. One of the recurrent problems in the Barbados economy is associated with the loss of external competitiveness with regard to other Caribbean competitors. This was the case in both the two major crises anticipated by adverse external shocks at the beginning of both the 1980s and 1990s. The improvement in tourism competitiveness and the consequent economic recovery in the period 1986-89 is partially explained by the depreciation of the US dollar to which the exchange rate has been pegged since 1975. However, over the entire period 1980-92, Barbados' real effective exchange rate had the largest appreciation among all the countries considered in this study. Given the higher income per capita compared to the other islands Barbados cannot compete with the other islands in terms of lower wages. However, the lower cost of services and utilities in Barbados might compensate the higher labor cost component in the future.

2. Jamaica

Shocks. In the period 1980-92 the annual average value for terms of trade shocks was 0.6 percent of GDP but the cumulative effect of additional net external financing increased steadily so that the total shock averaged 2.6 percent of GDP. While adverse shocks in the 1970s were due primarily to the two oil shocks, in the early 1980s there was a different pattern as depressed global markets were somewhat compensated for by favorable movements in the terms of trade. Towards the end of the decade the Gulf War again had a major negative impact on Jamaica. This time it affected not only the terms of trade but also had a major depressing effect on sectors such as tourism. The adverse oil shocks in the 1970s and again in the late 1980s were supply-side shocks. Based on the experience in many of the industrial countries it is generally accepted that the appropriate response would have included higher gasoline taxes. This would help keep fiscal accounts in balance and reduce the need for external financing. In order to maintain competitiveness one might also try to achieve a somewhat lower increase for intermediate inputs for industry. Depressed global markets for Jamaica's exports in the early 1980s could have been addressed by stronger export promotion efforts. This would require a depreciation of the real exchange rate.

Table 15 Jamaica

EXTERNAL SHOCKS AND PERFORMANCE MEASURES
 (percent of GDP)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
External Shocks													
Terms of Trade	4.8	2.8	-1.5	-1.1	-0.3	-0.8	-3.9	3.4	0.7	1.4	2.7	-1.7	1.3
Nonfactor Services Effect	-0.4	-0.1	0.2	0.2	0.2	0.3	0.7	-1.2	-0.4	-0.2	-0.8	0.5	-0.3
Export Volume	0.1	1.0	2.3	0.6	-1.8	0.4	-0.1	-0.5	-1.1	-0.5	0.1	0.3	0.3
Intrereest Rate	0.2	0.3	-0.4	-0.4	0.3	-0.9	-0.6	0.1	0.3	0.3	-0.2	-0.6	-0.7
Total	4.7	4.0	0.7	-0.8	-1.6	-1.0	-3.9	1.9	-0.6	0.9	1.7	-1.6	0.6
Additional Debt Service	0.0	0.7	2.3	2.4	5.0	3.5	2.9	2.3	2.7	3.1	3.5	2.9	2.1
TOTAL (Total +Additional Debt Service)	4.7	4.7	3.0	1.6	3.4	2.5	-1.0	4.2	2.1	4.1	5.2	1.4	2.6
Performance Measures													
Additional Net External Financing	4.3	13.8	9.7	8.5	-10.3	13.2	-4.3	6.8	5.5	10.2	-0.5	-2.3	1.0
Export Expansion	-1.1	1.3	-6.0	0.0	-1.6	-10.3	-1.5	2.9	0.0	1.9	1.5	-2.7	0.5
Import Intensity	0.2	-8.3	0.8	-5.3	14.3	-3.8	5.9	-3.2	-2.7	-6.5	4.3	4.4	0.0
Economic Compression	1.3	-2.0	-1.4	-1.6	0.9	3.4	-1.1	-2.4	-0.6	-1.5	-0.1	1.9	1.1
TOTAL	4.7	4.7	3.0	1.6	3.4	2.5	-1.0	4.2	2.1	4.1	5.2	1.4	2.6

	80-86		87-92		80-92	
	Average	Sdev	Average	Sdev	Average	Sdev
External Shocks						
Terms of Trade	0.0	2.9	1.3	1.8	0.6	2.4
Nonfactor Services Effect	0.2	0.3	-0.4	0.6	-0.1	0.5
Export Volume	0.4	1.2	-0.2	0.5	0.1	1.0
Intrereest Rate	-0.2	0.5	-0.1	0.4	-0.2	0.5
Total	0.3	3.1	0.5	1.3	0.4	2.4
Additional Debt Service	2.4	1.7	2.8	0.5	2.6	1.3
TOTAL (Total +Additional Debt Service)	2.7	2.0	3.3	1.5	3.0	1.7
Performance Measures						
Additional Net External Financing	5.0	9.1	3.4	4.8	4.3	7.2
Export Expansion	-2.7	4.0	0.7	2.0	-1.2	3.6
Import Intensity	0.5	7.6	-0.6	4.4	0.0	6.1
Economic Compression	-0.1	2.0	-0.3	1.6	-0.2	1.7
TOTAL	2.7	2.0	3.3	1.5	3.0	1.7

