

Pacific Studies Series

Toward a New Pacific Regionalism

An Asian Development Bank—Commonwealth Secretariat
Joint Report to the Pacific Islands Forum Secretariat

VOLUME 3: WORKING PAPERS

Working Paper No. 2

Notes on the Economic Performance of Small States 1995–2003

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Preface

This report was prepared for the Pacific Islands Forum Secretariat (PFIS) in Suva, Fiji Islands. The report is one output of an Asian Development Bank (ADB) technical assistance project (TA 6226 REG): “Developing and Implementing the Pacific Plan for Strengthening Regional Cooperation and Integration.” The Commonwealth Secretariat provided funding to the project.

The lead author of the report was Dr. Roman Grynberg, Deputy Director of Trade and Regional Cooperation at the Commonwealth Secretariat. He was assisted by Michael Hyndman, a cost-benefit analyst contracted by ADB, and Sacha Silva, an economist contracted by the Commonwealth Secretariat. Consultants from PIFS and the Pacific region provided valuable inputs for the report. Bill Costello was the ADB task manager.

The report is published in three volumes. Volume 1 is the Executive Summary. Volume 2 is the main report. Volume 3 contains the working papers commissioned for the report—a series of independent studies assessing potential benefits and costs of implementing a variety of possible regional initiatives. Volume 3 has been printed in hard copy in only limited numbers. However, it is available on the websites of ADB (www.adb.org) and at www.pacificplan.org.

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I. INTRODUCTION

This note provides empirical evidence on cross-country growth rates since 1995, focusing on the performance of small states. It finds a negative and significant relationship between being a small state and average growth over 1995-2003. An unsuccessful attempt is made to link this negative growth effect to the erosion of the preferential trade arrangements enjoyed by many small states.

Theoretical work assigns both advantages and disadvantages to small economies. Advocates of the benefits of being small argue that small states have greater social capital, are more open to trade and can obtain higher per capita income from sovereignty rents. On the other hand it has been argued that small states' inability to take advantage of economies of scale in either the private or the public sector, particularly in combination with the isolation of many small states from economic centres, and their greater vulnerability to external shocks place small states at an economic disadvantage.

Theoretical reasoning tells us neither the magnitude of these posited effects nor what their net effect on economic performance will be. For this we must turn to empirical work. Previous studies of the implications of being a small state have failed to find a negative relationship between size and economic performance, regardless of whether it is measured in terms of income or growth. Milner and Westaway (1993) find no link between country size and growth using 1975-85 data for a sample of 48 countries. Armstrong et al. (1998) using 1980-93 data for 133 countries also find no link between size and growth and using a range of datasets covering years from 1991-94 find that small states display a range of income levels similar to that of the entire population of countries. Our approach will follow that of Easterly and Kraay (2001).

Easterly and Kraay (E&K) ask whether "small states suffer from their smallness?" and conclude that they do not. Using per capita gross domestic product (GDP) data on 157 countries at purchasing power parity from 1960-1995 they find that controlling for region and whether a country is an oil exporter or an Organisation for Economic Co-operation and Development (OECD) member small states have higher incomes than, and do not grow at a significantly different rate from, larger states. They attribute the insignificant effects of size on growth to the positive effect of greater openness being offset by the negative effects of greater income volatility and higher initial income. We update E&K's work by reestimating their regressions using data for 1995-2003.

The note is organised as follows. Section II outlines the analytical approach that will be used to estimate the effects of country size. Section III describes the dataset used and defines what we mean by a small state. Section IV reestimates E&K's regressions using our dataset and explores whether the different results obtained are a consequence of our dataset having broader country coverage or of it covering a different time period. Section V examines whether the negative relationship between size and growth found in section IV is due to size proxying for some omitted variable. Section VI asks whether there is any link between countries in receipt of trade preferences and poor growth performance. Section VII focuses on the performance of Pacific Island states and section VIII concludes and suggests some policy implications of our findings.

II. ESTIMATING THE EFFECT OF BEING SMALL

The factors that may affect a country's economic performance can be divided up into three stylised categories.

- a) Natural endowments, e.g. factor endowments, size, climate, island, landlocked.
- b) Relations with other countries, e.g. remoteness, relative income level, aid flows, trade preferences.
- c) Economy and governance, e.g. physical capital, human capital, technology, institutional framework, openness to trade.

