

## CHAPTER 1

### GENERAL INTRODUCTION

#### 1.1 The nature of the problem

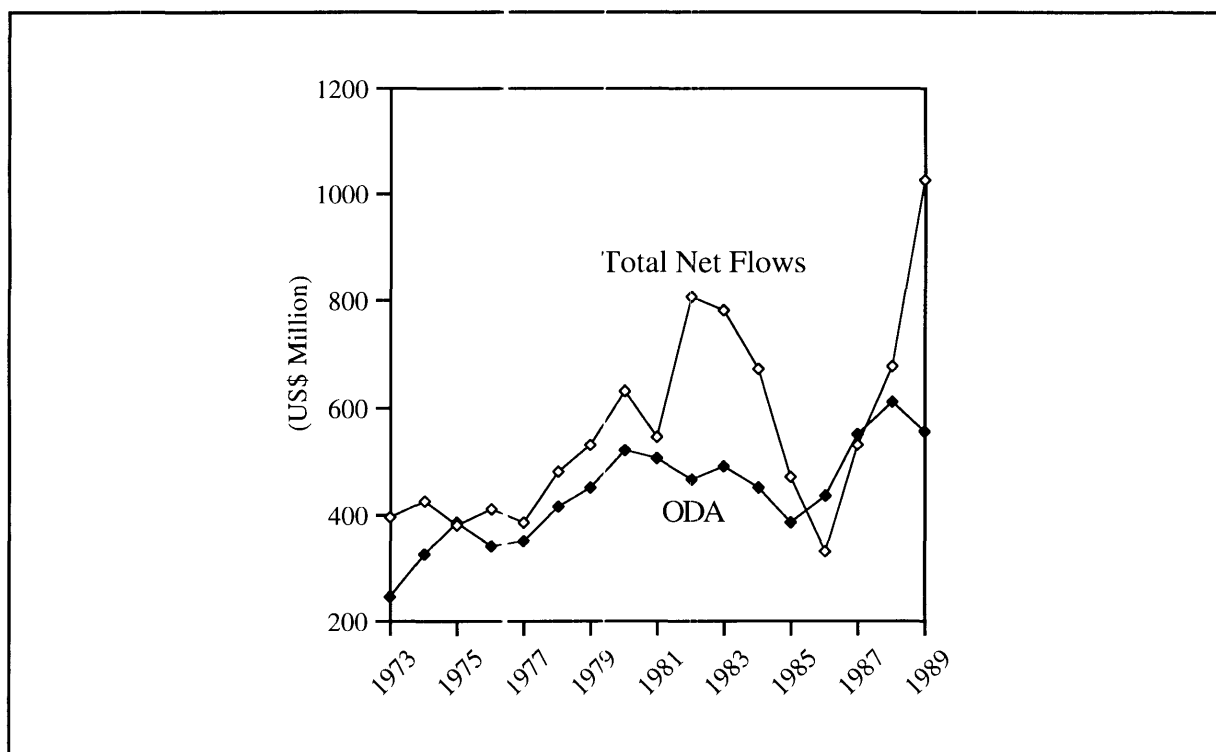
In the 1960s and 1970s, the accession to independence or self-government of most South Pacific<sup>1</sup> countries, brought to the fore the question of the financing of their developmental needs. The needs were typically very great, as departing powers had usually bequeathed unbalanced economies to their former colonies. These economies were often characterised by the coexistence of a few export-oriented enclave activities, with a large, undeveloped subsistence sector. The modernisation of the latter, to which all emerging nations aspired, was a task requiring financial resources far in excess of those available domestically. It was thus left to foreign aid to provide the new countries with the means of improving the standard of living of their citizens. Overseas Development Assistance (ODA), supplied to a large extent by the ex-colonial rulers themselves, rapidly became the main component of net financial transfers to the South Pacific region (SPR). The prominent position achieved by aid may be illustrated in relation to a group of eight South Pacific countries belonging to the Asian Development Bank (ADB). As can be seen from figure 1.1, aid made up the bulk of total net financial flows to these countries during the 1973-89 period. Furthermore, the SPR as a whole experienced a long term increase in the value of the aid it received: between 1977 and 1989, ODA transferred to all states and territories in that region grew from A\$583 million to A\$1,612 million in current value terms (SPC), which translates into an average 8.8 per cent per annum increase in real aid flows if the Australian Retail Price Index (ABS) is used as the deflator.

As a result of the increasing availability of aid, the SPR has been, for some time, one of the most financially assisted regions in the world. This can be verified from table 1.1, in which the amounts of aid per capita received in the SPR and in other small island nations (SINs) or developing countries are compared. A number of inequalities between aid recipients are apparent from

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<sup>1</sup> Broadly defined as the area of activity of the South Pacific Commission (see figure 2.1).