Sources: Appendix 2

SELECTED ECONOMIC VARIABLES

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
GDP GROWTH RATE (%) ¹¹	-5.8	2.5	1.1	2.3	-0.9	-4.6	1.7	6.2	2.9	6.9	5.7	0.3	1.2
INFLATION (%) ¹²	27.3	12.7	6.5	11.6	27.8	25.7	15.1	6.7	8.3	14.3	22.0	51.1	77.3
GROSS DOMESTIC INVESTMENT (% of GDP) ¹³	15.9	20.3	20.9	22.2	23.1	25.3	18.5	22.3	22.5	17.2	19.7	20.1	20.4
NATIONAL SAVINGS (% of GDP) ¹⁴	10.4	9.8	8.6	10.0	9.2	7.3	14.9	15.8	21.4	5.3	9.2	11.8	21.2
FOREIGN SAVINGS (% of GDP) ¹⁵	5.5	10.5	12.3	12.2	13.9	18.0	3.6	6.5	1.1	11.9	10.5	8.3	-0.8
PUBLIC SECTOR BALANCE (% of GDP) ¹⁶		-16.0	-16.5	-21.2	-15.9	-14.7	5.8	-5.3	-13.4	-6.6	-3.2	-0.4	2.3
REER (1980=100) ¹⁷	100.0	102.8	107.0	103.0	74.6	64.2	66.5	66.5	66.4	67.5	55.0	59.0	52.3
FOREIGN DIRECT INVESTMENT (% of GDP) ¹⁸	1.0	-0.4	-0.5	-0.5	-0.5	-0.4	-0.2	1.8	-0.3	1.4	3.2	1.9	3.2
ODA FLOWS (% of GDP) ¹⁹	4.9	6.2	6.1	5.6	7.2	8.4	7.0	5.5	5.4	6.5	6.4	4.5	4.0
TOTAL EXT. DEBT (% of GNP) ¹¹⁰	78.3	88.1	102.2	114.3	169.5	238.8	192.6	183.2	148.4	129.5	128.3	150.2	157.1
INTEREST/ TOTAL EXT. DEBT (%) ¹¹¹	8.4	6.6	6.9	6.5	7.9	7.0	6.9	5.9	5.5	5.0	6.1	5.3	4.9
LIFE EXPECTANCY ¹¹²			71					73					74
INFANT MORTALITY RATE ¹¹³			18					17					14
PUBLIC EXPENDITURE ON EDUC. (% of GNP)	6.9	7.1	7.3	7.5	5.2	5.4	4.7	4.1	4.8				

1 World Bank (1994a)

2 Annual rate of inflation based on CPI. IMF. IFSBA from BESD database.

3 National authorities, IMF and IBRD

4 National Savings = Gross Domestic Saving + Net Factor Income + Current Transfers. World Bank (1994) p. 175

5 Foreign Savings = Gross Domestic Investment - National Savings. World Bank (1994) p. 175

6 Public Sector Overall Balance. World Bank (1994a)

7 Real Effective Exchange Rate Period Average. IMF

8 World Bank (1994a)

9 Net disbursements of ODA from all sources = ODA Loans net + Grants. Grants include technical cooperation grants. (OECD)

10 Total External Debt (% of GNP) World Bank. World Debt Tables. DX

11 Total Interest Payments to Total External Debt (%) World Bank. World Debt Tables. DX

12 Life expectancy at birth (years)

13 Per 1000 live births

Responses. In 1980, Jamaica experienced an adverse shock equivalent to 5 percent of GDP. The response to this included additional net external financing (ANEF) of 4 percent, a negative export expansion of 1.1 percent, import intensity (reduced use of importables per unit of output) of 0.2 percent and economic compression of 1.3 percent of GDP. This response was very similar to the response to the first oil shock: additional external borrowing, weak export performance, reduction of imports and slowing down of economic growth. For the first oil shock this type of policy could be understood as it basically treated the shock as temporary. However, after the second oil shock and the adverse global situation of the early 1980s it was essential to adopt a different approach. This required some stimulus for the supply-side, export encouragement and definitely not the sharp increase in external borrowing. This mistake was further compounded in the early 1980s by expansionary monetary and fiscal policy. This failure to take more restrictive measures such as effecting a real exchange devaluation laid the groundwork for the sharp deterioration in the middle of the decade that forced the authorities to adopt more draconian measures. The lack of timely measures also had the unfortunate side effect that when the global economy did turn more favorable in the mid-1980s, Jamaica was not well-positioned to take advantage of it. As the authorities depended unduly on external borrowing to get through most external shocks, the external debt rose dramatically to over 200 percent of GNP in 1985. This burden severely limited the scope for policy initiatives. It also seems that this increase in debt was not used for investment purposes but to a large degree to maintain consumption. In some measures of income distribution one finds some improvement, such as the sharp decline in infant mortality rates from over 40 in 1971 to around 15 today. However in education the picture is mixed. Primary education continues to have enrollment ratios around 100 and secondary levels ratios are around 60 but the higher education level ratios have fallen from over 6 to less than 2 in 1988 (see World Bank 1994a).