Some factors could be placed in more than one category. For instance it could be argued that aid flows are endogenous to a country's governance. However, broadly speaking this framework captures the fact that factors affecting economic performance may be exogenous, may be relational or may result from the organisation of country's society. The first two categories mirror the first order and second order geography discussed in the economic geography literature and we will refer to factors belonging to these two categories as geographic factors.

In order to investigate the effect of size on economic growth we must first decide which other effects to control for. In this study factors considered to belong to the economy and governance category will be treated as being endogenous to factors in the other two categories and will not be included in regressions. For our purposes it does not matter whether the economy and governance factors are caused by the geography factors or are uncorrelated with them; what matters is that it is possible they are determined by the geographic factors and therefore it would be inappropriate to control for them.

In their work Easterly and Kraay include regional dummies, an oil exporter dummy and an OECD dummy alongside the small state dummy. The use of these supplementary variables attempts to control for some of the geographic factors mentioned above. Oil exporter captures factor endowments, the regional dummies act as proxies for climate, remoteness and relative income levels, and the OECD dummy will also capture initial income effects. Since our main interest lies in ascertaining whether E&K's results continue to hold using recent data we will start by replicating their specification. We will then proceed to introduce some of the other geography variables in explicit form. We will not investigate how size affects economy and governance variables.

III. DATASET

Data was collected on 210 countries and non-sovereign states for the period 1995-2003. GDP data was obtained from UN Statistics and population data from the IMF International Financial Statistics and UN Statistics. Average GDP per capita, average GDP per capita growth and average population were calculated. Dropping those countries with fewer than six observations of GDP per capita growth left a sample of 197. Following E&K, five regional dummies were assigned based on World Bank regional classifications and an oil exporter dummy was defined using the 1996 World Bank World Development Report classification of oil exporting countries.

Liberia, Bosnia and Herzegovina and Equatorial Guinea all had average per capita GDP growth rates in excess of 15% and were dropped from the sample as outliers. This left a sample of 194 to be used in estimation.

What is the definition of a "small" state? A variety of options have been proposed, but they can all be characterised as requiring some property of a country¹ to be less than some arbitrarily chosen threshold. E&K's small state dummy variable includes countries with a population of

¹ Properties suggested include population, GDP, area and share in world trade.

fewer than 1 million. We endogenise choosing a definition by defining a country to be “economically small” if its population size has a negative effect on its economic performance. This definition leaves open the possibility that there are no economically small states.² We use population instead of GDP, or any other variable, for both practical and philosophical reasons. Practically population is preferable because it can reasonable be taken to be exogenous to economic performance. Philosophically, we consider population to be the most suitable variable for measuring country size in economics because the agent is the irreducible economic unit.

We test for whether population size affects economic performance using the dummy variables in Table 1. When referring to small states in this note we mean states with a population of less than 1 million.

Table 1: Definitions of Population Dummy Variables

Variable	Definition	Number in Dataset
Mini state	<2,000,000	59
Small state	<1,000,000	48
Milistate	<500,000	40
Microstate	<250,000	27
Nanostate	<100,000	16

IV. REESTIMATING EASTERLY AND KRAAY

Column (a) in Table 2 shows that small states have significantly higher income levels than other countries. Controlling for region, oil exports and OECD membership small states have 197% higher GDP per capita than other countries. This estimation replicates regression 1 in E&K. They found that small states were 50% richer than other countries. Since cross-country income differences vary only slowly over time it is no surprise that E&K’s finding that small states have higher incomes is true for our data. The magnitude of the difference between the estimates may result from the different coverage of the two datasets. This will be discussed further below. Running the regression using the other four population size dummies gives similar results.

Column (b) shows the results from regressing average growth in GDP per capita on region, oil exporter, OECD member and the small state dummy. This mirrors regression 5 from E&K. E&K found that the small state dummy was positive, but insignificant, and therefore concluded that small states do not suffer a growth disadvantage. However, we find that the small state dummy exerts a negative effect on GDP growth that is significant at the 5% level. Being a small state reduces average growth by 0.81% per year.

² Or that ‘economically small’ states are those with large populations.