Figure 1.1 Comparison of total net flows of financial resources and ODA in eight South Pacific countries (1973-89)



**Notes:** Countries included in this diagram are the Cook Islands, Fiji, Kiribati, PNG, the Solomon Islands, Tonga, Vanuatu, and Western Samoa.

In 1975 and 1986-87, total net flows are smaller than ODA because of net private capital outflows in some countries.

**Source:** Asian Development Bank (ADB), *Key Indicators of Developing Asian and Pacific Countries*, Manila, various issues

Table 1.1 Comparison of ODA per capita in selected country groupings (1988, A\$)

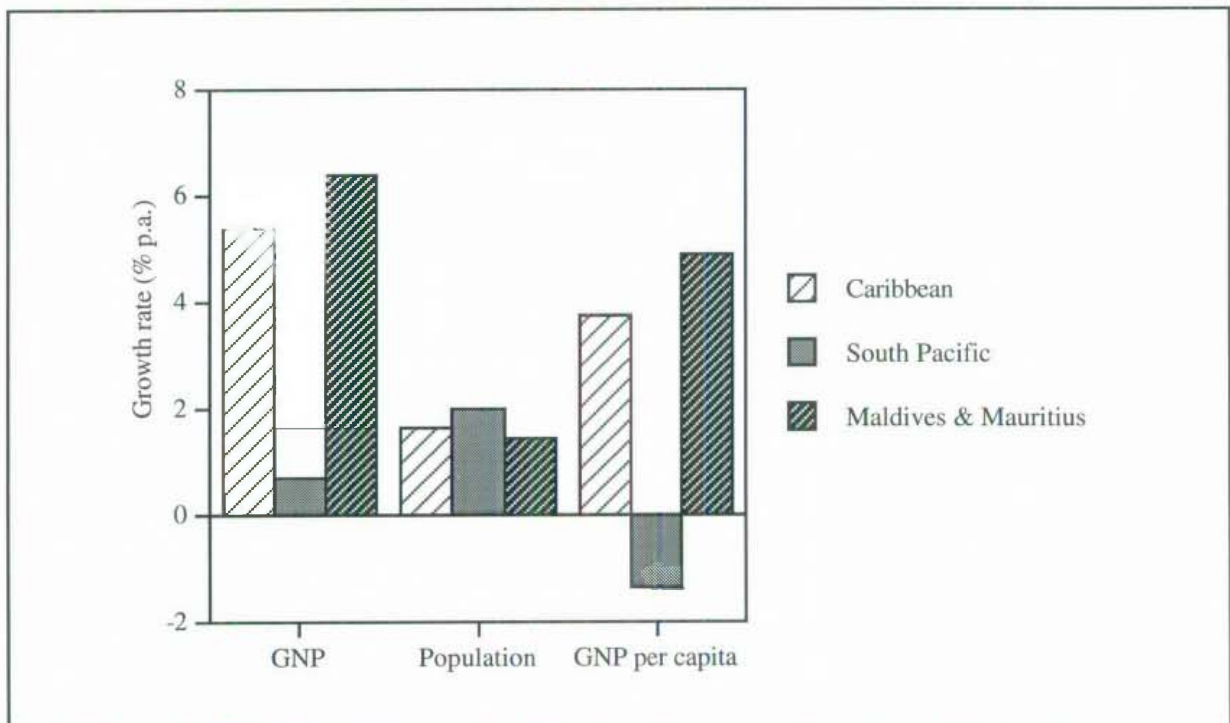
Country grouping	ODA per capita
SPR (self-governing)	732
SPR (non-self-governing)	1,841
Caribbean SIVs	200
Indian Ocean SIVs	194
Sub-Saharan Africa	32
Low & Middle Income Developing Countries	13

**Sources:** Constructed from South Pacific Commission (SPC), *South Pacific Economies. Statistical Summary*, various issues; National Centre for Development Studies (NCDS), South Pacific Economic and Social Database (SFD); World Bank 1991, p. 77.

the table: between self-governing and non-self-governing SPR countries, between SPR SINs and other SINs, and between all SINs and non-SINs. The second of these inequalities is of particular significance, since it reveals that the large volume of aid received by SPR countries is not entirely attributable to the oft-documented 'small country bias' of aid provision (e.g. Eaton 1989, p. 1365). Nor is the relatively high level of aid received by the SPR solely due to the non-self-governing status of the recipient. Thus, the privileged position of the SPR in terms of ODA must be influenced by other factors, some of which will be examined later in this thesis.