Summary. Jamaica suffered severe adverse shocks in the 1970s and early 1980s. An appropriate response would have tried to compensate for the loss in competitiveness. The actual response was inappropriate, with too much reliance on external borrowing, especially in the early 1980s, and little effort to stimulate the required supply-side response. When the global environment

turned favorable later in the 1980s, Jamaica was overly burdened by high debt and poor investment choices to take advantage of the situation.

3. Dominican Republic

Shocks. External shocks were rather low throughout the entire period under analysis. The direct component, total shock less additional debt service, was on average 0.3 percent of GDP. Shocks varied from the favorable fall in oil prices in the middle of the decade, which coincided with improved global market conditions for its principal commodity exports, to the precipitous rise in oil prices at the end of the decade due to the Gulf War (adverse terms of trade shock of 4 percent in 1990). Adverse impact on sugar exports was further compounded with reduction in the U.S. sugar quota. The low level of terms of trade shocks is explained by the Dominican Republic's diversified export base. Prices and production of sugar, tobacco, coffee, cocoa and ferronickel moved in different directions during the 1980s and beginning of the 1990s. In addition, tourism has been a very important source of foreign exchange. The Dominican Republic is one of the most visited tourist destinations of the Caribbean. Negative output growth in 1990 and 1991 was followed by a strong recovery in 1992 (real GDP rose by 7 percent).

Responses. The second oil shock was not accompanied by any favorable trends on commodity prices for Dominican Republic exports so that an active response was called for. Ideally this would seek to restore some of the loss in competitiveness due to the supply-side shock. However the government did not pass on the oil price increase to customers and this led to deterioration in fiscal accounts. The authorities sought to maintain nominal exchange rate parity with the U.S. dollar with the result that the real exchange rate deteriorated and inflation peaked (60 percent in 1990). Little action was taken until the situation reached crisis proportions. In the late 1980s the government finally took action to stabilize the economy.

Lax fiscal policy in the late 1970s and early 1980s was facilitated by a rapid increase in external debt. This rose quickly from around 30 percent in 1980 to 93 percent of GNP by 1988. The adverse external shocks required that overall demand should have been curtailed while the increasing

Table 16 Dominican Republic

EXTERNAL SHOCKS AND PERFORMANCE MEASURES
(percent of GDP)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
External Shocks													
Terms of Trade	1.4	4.4	1.4	-0.9	0.7	-0.8	-3.0	5.9	-5.4	0.1	3.7	-1.4	1.5
Nonfactor Services Effect	0.3	0.0	0.1	0.1	0.1	0.2	0.4	-1.1	-0.1	-0.8	-1.3	0.8	-0.2
Export Volume	0.0	0.3	1.0	0.3	-0.8	0.2	-0.1	-0.4	-0.8	-0.3	0.0	0.1	0.1
Intrast Rate	0.2	0.3	-0.3	-0.3	0.3	-0.5	-0.3	0.1	0.2	0.2	-0.1	-0.4	-0.5
Total	1.9	4.9	2.2	-0.9	0.2	-1.0	-3.0	4.5	-6.1	-0.8	2.3	-0.8	0.9
Additional Debt Service	0.0	1.0	0.5	0.6	1.0	0.4	0.4	0.7	1.3	0.9	1.1	0.8	0.5
TOTAL (Total + Additional Debt Service)	1.9	5.9	2.6	-0.3	1.2	-0.5	-2.6	5.2	-4.9	0.0	3.4	0.0	1.4
Performance Measures													
Additional Net External Financing	6.6	-2.6	2.4	0.0	-4.0	2.6	2.7	4.8	-2.2	5.1	-0.3	1.4	7.1
Export Expansion	-3.9	7.4	-2.2	-0.1	4.2	-3.5	-2.6	1.4	-3.1	-2.4	-2.3	-1.2	-0.5
Import Intensity	-0.5	1.2	1.9	-0.2	0.2	-1.2	-2.4	0.7	0.1	-2.2	3.8	-1.0	-3.7
Economic Compression	-0.3	0.0	0.5	0.0	0.9	1.6	-0.3	-1.7	0.4	-0.5	2.3	0.8	-1.5
TOTAL	1.9	5.9	2.6	-0.3	1.2	-0.5	-2.6	5.2	-4.9	0.0	3.4	0.0	1.4