Table 2: Reestimating E&K's Income and Growth Regressions

Variable	(a)	(b)
Dependent variable	Log of average GDP per capita 1995-2003	Average growth in GDP per capita 1995-2003
Small state	1.09*** (0.181)	-0.807** (0.394)
Sub-Saharan Africa	6.14*** (0.143)	1.29*** (0.340)
Asia	6.89*** (0.224)	2.00*** (0.427)
Europe and Central Asia	7.72*** (0.216)	3.48*** (0.347)
Middle East and North Africa	7.62*** (0.239)	1.48*** (0.522)
Western Hemisphere	7.52*** (0.143)	1.64*** (0.339)
OECD	2.40*** (0.204)	-0.669* (0.399)
Oil	0.828*** (0.256)	-0.548 (0.828)
R ²	0.59	0.16
N	194	194

GDP = gross domestic product, OECD = Organisation for Economic Co-operation and Development..

Robust standard errors in parentheses.

* indicates significance at the 10% level.

** indicates significance at the 5% level.

*** indicates significance at the 1% level.

Table 3 shows that milistate and microstate have similar significant negative effects to small state, but mini state and nanostate are insignificant. These results mean that for 1995-2003 data states with a population of fewer than 1 million meet the definition of economically small in section 2.³

³ For the remainder of the note we only report results using the small state population dummy variable. We estimated all the reported regressions using the other population dummies and obtained results broadly consistent with those in Table 3. Typically we found that when small state was significant so were milistate and microstate, but mini state and nanostate were insignificant.

Table 3: Growth Regression with Different Population Dummies

Dependent Variable	Average Growth in GDP per capita 1995-2003				
	Mini state	Small state	Milistate	Microstate	Nanostate
Population dummy					
-0.440 (0.366)	-0.807** (0.394)	-0.939** (0.421)	-1.06** (0.510)	-0.731 (0.741)	
0.14	0.16	0.16	0.16	0.14	
194	194	194	194	194	

GDP = gross domestic product, OECD = Organisation for Economic Co-operation and Development.

Robust standard errors in parentheses.

Oil exporter, OECD member, and region dummies included in all regressions.

* indicates significance at the 10% level.

** indicates significance at the 5% level.

*** indicates significance at the 1% level.

There is a relationship between size and growth in our data that was not present in E&K's work. Is this because of the different time period covered by our dataset or the different countries included?

A. Country Coverage

Our dataset contains 21 small states not covered by E&K: Anguilla, Aruba, Brunei, Cayman Islands, Cook Islands, Dominica, French Polynesia, Guadeloupe, Liechtenstein, Macao, Marshall Islands, Martinique, Federated States of Micronesia (FSM), Montserrat, Nauru, Netherlands Antilles, New Caledonia, Palau, San Marino, Sao Tome and Principe and Tonga.

Six of the countries classified as small by E&K have average populations exceeding 1 million in our sample: Botswana, Gabon, Gambia, Guinea-Bissau, Mauritius and Swaziland.

Table 4 reports the results of reestimating the income and growth regressions after dropping those small states not covered by E&K. Note that all 21 of the countries dropped are milistates, 17 are microstates and 11 are nanostates. For brevity only the estimated coefficients of the small state dummy are included. The other coefficients are similar to those reported in Table 2.

The income effect of small size is lower than in Table 2, but still highly significant. This suggests that country coverage partly explains the difference between E&K's estimate of the income effect of size and our estimate. The growth effect of being a small state is negative, but is no longer significant. Thus the negative link between size and growth is not robust to the sub-sample of small states included in the estimation. It is important to remember however that the sub-sample was not randomly chosen; there may be a correlation between the availability of economic data and economic performance. If this is the case selection bias in E&K's sample and in the sample used in column (b) could have biased upwards the estimated coefficient of small state.

Table 4: Income and Growth Regressions without Small States not covered by E&K

Variable	(a)	(b)
Dependent variable	Log of average GDP per capita 1995-2003	Average growth in GDP per capita 1995-2003
Small state	0.824*** (0.203)	-0.0940 (0.487)
R ²	0.59	0.16
N	173	173

GDP = gross domestic product, OECD = Organisation for Economic Co-operation and Development.

Robust standard errors in parentheses.

Oil exporter, OECD member, and region dummies included in all regressions.

* indicates significance at the 10% level.