Given that the official rationale behind most forms of ODA was and remains the promotion of self-sustaining growth in the recipient country, a strong economic performance by countries of the SPR may have been expected from the aid per capita figures presented above. This expectation is, however, not borne out by reality: as figure 1.2 illustrates, the SPR as a whole was not able to emulate the rate of GNP growth achieved by comparable SINs during the 1980-1988 period.

Figure 1.2 Real GNP growth in selected country groupings (1980-88)



Note: Caribbean group excludes Trinidad & Tobago and Barbados.

Source: Adapted from World Bank 1991, p. 9.

From this, it could be inferred that no clear correlation exists between what might be termed 'aid intensity' and output growth. Conversely, it could be

argued that any beneficial effects of aid in the South Pacific have been obscured by contemporaneous factors. These alternative interpretations encapsulate the thrust of the decades-old debate regarding the existence, strength, and reliability of the aid-growth relationship (AGR). Empirical evidence presented in the course of this debate has emanated from many geographical regions, but only rarely from the SPR. This is somewhat ironic in the light of both this region's status as the most aided in the world, and its disappointing growth record, the so-called 'Pacific Paradox' (Bilney 1994). It is, therefore, of some interest to try and remedy this deficiency, by gaining an understanding of the impact of aid in at least some of the South Pacific countries.

There is no a priori reason to believe this impact to be uniform throughout the SPR. South Pacific island nations range from minuscule atoll countries with very few natural resources and small populations (e.g. Kiribati, Tuvalu), to sizeable land masses with large reservoirs of both (e.g. Solomon Islands, Fiji). In addition to physical and demographic differences, there are vast differences in social, economic and political profiles. Thus, it may reasonably be expected that the economic impact of aid will be influenced by the characteristics of the recipient economy. One such characteristic, the size of the economy, is especially significant because it determines how 'large' a given aid inflow really is. One measure of the relative magnitude of aid is provided by the ratio of ODA to GDP; as table 1.2 illustrates, this ratio varies considerably in the 11 South Pacific countries selected.

Table 1.2 Ratio of ODA to GDP in selected South Pacific countries

Country	Ratio (%)	Year	Country	Ratio (%)	Year
Cook Islands	24	1992	Tokelau	349	1990
Fiji	4	1992	Tonga	25	1992
Kiribati	73	1992	Tuvalu	49	1992
Niue	121	1992	Vanuatu	17	1992
PNG	17	1989	Western Samoa	35	1992
Solomon Islands	12	1992	<i>Average</i>	66	

Sources: NCDS, *Pacific Economic Bulletin*, various issues; Weisman 1990; Poirine 1995 (Appendix).

The table provides broad confirmation of the small-country bias of aid provision: while larger SPR countries (e.g. PNG, Solomon Islands) have relatively low ratios of ODA to GDP, smaller countries generally exhibit high

ratios. The four countries with the highest ratio are: Kiribati, Tuvalu, Niue and Tokelau, the latter proving to be a clearly extreme case of aid dependency. Significantly, it has been suggested by some authors, that these four countries, together with the Cook Islands, form a distinct sub-group within the SPR. They are, according to Bertram and Watters (1985), MIRAB (*MI*gration, *RE*mittances, *AI*d, *B*ureaucracy) countries. These countries' economies, they argue in essence, are no longer founded on productive activities, but are wholly driven by aid and other forms of rent income such as migrants' remittances and philatelic earnings. According to these proponents of the MIRAB hypothesis<sup>2</sup>, the role of foreign aid in this environment is fundamentally at odds with its official appellation of 'development assistance'. This is because, while it effectively raises the standard of living of the inhabitants, aid has little or no impact in terms of development in the traditional sense. In other words, aid subsidises income and consumption levels, but does not improve the prospects for self-sustaining long term growth.

Thus, the MIRAB hypothesis offers an explanation for the observed lack of correlation between aid and growth, at least in some countries of the SPR. To a large extent, however, the hypothesis' tenets owe more to empirical observation than to economic analysis. Before it can be concluded that the MIRAB hypothesis provides a useful representation of the economies under consideration, especially in terms of understanding the role of aid, further research is needed, as outlined in the next section.

## 1.2 Objectives, methodology, and structure of the research

The present research has three principal objectives.

First, it aims to provide an update of the empirical evidence presented in support of the MIRAB hypothesis by its original authors (Bertram and Watters 1985; Bertram 1986). Since their data covered the period up to the early 1980s at the latest, it is desirable to re-examine the robustness of the hypothesis in the light of more recent statistics. In doing so, it is hoped to ascertain whether the hypothesis can still be regarded as a useful framework for the study of the impact of aid.

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<sup>2</sup> Variouslly referred to, henceforth, as 'the MIRAB theory', 'the MIRAB model', and 'the MIRAB framework'.