	80-86		87-92		80-92	
	Average	Stdev	Average	Stdev	Average	Stdev
External Shocks						
Terms of Trade	0.5	2.3	0.7	4.0	0.6	3.0
Nonfactor Services Effect	0.1	0.1	-0.4	0.8	-0.1	0.6
Export Volume	0.1	0.5	-0.2	0.4	0.0	0.5
Intrast Rate	-0.1	0.3	-0.1	0.3	-0.1	0.3
Total	0.6	2.6	0.0	3.6	0.3	3.0
Additional Debt Service	0.6	0.3	0.9	0.3	0.7	0.3
TOTAL (Total + Additional Debt Service)	1.2	2.7	0.9	3.5	1.0	3.0
Performance Measures						
Additional Net External Financing	1.1	3.6	2.7	3.6	1.8	3.5
Export Expansion	-0.1	4.3	-1.4	1.6	-0.7	3.3
Import Intensity	-0.2	1.4	-0.4	2.6	-0.3	2.0
Economic Compression	0.3	0.7	0.0	1.5	0.2	1.1
TOTAL	1.2	2.7	0.9	3.5	1.0	3.0

Sources: Appendix 2

SELECTED ECONOMIC VARIABLES

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
GDP GROWTH RATE (%) ¹¹	6.0	4.1	1.6	4.6	0.3	-2.6	3.2	7.9	0.7	4.1	-5.4	-0.9	7.6
INFLATION (%) ¹²	18.8	7.5	7.6	4.8	27.0	37.5	9.7	15.9	44.4	45.4	59.4	53.9	4.6
GROSS DOMESTIC INVESTMENT (% of GDP) ¹³	25.1	23.6	20.0	21.1	21.3	20.4	19.7	28.4	29.0	28.0	22.0	20.4	23.1
NATIONAL SAVINGS (% of GDP) ¹⁴	14.9	17.8	14.2	15.1	15.3	15.2	16.4	20.0	26.7	23.5	19.0	17.9	17.4
FOREIGN SAVINGS (% of GDP) ¹⁵	10.2	5.8	5.8	6.0	6.0	5.2	3.3	8.4	2.3	4.5	3.0	2.5	5.7
PUBLIC SECTOR BALANCE (% of GDP) ¹⁶	-6.3	-6.1	-5.3	-5.0	-7.3	-3.4	-6.4	-4.7	-7.7	-7.2	-5.9	-0.7	0.5
REER (1980=100) ¹⁷	100.0	103.1	104.5	98.9	72.2	79.0	73.9	61.7	51.7	64.5	66.5	71.1	71.5
FOREIGN DIRECT INVESTMENT (% of GDP) ¹⁸	0.9	1.1	0.0	0.3	0.7	0.8	0.9	1.8	2.3	1.6	1.9	2.0	2.3
ODA FLOWS (% of GDP) ¹⁹	1.9	1.4	1.9	1.5	3.8	4.6	1.7	2.5	2.5	2.1	1.3	0.8	0.7
TOTAL EXT. DEBT (% of GNP) ¹⁰	31.2	32.9	35.6	44.3	66.8	84.0	71.1	82.0	92.5	63.8	65.2	66.0	61.5
INTEREST/TOTAL EXT. DEBT (%) ¹¹	8.9	10.2	8.1	6.1	5.2	5.3	6.2	3.7	4.6	3.0	2.0	2.4	2.9
LIFE EXPECTANCY ¹²			64					66					68
INFANT MORTALITY RATE ¹³			50					44					41
PUBLIC EXPENDITURE ON EDUC. (% of GNP)	2.3	2.3	2.3	2.3	1.7	1.5	1.4	1.3	1.3				

1 World Bank (1994a)

2 Annual rate of inflation based on CPI. IMF, IFSBA from BESD database.

3 National authorities, IMF and IBRD

4 National Savings = Gross Domestic Saving + Net Factor Income + Current Transfers. World Bank (1994) p. 175

5 Foreign Savings = Gross Domestic Investment - National Savings. World Bank (1994) p. 175

6 Public Sector Overall Balance before grants. World Bank (1994a)

7 Real Effective Exchange Rate. Period Average. IMF

8 World Bank (1994a)

9 Net disbursements of ODA from all sources = ODA Loans net + Grants. Grants include technical cooperation grants. (OECD)

10 Total External Debt (% of GNP). World Bank, World Debt Tables. DX.

11 Total Interest Payments to Total External Debt (%). World Bank, World Debt Tables. DX.

12 Life expectancy at birth (years)

13 Per 1000 live births

external debt would require a policy tilt (e.g. relative prices) in favor of the tradable sector. Instead the overall consumption share stayed relatively constant at around 80 percent of GDP. In education, secondary enrollment ratios did show some improvement while infant mortality rate at around 41 percent by 1992 is one of the worst in the Caribbean Region.