** indicates significance at the 5% level.

*** indicates significance at the 1% level.

Given the sensitivity of our findings to the sample of small states included and the difficulty in obtaining economic statistics for many small states we decided to collect and analyse a second dataset. Data covering the period 1980-2003 was collected from the World Bank's World Development Indicators database. We then split the data into two sub-periods, 1980-94 and 1995-2003, and calculated average growth rates as before. Country coverage differed between the two sub-periods. In both sub-periods the sample included 34 small states, less than the 48 included in our main dataset, but very close to the 33 used by E&K. 25 of the small states in the 1980-94 sample were also included in E&K's dataset. The features of this dataset and the results obtained using it are summarised in Table 5.

Table 5: World Bank Dataset

Period	1980-1994	1995-2003
Countries	153	178
Small states	34	34
Small states in both World Bank and E&K datasets	25	24
Small states in both 1980-94 and 1995-2003 samples	29	29
Coefficient of small state in growth regression (robust standard error)	1.54 (0.477)	-0.871 (0.380)
Small state significant	Yes, at 1% level (positive)	Yes, at 5% level (negative)
Mini state significant	Yes, at 1% level (positive)	No
Milistate significant	Yes at 1% level (positive)	Yes, at 5% level (negative)
Microstate significant	Yes, at 10% level (positive)	Yes, at 10% level (negative)
Nanostate significant	No	No

Bosnia and Herzegovina, Liberia and Equatorial Guinea dropped from the 1995-2003 sample as outliers.

Dependent variable in growth regression is average GDP per capita growth for the relevant period.

Oil exporter, Organisation for Economic Co-operation and Development member and region dummies included in all regressions.

We see that there was a positive and significant relationship between size and growth for the period 1980-94, but a negative and significant relationship for the period 1995-2003. These results support E&K's finding that there was not a negative relationship between size and growth before the 1990s. They also support our earlier finding that from 1995 onwards there was a negative relationship between size and growth. We would like to expand E&K's 1960-95 dataset to cover more small states, but unfortunately the necessary data is not available.

B. Non-Sovereign States

Fifteen of the observations in our sample⁴ are non-sovereign states. These are: Anguilla, Aruba, Bermuda, Cayman Islands, Cook Islands, French Polynesia, Guadeloupe, Hong Kong, Macao, Martinique, Montserrat, Netherlands Antilles, New Caledonia, Puerto Rico and Reunion.

We expect these states to benefit from their relationship with the country they legally form a part of. Possible benefits include market access, technological spillovers, transfer payments and reduced costs of governance and infrastructure.

Table 6 reports the results of reestimating the income and growth regressions after including a dummy for being a non-sovereign state. Not being an independent country has a positive income effect that is significant at the 1% level, but does not effect growth. When the non-sovereign state dummy is included the income effect of being small is substantially reduced, but the growth effect is similar to that previously estimated. Column (c) reports the result of reestimating column (b) after dropping the 11 observations that are both not in E&K's sample and are non-sovereign states. In contrast to when all 21 observations not in E&K's sample were dropped in column (b) of Table 4 being a small state still has a negative effect on growth that is significant at the 10% level.

Table 6: Non-Sovereign States

Variable	(a)	(b)	(c)
Dependent variable	Log of average GDP per capita 1995-2003	Average growth in GDP per capita 1995-2003	Average growth in GDP per capita 1995-2003
Small state	0.770*** (0.174)	-0.837* (0.435)	-0.771* (0.441)
Non-sovereign state	1.48*** (0.227)	0.139 (0.561)	-
R ²	0.64	0.16	0.15
N	194	194	183

GDP = gross domestic product, OECD = Organisation for Economic Co-operation and Development.

Robust standard errors in parentheses.

Oil exporter, OECD member, and region dummies included in all regressions.

* indicates significance at the 10% level.

** indicates significance at the 5% level.

*** indicates significance at the 1% level.

⁴ We revert now to our main dataset.

V. EXPLANATIONS FOR THE SIZE EFFECT

We saw in section 3 that for 1995-2003 size had a negative effect on growth that was not present in earlier data. In this section we ask whether this result could be due to omitted variable bias with the size dummy acting as a proxy for some other geographic factor. We test whether population size remains significant when controlling for initial income, being an island and remoteness.

A. Initial Income

Table 7 reports the results of reestimating the growth regression including initial income as a regressor. Column (a) shows that controlling for region, OECD member and oil exporter initial income has a negative, but insignificant effect on growth. In column (b) the small state dummy is also included and it has a negative effect that is significant at the 10% level. It is surprising that the data does not show income convergence. Is it possible that initial income effects are being picked up by the regional and OECD dummies? Column (c) reports the results when the regional and OECD dummies are dropped. Initial income remains insignificant confirming the absence of convergence in the data. Column (d) reintroduces the regional and OECD dummies and also includes the non-sovereign state dummy. The small state effect is still negative and significant at the 10% level.