Summary. Unfavorable external shocks in the 1970s were alleviated by favorable price movements in Dominican Republic's exports (largely sugar). Later in the decade the relatively easy expedient of external borrowing was then used to cushion the shocks. This external indebtedness was not used to any great extent to increase investment levels or address social issues. This in turn meant that Dominican Republic did not position itself very well for sustained growth during the period 1980-92.

4. Trinidad and Tobago

Shocks. Trinidad and Tobago is an oil exporter so that its fortunes were quite different from most of the rest of the Caribbean. Over the 1970s and at the beginning of the 1980s it had favorable external shocks which turned adverse after 1982. What is perhaps more remarkable is the volatility of these shocks. This, measured by the standard deviation, was 11 percent in the period 1980-86 and 5 percent in the period 1987-92. The most significant favorable shocks were the second oil shock (14 percent in 1980) and again the Gulf war effect in the late 1980s. On the other hand Trinidad suffered major unfavorable shocks in 1986 and in 1991 as a consequence of sharp drops in international oil prices and falling petroleum production. Mature fields were depleted and no new discoveries were made. Nonfactor service effects were not important in Trinidad and Tobago reflecting the limited importance of tourism in this country. In 1990, after a seven-year decline, real GDP rose by 1.5 percent.

Responses. Trinidad and Tobago used the oil largesse from both oil shocks to help increase investments to close to 30 percent of GDP in 1980. Much of this was in the non-tradable goods sector leading to upward pressure on the exchange rate. It failed to take adequate measures to stabilize revenues so that when shocks turned unfavorable demand collapsed, investment shares were

Table 17 Trinidad and Tobago

EXTERNAL SHOCKS AND PERFORMANCE MEASURES
(percent of GDP)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
External Shocks													
Terms of Trade	-14.3	-3.4	1.3	1.7	0.1	0.2	21.1	-4.3	4.8	-3.5	-8.4	3.7	0.5
Nonfactor Services Effect	0.1	0.1	-0.2	-0.2	-0.2	-0.1	0.6	0.3	0.1	0.1	0.0	-0.1	0.0
Export Volume	0.2	1.7	3.3	1.1	-1.8	0.3	-0.3	-0.8	-1.8	-0.8	0.1	0.3	0.3
Interest Rate	0.1	0.1	-0.1	-0.1	0.1	-0.1	-0.2	0.1	0.1	0.2	-0.1	-0.5	-0.5
Total	-14.0	-1.5	4.2	2.5	-1.8	0.3	21.3	-4.7	3.2	-4.0	-6.4	3.4	0.4
Additional Debt Service	0.0	-0.9	-0.4	1.2	0.8	0.2	-0.2	0.9	1.0	1.5	1.3	0.8	0.8
TOTAL (Total +Additional Debt Service)	-14.0	-2.4	3.9	3.7	-1.0	0.5	21.1	-3.8	4.2	-2.5	-5.1	4.0	1.2
Performance Measures													
Additional Net External Financing	-6.3	2.4	14.2	-5.2	-5.1	-3.7	15.6	-1.3	3.0	2.7	-5.9	11.8	0.5
Export Expansion	-2.9	-10.8	-3.2	-7.4	-4.6	-0.2	0.4	-5.5	-0.1	-2.7	1.9	1.3	-3.9
Import Intensity	-4.8	4.7	-6.2	9.9	3.7	4.0	5.6	2.9	1.8	-1.3	-0.1	-7.9	4.4
Economic Compression	0.0	1.2	2.0	6.3	5.0	0.4	-0.5	0.1	-0.5	-1.2	-1.1	-1.2	0.2
TOTAL	-14.0	-2.4	3.9	3.7	-1.0	0.5	21.1	-3.8	4.2	-2.5	-5.1	4.0	1.2

	80-86		87-92		80-92	
	Average	Stdev	Average	Stdev	Average	Stdev
External Shocks						
Terms of Trade	1.0	10.5	-0.8	4.5	0.1	8.0
Nonfactor Services Effect	0.0	0.3	0.1	0.1	0.0	0.2
Export Volume	0.6	1.6	-0.4	0.8	0.1	1.4
Interest Rate	0.0	0.1	-0.1	0.3	-0.1	0.2
Total	1.6	10.5	-1.3	4.3	0.2	8.1
Additional Debt Service	0.1	0.7	1.0	0.3	0.5	0.7
TOTAL (Total +Additional Debt Service)	1.7	10.5	-0.3	4.0	0.8	7.9
Performance Measures						
Additional Net External Financing	1.7	9.5	1.8	5.9	1.8	7.7
Export Expansion	-4.1	3.9	-1.5	3.0	-2.9	3.6
Import Intensity	2.0	6.6	0.0	4.4	1.1	5.6
Economic Compression	2.1	2.6	-0.6	0.6	0.8	2.4
TOTAL	1.7	10.5	-0.3	4.0	0.8	7.9

Sources: Appendix 2

SELECTED ECONOMIC VARIABLES

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
GDP GROWTH RATE (%) ¹¹	6.8	5.2	1.7	-7.3	-12.6	-2.9	-1.7	-5.0	-4.0	-0.7	1.5	3.1	-1.6
INFLATION (%) ¹²	17.5	14.3	11.6	15.2	13.3	7.6	7.7	10.8	7.8	11.4	11.1	3.8	6.6
GROSS DOMESTIC INVESTMENT (% of GDP) ¹³	30.6	27.9	29.2	25.8	24.1	18.8	21.6	19.3	13.1	16.6	12.6	13.5	11.8
NATIONAL SAVINGS (% of GDP) ¹⁴	38.3	33.8	21.7	13.1	17.5	17.4	8.6	14.5	10.6	15.2	21.2	13.0	14.3
FOREIGN SAVINGS (% of GDP) ¹⁵	-7.7	-5.9	7.5	12.7	6.6	1.4	13.0	4.8	2.5	1.4	-8.6	0.5	-2.5
PUBLIC SECTOR BALANCE (% of GDP) ¹⁶	7.1	2.7	-12.4	-10.9	-8.7	-5.9	-4.9	-5.4	-7.2	-4.6	-1.3	-0.2	-2.8
REER (1980=100) ¹⁷	100.0	105.2	118.1	140.0	160.1	167.5	115.1	107.4	108.7	100.8	101.7	102.5	99.8
FOREIGN DIRECT INVESTMENT (% of GDP) ¹⁸	2.3	2.6	2.6	1.1	1.5	0.7	0.4	0.7	1.4	3.4	2.2	2.7	2.9
ODA FLOWS (% of GDP) ¹⁹	0.08	-0.02	0.07	0.07	0.06	0.09	0.40	0.72	0.19	0.14	0.36	-0.03	0.17
TOTAL EXT. DEBT (% of GNP) ¹¹⁰	14.0	15.8	14.9	18.4	16.0	20.6	40.8	39.9	49.2	53.8	53.8	50.9	48.9
INTEREST/TOTAL EXT. DEBT (%) ¹¹¹	6.6	10.8	9.3	10.8	8.0	7.5	7.4	7.9	7.6	8.3	8.5	8.5	7.4
LIFE EXPECTANCY ¹¹²			69					70					71
INFANT MORTALITY RATE ¹¹³			31					22					15
PUBLIC EXPENDITURE ON EDUC. (% of GNP)	3.7	4.7	5.6	5.9	5.1	5	5	5.6	5.2				

1 World Bank (1994a)

2 Annual rate of inflation based on CPI. IMF, IFSBA from BESD database.

3 National authorities, IMF and IBRD

4 National Savings = Gross Domestic Saving + Net Factor Income + Current Transfers. World Bank (1994) p. 175

5 Foreign Savings = Gross Domestic Investment - National Savings. World Bank (1994) p. 175

6 Consolidated Non-financial Public Sector Overall Balance. World Bank (1994a)

7 Real Effective Exchange Rate. Period Average. IMF

8 World Bank (1994a)

9 Net disbursements of ODA from all sources = ODA Loans net + Grants. Grants include technical cooperation grants. (OECD)

10 Total External Debt (% of GNP). World Bank, World Debt Tables, DX.

11 Total Interest Payments to Total External Debt (%). World Bank, World Debt Tables, DX.

12 Life expectancy at birth (years)

13 Per 1000 live births

cut back to as low as 13 percent in 1988, and unemployment especially in the non-tradable goods sector increased sharply. This reflected poor policy choices and engendered a general lack of confidence. Policy did not adjust quickly after the second oil bonanza in the early 1980s. The real exchange rate appreciated so that it proved extremely difficult to diversify the economy, a typical Dutch disease syndrome. Only after 1986, a series of exchange rate adjustments combined with the depreciation of the U.S. dollar against other major currencies caused a depreciation of the Trinidad and Tobago dollar.

In retrospect it is evident that it would have been more prudent to iron out some of the peaks and valleys of oil price fluctuations. This could lead to a more stable level of investment, help moderate the sharp appreciation of the real exchange rate and in turn diversify the economy and position it for sustained growth. There was some accumulation of external debt in the 1980s when the shocks became unfavorable. Some progress was achieved on infant mortality. The rate dropped from 31 in 1982 to 15 in 1992.

Summary. Trinidad and Tobago was hit by a variety of shocks that, on average, were favorable in the 1970s but unfavorable in the 1980s. These shocks were characterized by high volatility. The policy response was to first stimulate investment and address some social factors. However failure to devise an appropriate cushioning mechanism meant that investment levels were subject to large (and inevitably undesirable) swings. The real exchange rate was allowed to appreciate significantly, thereby diminishing the chances for diversifying the economy and achieving a stable sustainable growth pattern. The sharp rise in wealth due to the oil largesse was a typical Dutch disease phenomenon. The wealth induced increase in spending results in a resource shift towards non-tradables while non-oil exports experience a decline. When oil prices decrease the process is reversed and the non-tradable sectors decline and this results in employment shifts.