Table 7: Initial Income and Growth

Variable	(a)	(b)	(c)	(d)
Dependent variable	Average growth in GDP per capita 1995-2003			
Small state	-	-0.779* (0.433)	-1.08*** (0.392)	-0.802* (0.449)
Log of GDP per capita 1995	-0.148 (0.151)	-0.0241 (0.156)	0.168 (0.102)	-0.0425 (0.175)
Non-sovereign state	-	-	-	0.205 (0.625)
Regional/OECD included	Yes	Yes	No	Yes
R ²	0.14	0.16	0.06	0.16
N	194	194	194	194

GDP = gross domestic product, OECD = Organisation for Economic Co-operation and Development.

Robust standard errors in parentheses.

Oil exporter dummy included in all regressions.

* indicates significance at the 10% level.

** indicates significance at the 5% level.

*** indicates significance at the 1% level.

B. Island

In our dataset the correlation between being small and being an island is 0.72. Of the 51 island states 39 are also small states. Columns (a) and (b) of Table 8 report the results from introducing island and landlocked dummies into the standard income and growth regressions. Neither island nor landlocked are significant in either regression, and small state remains positive and significant for income and negative and significant for growth. We conclude that the small state dummy is not proxying for the effect of being an island.

Table 8: Island and Landlocked States

Variable	(a)	(b)
Dependent variable	Log of average GDP per capita 1995-2003	Average growth in GDP per capita 1995-2003
Small state	0.653** (0.262)	-0.970* (0.523)
Non-sovereign state	1.43*** (0.237)	-
Island	0.132 (0.266)	-0.168 (0.506)
Landlocked	-0.281 (0.208)	-0.375 (0.400)
R ²	0.65	0.16
N	194	194

GDP = gross domestic product, OECD = Organisation for Economic Co-operation and Development.

Robust standard errors in parentheses.

Oil exporter, OECD member, and region dummies included in all regressions.

* indicates significance at the 10% level.

** indicates significance at the 5% level.

*** indicates significance at the 1% level.

C. Remoteness

In the economic geography literature the diseconomies of scale which result from small markets interact with the increased transport costs which result from remoteness to produce negative income effects. Redding and Venables (2004) construct theoretically consistent measures of foreign market access (FMA), domestic market access (DMA) and foreign supplier access (FSA) for 101 countries. They find a positive relationship between FMA and DMA and income and a negative relationship between FSA and the price of imported intermediate inputs. Their results confirm that it is both proximity to markets and size of domestic market that matter. However their sample does not include any of the 48 small states in our dataset.

We will measure remoteness using the inverse of distance-weighted GDP.⁵ Data is available for 177 countries of which 33 are classified as small states in our dataset. Column (a) of Table 9 shows that if we reestimate the growth regression using only those countries for which remoteness data is available small state remains negative, but is no longer significant at the 10% level. This is consistent with our findings above on the sensitivity of the size effect to dropping small states from the sample. In column (b) we add remoteness and it is negative and significant at the 10% level.

We described in section 1 how E&K used regional dummies to proxy for several geographic factors including remoteness. Therefore we reestimate column (b) after dropping the regional dummies. Remoteness is now significant at the 1% level indicating that part of the remoteness effect was previously being captured by the regional dummies. Column (d) shows that remoteness also has a negative and significant effect on income, while small state remains positive and significant.

⁵ Distance is measured as the great circle distance between capital cities. GDP data is for 1995 and comes from UN Statistics. Qualitatively similar results are obtained if the inverse of log-distance weighted log-GDP is used to measure remoteness.

Our results confirm the finding of Redding and Venables (2004) that access to foreign markets is a significant determinant of income. However whereas they found a positive relationship between domestic market size and income we find that being a small state has a positive effect on income. This demonstrates yet again that small states' past economic performance has been very strong. The remoteness variable does not cover a large enough range of small states to allow us to draw definitive conclusions concerning the effect of size on growth when controlling for remoteness. However we do note that the estimated magnitude of the small state effect does not appear to be sensitive to the inclusion of remoteness. The small state coefficients when controlling for remoteness in columns (b) and (c) are similar to in column (a).