APPENDIX 2: Methodology

This appendix outlines the computational approach of decomposing external shocks, estimating their impacts on the current account and assessing the economy's performance response to the external shocks. The convention in this approach is that the impact of unfavorable shocks is registered as a positive value.

A. External Shocks: methodology

In this paper we consider four direct shocks and one indirect. The direct shocks are defined as 1) Terms of Trade Effect, 2) Nonfactor Service Effect, 3) Export Volume Effect, 4) Interest Rate Effect. The indirect is called 4) Additional Debt Service.

1) Terms of Trade Effect (TOT)

Import and export price effects are estimated separately and later combined to obtain the total terms of trade external shock TOT_t . This represents the net effect of terms of trade variation at time t due to import and export price changes from time $t-1$ to t .

$$TOT_t = TOTM_t - TOTX_t \quad t = (1980, \dots, 1992)$$

where $TOTM$ is derived as

$$TOTM_t = VM_t (PM_t - PM_{t-1})$$

where VM_t is the volume and PM_t is the unit price of the country's merchandise imports at time t . The same formula applies to the export price effect $TOTX$,

$$TOTX_t = VX_t (PX_t - PX_{t-1})$$

where VX_t is the volume and PX_t is the unit price of the country's merchandise exports at time t .

The combined effect of TOTM and TOTX is obtained as

$$TOTT_t = [VM_t (PM_t - PM_{t-1})] - [VX_t (PX_t - PX_{t-1})]$$

which gives the terms of trade effect at year t . One limitation of this methodology is that a terms of trade deterioration may not necessarily lead to adverse impact on the balance of payments when the volume weight on export is significantly greater than the volume weight on imports.

2) Nonfactor Services Effect (NFS)

Since tourism represents a large share of the Caribbean countries' international transactions, it is important to take into consideration the nonfactor services component of the current account in the terms of trade analysis. One problem is that there is little if any country-specific information on the prices of nonfactor services. The "lesser of evils" solution here adopted consists in calculating the nonfactor services net effect using the unit price for merchandise imports for both receipts and payments. Thus,

$$NFS_t = (NFSPU_t - NFSRU_t) (PM_t - PM_{t-1}) \quad t = (1980, \dots, 1992)$$

where $NFSPU$ and $NFSRU$ are the nonfactor service payments and receipts indexes¹² respectively, and PM is the unit price of the country's merchandise imports.

3) Global Demand: Export Volume Effect (EVE)

The global demand shock is estimated by looking at the quantity effect. The Export Volume Effect indicates that the country's share of world export is changed as a consequence of

¹² Where $NFSPU_t \times PM_t$ is equal to the nonfactor service payments in US dollars at time t and $NFSRU_t \times PM_t$ is equal to the nonfactor service receipts in US dollars at time t .

growth/slowdown in the world demand. EVE_t is the value of exports by the country at time t if it is assumed that there is no change in price from time $t-1$ to t . Hence,

$$EVE_t = VX_{t-1} PX_{t-1} (TXVW_t - GRXVW_t) \quad t=(1980,\dots,1992)$$

where $TXVW_t$ is the expected rate of growth in world export volume at time t , based on the previous ten years, and $GRXVW_t$ is the growth rate in world export from time $t-1$ to t .

4) Interest Rate Effect (IRF)

This measure represents the loss/gain in interest payments at time t caused by movements in the international interest rate. A positive IRF_t , as determined by an increase in the international interest rate, means a worsening in the country's obligation or an unfavorable shock.

$$IRF_t = LTVIR_{t-1} (i_t - i_{t-1}) \quad t=(1980,\dots,1992)$$

where i is the six-month LIBOR on US dollar deposits (period average), and $LTVIR_{t-1}$ is the portion of a country's long-term debt at time $t-1$ sensitive to changes in international interest rates. It is computed by adding together the share of public and publicly guaranteed long-term debt at variable interest rate and the total private non-guaranteed debt. The latter is assumed to be interest sensitive. (See World Bank, World Debt Tables, various years).

5) Additional Debt Service (ADSE)

Lack of adequate domestic adjustments forces a country to accumulate payment arrears and seek additional foreign borrowing to mitigate the impact of the external shocks. While this practice shifts the impact of current shocks into the future, it places further burden on the current account in the future through compounding interest liabilities. Assuming that additional net external financing at time $t-1$ due to the impact of all shocks at that time, net of other responses, is $ANEF_{t-1}$, and the applicable interest rate is i_t , the total additional interest payments due ADSE shall be

$$ADSE_t = i_t ANEF_{t-1}$$

If such extraordinary borrowing is relied on for a long period, say j years, the cumulative interest impact will be

$$ADSE_{t+j} = i_{t+j} [ANEF_{t+j-1} + \sum_{l=1}^j \prod_{k=1}^l (1+i_{t-k+1}) ANEF_{t-l}]$$

This interest impact can be substantial through accumulation over time if neither performance improvements nor favorable shocks offset the unfavorable ones.