Table 9: Remoteness and Growth

Variable	(a)	(b)	(c)	(d)
Dependent variable	Average growth in GDP per capita 1995-2003			Log of average GDP per capita 1995-2003
Small state	-0.627 (0.435)	-0.562 (0.427)	-0.460 (0.388)	1.04*** (0.183)
Remoteness	-	-4.41x10 ^{9*} (2.48x10 ⁹)	-6.30x10 ^{9***} (1.65x10 ⁹)	-4.21x10 ^{9***} (8.56x10 ⁸)
Regional dummies included	Yes	Yes	No	No
R ²	0.16	0.18	0.11	0.53
N	177	177	177	177

GDP = gross domestic product, OECD = Organisation for Economic Co-operation and Development.

Robust standard errors in parentheses.

Oil exporter and OECD member dummies are included in all regressions. A constant is included whenever the regional dummies are dropped.

Column (a) includes only countries for which remoteness data is available.

* indicates significance at the 10% level.

** indicates significance at the 5% level.

*** indicates significance at the 1% level.

VI. TRADE PREFERENCES

Policy makers' interest in the performance of small states comes from a desire to understand whether because of their size they require special measures to enable them to succeed economically. E&K argue that their results prove that small states are not a "special case". The evidence presented above suggests this may no longer be the case. Whether due to the size of their population, their remoteness, or a combination of the two, countries with populations of under 1 million meet the definition of economically small proposed in section 2.

Why did size impact negatively on average per capita GDP growth from 1995-2003? We will not attempt to give a complete answer to this question. We will not attempt to establish links between the various mechanisms presented in the theoretical literature by which size may affect economic performance and the observed outcomes. Instead we will focus on the related question: why did size impact negatively on per capita GDP growth from 1995-2003, but not from 1960-1995? Specifically we will address whether the changing economic performance of small states is related to trade preferences.

World trade is governed by a plethora of multilateral, regional and bilateral agreements. A country is said to have preferential access to a market if its exports may enter under terms favourable to those available to exports from countries with World Trade Organisation (WTO) Most Favoured Nation (MFN) status. Preferential access generates an income transfer from the country granting the preference to the recipient country and provides an incentive for the recipient country to invest in industries eligible for preferential access. Determining the value of preferential access is a two-step process. Firstly, it requires an assessment of the income transfer generated by the preferences; this means calculating the difference between the value of exports with and without preferential access. The size of the income transfer will increase as the extent of preferential access increases and also as the difference between the internal price in the destination country and the world price increases. Domestic subsidies and high MFN tariffs in the destination country will therefore increase the income transfer. Secondly, it requires a general equilibrium calculation of how the resources used to produce the exports would be deployed in the absence of preferences. The first step is considerably more straightforward than the second.

We will investigate the following hypothesis. “Small states high income levels are the result of the special treatment they have traditionally received from developed countries, particularly the EU. First as colonies and then under the Lomé Conventions small states have received preferential access to the EU market which has subsidised their export industries and allowed them to compete effectively with other countries. However, since 1995, the ongoing multilateral trade liberalisation resulting from Uruguay Round commitments, the proliferation of bilateral and regional preferential trade agreements and the gradual, but inevitable, dismantling of certain non-WTO compatible preference schemes have eroded the value of small states trade preferences resulting in a negative growth effect.”

Note that this hypothesis does not specify whether the negative growth effect is a temporary adjustment to the loss of preferences or a reflection of the economic capabilities of small states in the absence of special treatment. This would be an important distinction for policy.

We have already touched upon the difficulty of measuring the value of preferences. It is not feasible to construct a variable measuring the value of preferences for each country, consequently our approach will be to focus on those countries that we expect to have benefited most from preferences. We will concentrate on the sugar and bananas preferences granted by the EU under protocols to the Lomé Conventions. There are three reasons why we consider these preferences:

- a) Studies typically find that the preferential access granted by these schemes is highly valuable to recipient countries.
- b) Many of the countries in receipt of these preferences are small states.
- c) The EU is in the process of dismantling these preferences as they are not compatible with the rules governing the WTO.

A non-exhaustive survey of the literature was used to define three dummy variables for countries benefiting from sugar and bananas preferences (Table 10). See Milner et al. (2003) for details of the EU sugar regime and Laurent (2004) for an overview of EU banana preferences and their erosion.

Table 10: Preference Dummy Variables

Variable	Countries Included	N	Small states
Sugar	Barbados, Belize, Congo, Cote D'Ivoire, Fiji Islands, Guyana, Jamaica, Madagascar, Malawi, Mauritius, Swaziland, Tanzania, Trinidad and Tobago.	13	4
Bananas	Belize, Cameroon, Cape Verde, Cote D'Ivoire, Dominica, Grenada, Jamaica, Madagascar, Saint Lucia, Saint Vincent and the Grenadines, Suriname.	11	7
Agricultural preferences	All the above	20	10

Table 11 shows the consequences of including the preference dummies in the growth regression. The preference dummy is always positive, but only the agricultural preferences dummy is significant and then only at the 10% level. Small state is negative and significant at the 5% level in all three cases. Table 12 repeats the exercise for the income regression. As before small state has a positive and significant impact, but the preference dummies are all negative, though only bananas is significant and only at the 10% level. A negative link between preferences and income seems counter-intuitive to us. It may result from the selection of preference recipients being endogenous to initial income.

Table 11 provides no evidence that recipients of EU sugar and banana preferences have grown more slowly than other countries over the period 1995-2003. However, before we conclude that preference erosion is unimportant for growth outcomes two points should be considered. Firstly, the sugar and banana preference schemes still exist and, in the case of sugar, have yet to be significantly modified. Secondly, it may be that the general erosion of traditional preferences that is resulting from the proliferation of preferential trade agreements is more important than the dismantling of specific preference schemes.

Table 11: Preferences and Growth

Variable	(a)	(b)	(c)
Dependent variable	Average growth in GDP per capita 1995-2003		
Small state	-0.815** (0.395)	-0.850** (0.401)	-0.917** (0.404)
Sugar	0.546 (0.585)	-	-
Bananas	-	0.409 (0.602)	-
Agricultural preferences	-	-	0.873* (0.497)
R ²	0.16	0.16	0.17
N	194	194	194

GDP = gross domestic product, OECD = Organisation for Economic Co-operation and Development.

Robust standard errors in parentheses.

Oil exporter, OECD member, and region dummies included in all regressions.

* indicates significance at the 10% level.

** indicates significance at the 5% level.

*** indicates significance at the 1% level.

Table 12: Preferences and Income

Variable	(a)	(b)	(c)
Dependent variable	Log of average GDP per capita 1995-2003		
Small state	1.09*** (0.181)	1.13*** (0.188)	1.13*** (0.185)
Sugar	-0.132 (0.288)	-	-
Bananas	-	-0.395* (0.238)	-
Agricultural preferences	-	-	-0.278 (0.229)
R ²	0.59	0.59	0.59
N	194	194	194

GDP = gross domestic product, OECD = Organisation for Economic Co-operation and Development.

Robust standard errors in parentheses.

Oil exporter, OECD member, and region dummies included in all regressions.

* indicates significance at the 10% level.

** indicates significance at the 5% level.

*** indicates significance at the 1% level.

VII. FOCUS ON THE PACIFIC

What can we say about the economic performance of Pacific Island countries since 1995? The Pacific Islands Forum has sixteen members. Excluding Australia and New Zealand leaves fourteen countries, eleven of which are included in our sample. We do not have data for Niue, Kiribati and Tuvalu. We will focus on these eleven countries by including a Pacific dummy in our regressions; previously they were included in the Asia dummy. Australia and New Zealand will remain under the Asia dummy. Ten of the Pacific states are also small states, the exception being Papua New Guinea.

Column (a) of Table 13 shows that controlling for being an oil exporter and being a member of the OECD Pacific states are richer than those in Sub-Saharan Africa and Asia, but poorer than those in Europe and Central Asia, the Middle East and North Africa and the Western Hemisphere. In column (b) we see that if we also control for being a small state Pacific countries are poorer than those in all other regions except Sub-Saharan Africa.

In column (c) we replace income with growth as our dependent variable. Controlling for being an oil exporter and being an OECD member Pacific states grew more slowly than countries in any other region. When we include the small state dummy in column (d) it is negative, but not significant. This indicates that part of the reason for the negative growth effect of being a small state was the dismal growth of Pacific states from 1995-2003.