B. Performance Measures: methodology

In this analysis four measures of performance responses to external shocks are considered:

1) Export Expansion, 2) Import Intensity, 3) Economic Compression, and 4) Additional Net External Financing.

1) Export Expansion (XE)

This is a measure of the increase/decrease in a country's export share in the international market. It is computed for the merchandise component of the trade balance as follows:

$$XE_t = VX_{t-1} PX_{t-1} (GRVE_t - GRXVW_t) \quad t=(1980, \dots, 1992)$$

where GRVE and GRXVW are the real export growth rates in the country and in the world. A positive export expansion measure represents a gain in the export share of the country and an improvement in its current account, assuming that prices had not changed from time $t-1$ to t . Viceversa, a negative export expansion reflects relatively poor response to external shocks. This measure does not provide a direct relationship between trade policies and export performance. This caveat is particularly relevant for the

small Caribbean islands. Since these countries' exports are mainly concentrated in few agricultural products, the destructive impact of the hurricanes on the islands' crops is reflected in large drops in their export volumes.

2) Import Intensity (MINT)

An economy can respond to external shocks by reducing its imports through changing its import intensity per unit of real GDP, which is generally captured in the income elasticity of imports θ . If imports did not grow in reality as in the assumed "normal" case, where a constant import intensity is kept, then the economy induced import substitution or its imports were compressed by technical difficulties such as payments problems. Assuming that no change in price from time $t-1$ to t had occurred, $MINT_t$ is computed as

$$MINT_t = VM_{t-1} PM_{t-1} [\theta_t GDPGR_t - GRVM_t] \quad t = (1980, \dots, 1992)$$

where $GDPGR_t$ is the real GDP growth rate and $GRVM_t$ is the real import growth rate in the country at time t .

3) Economic Compression (ECOM)

Assuming that domestic income decline induces falls in demand for foreign goods, the effect of economic compression is computed as

$$ECOM_t = VM_{t-1} PM_{t-1} [\theta_t (GDPT_t - GDPGR_t)] \quad t = (1980, \dots, 1992)$$

where $GDPT_t$ is the expected trend rate, based on the previous five years, of real growth in the country's GDP at year t , and $GDPGR_t$ is the annual real GDP growth rate. With a given elasticity θ_t , imports will be reduced when economic compression takes place. This in turns will affect the demand for foreign exchange.

4) Additional Net External Financing (ANEF)

The country's external balance after considering all the positive and negative responses to external shocks is filled mainly with extraordinary financing, namely additional borrowing and arrears accumulation. Here, the effect of the net additional external financing ANEF is measured as

$$ANEF_t = [(TOT_t + NFS_t + EVE_t + IRF_t + ADSE_t) - (XE_t + MINT_t + ECOM_t)]$$

where ANEF is the ex-post equilibrium measure of external financing required to compensate the difference between the total external shock and performance response measures.

C. Full Data Description and Sources

- 1) GDP: current prices in US dollars. ANDREX , World Bank.
- 2) GDP: constant prices in US dollars (1987). ANDREX, World Bank.
- 3) Export: merchandise exports at current prices in US dollars. World Tables, World Bank.
- 4) Import: merchandise imports at current prices in US dollars. World Tables, World Bank.
- 5) Nonfactor services receipts and payments: current prices in US dollars. World Tables, World Bank.
- 6) Merchandise exports and imports prices in US dollars. World Bank.
- 7) Debt at variable rate: variable rate LDOD in current US dollars. DX database, World Bank.
- 8) Interest rate: six-month LIBOR on US dollar deposits, period average, percent. BESD IMFIFSBA, IMF.
- 9) GDI: gross domestic investment in current US dollars. World Bank.
- 10) PSBALA: public sector balance in current US dollars. World Bank.
- 11) PUBCONS: government consumption in current US dollars. World Bank.
- 12) PUBSAV: public savings in current US dollars. World Bank.
- 13) ODA: net disbursements of Official Development Assistance from all sources in current US dollars. OECD.
- 14) INFL: annual rate of inflation based on CPI, percent change. BESD IMIFSBA, IMF.
- 15) FDI: foreign direct investments in current US dollars. World Bank.
- 16) XGNFS: exports of goods and nonfactor services in current US dollars. World Tables, World Bank.
- 17) TOUR: rate of growth in tourist arrivals based on tourist arrivals staying 24 hours or more excluding ship visitors and excursionists. The Economist Intelligence Unit.
- 18) BMP: black market premium defined as the ratio of the parallel market to the official exchange rate minus 1, percent. Parallel market rates, end of the period. International Currency Analysis yearbook. Official rates, end of the period. IMFIFSBA, IMF.

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