Table 13: Pacific States' Income and Growth

Variable	(a)	(b)	(c)	(d)
Dependent variable	Log of average GDP per capita 1995-2003		Average growth in GDP per capita 1995-2003	
Small state	-	1.24*** (0.186)	-	-0.296 (0.380)
Pacific	7.36*** (0.163)	6.23*** (0.243)	-0.474 (0.938)	-0.205 (0.990)
Sub-Saharan Africa	6.28*** (0.155)	6.12*** (0.143)	1.19*** (0.339)	1.23*** (0.342)
Asia excluding Pacific	7.30*** (0.299)	7.09*** (0.268)	2.62*** (0.393)	2.67*** (0.381)
Europe and Central Asia	7.93*** (0.228)	7.71*** (0.215)	3.39*** (0.337)	3.44*** (0.349)
Middle East and North Africa	7.73*** (0.251)	7.62*** (0.239)	1.44*** (0.531)	1.47*** (0.528)
Western Hemisphere	8.00*** (0.151)	7.46*** (0.144)	1.30*** (0.267)	1.42*** (0.333)
OECD	2.23*** (0.203)	2.37*** (0.203)	-0.721* (0.397)	-0.754* (0.397)
Oil	0.851*** (0.292)	0.802*** (0.255)	-0.650 (0.847)	-0.638 (0.848)
R ²	0.51	0.60	0.21	0.21
N	194	194	194	194

GDP = gross domestic product, OECD = Organisation for Economic Co-operation and Development.

Robust standard errors in parentheses.

* indicates significance at the 10% level.

** indicates significance at the 5% level.

*** indicates significance at the 1% level.

Why did Pacific states perform so poorly? Three possible reasons are:

- Size. 10 out of 11 are small states. 8 out of 11 are microstates.
- Remoteness. Table 14 shows that average remoteness is higher in the Pacific than any other region.
- A negative shock to the region. We have already discounted the erosion of preferences as a likely explanation and we are not aware of any other event which is likely to have resulted in a negative shock across the Pacific region. Three Pacific Island states (Papua New Guinea, Fiji Islands and the Solomon Islands) experienced internal armed conflict between 1995 and 2003. Reestimating columns (c) and (d) of Table 13 after dropping these countries the growth performance of the remaining Pacific countries improves marginally, but is still significantly worse than that of any other region.⁶

⁶ The negative link between size and growth established in Table 2 is robust to dropping Papua New Guinea, Solomon Islands and Fiji Islands from the sample.

Table 14: Pacific States' Remoteness

Region	Number of Countries	Average Remoteness (e-10)
Pacific	8	4.06
Sub-Saharan Africa	45	3.05
Asia excluding Pacific	22	3.05
Europe and Central Asia	49	1.20
Middle East and North Africa	18	1.89
Western Hemisphere	35	2.52
Total	177	2.36

VIII. CONCLUSIONS

Any analysis of the economic performance of small states is hampered by the paucity of data available. Results may be sensitive to both the sample of countries used and the time period covered. This makes it difficult to reach definitive conclusions, but we believe that the evidence we have presented supports the following five stylised facts.

1. Small states have higher incomes than comparable larger states.
2. Since the mid-1990s countries with a population of less than 1 million have grown more slowly than comparable larger states.
3. The worst performing small states since the mid-1990s have been the Pacific Island states. This is not solely a result of armed conflict in Papua New Guinea, Solomon Islands and Fiji Islands.
4. Remoteness has a strong negative effect on both income and growth.
5. The growth of countries benefiting from EU sugar and banana preferences did not suffer as a result of preference erosion from 1995-2003.

The main policy implication of these findings is that remote countries should adopt measures to reduce their poor market access. Trade facilitation policies such as streamlining customs procedures, investing in transport infrastructure and privatising inefficient state run transport companies can improve market access by reducing trade costs. Trade negotiations should also focus on obtaining access to large nearby markets. Any erosion of existing preferences will reduce market access relative to other countries. A long-term solution for remote countries could be to specialise in "weightless industries" such as financial services or computer software, but this would require substantial investment in human capital before any returns were realised; an unwelcome risk profile.

There are two principal areas where further work is required. One is data collection. More comprehensive, internationally comparable data, on the economies of small states is required. The calculation of an economically correct remoteness index covering all countries, large and small, would also provide an invaluable analytical tool. The other is in understanding why small states have performed well historically and whether their recent difficulties are temporary or an unavoidable consequence of changes in the structure of the global economy.

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