The second objective of the research is to carry out a detailed empirical study of the macroeconomic effects of aid in the five economies previously mentioned, using the main findings of the international literature on aid as a guide. This study should not be construed as an alternative to the MIRAB approach to aid issues; rather, it is complementary, in that it represents an in-depth look at one element of the MIRAB nexus.

The third and main objective is to formulate and test various hypotheses which may explain the impact of aid in MIRAB countries, and in SInS sharing some of their characteristics. This is done by constructing, interpreting, and quantifying a number of stylised macroeconomic models of a 'typical' MIRAB economy. Modelling, a common methodology in the international aid literature, has not been used to any great extent in the context of South Pacific microstates (MIRAB and non-MIRAB). When models have been constructed (e.g. Fairbairn and Tisdell 1983; Bertram 1986; Poirine 1994), they have generally used a mixture of graphical and heuristic techniques. The main advantage of mathematical modelling, is that it allows more variables, and hence relationships, to be incorporated usefully into the analysis. It also allows a greater degree of flexibility in exploring the consequences of departing from the starting hypotheses. Finally, it is a prerequisite for the derivation of numerical results.

The structure of the thesis follows, broadly speaking, the sequence of three objectives outlined above. In the remainder of chapter 1, the methodology and data sources used in the study are briefly foreshadowed. Chapter 2 presents an overview of the five countries under consideration, together with a summary of the characteristics of the ODA they receive. In chapter 3, the main historical strands and findings of the international literature on aid are reviewed, with special reference to the aid-growth relationship. Even though it raises many of the issues associated with the aid-growth debate, the MIRAB hypothesis is considerably wider in scope, and is therefore best approached in a separate chapter. Accordingly, in chapter 4, the various facets of the hypothesis are examined, and compared with alternative views on the problem of South Pacific microstates development. In chapter 5, the original evidence underlying the MIRAB hypothesis is updated and interpreted. In chapter 6, the macroeconomic impact of aid is investigated through the lens of the main aid literature findings. In chapters 7 and 8, models of the MIRAB economy are constructed and interpreted. Chapter 7 examines the impact of aid using a one-sector model, while a two-sector model is used in chapter 8. In chapter 9, the comparative static results derived for the two-sector model are simulated numerically, in an

attempt to quantify the impact of aid. Finally, in chapter 10, the results of the research are summarised and general conclusions are drawn regarding the effects of aid in MIRAB economies.

The methodology used in chapters 5 and 6 consists almost entirely of the diagrammatical and tabular exposition of the relevant data. However, in a few instances, this approach is supplemented with simple descriptive statistics and linear regression analysis. In chapters 7 and 8, the models are presented in both graphical and algebraic formats, while differential calculus is used to derive the associated comparative static results. Lastly, in chapter 9, numerical results are presented in tabular format.

Data used throughout the thesis are mainly from the computerised South Pacific Economic and Social Database (SPD), produced by the National Centre for Development Studies at the Australian National University, Canberra, Australia. This comprehensive database collates, in Microsoft<sup>TM</sup> Excel spreadsheet format, published statistics for a large number of South Pacific countries, including Kiribat, Tuvalu, the Cook Islands, and Niue. Unfortunately, Tokelau is not covered by the database and is, as a result, the MIRAB country for which the dearth of data is the most acute. Conversely, Kiribati has the most detailed statistical base, a probable consequence of its membership of the World Bank and the International Monetary Fund. On the whole, however, economic data are very scarce for all MIRAB countries, resulting in time-series that are often short, fragmented or altogether non-existent. In an attempt to remedy this problem, SPD data were supplemented with data from other sources whenever possible. The origins of this supplementary information being highly diverse, the reader is directed to in-text references for further details.

## CHAPTER 2

OVERVIEW OF THE SOUTH PACIFIC MICROECONOMIES  
UNDER STUDY

## 2.1 Geography, history, and demography

The five countries under study—Kiribati, Tuvalu, Niue, Tokelau, and the Cook Islands—are broadly located in the south-western quadrant of the Pacific Ocean, in an area spanning longitudes 165° W and 155° E, and latitudes 10° N and 25° S (see figure 2.1). These countries are wholly situated between the equator and the tropic of Capricorn, except for some of Kiribati's islands, which lie in the northern hemisphere. Historically, all countries were once colonies or protectorates of the United Kingdom. Today, two countries are independent states, two are self-governing territories, one is a non-self-governing territory.

In table 2.1, a summary of basic indicators is presented, for the five MIRAB countries and for other selected South Pacific island states.

Table 2.1 **Geographic, demographic and economic indicators of selected South Pacific countries**

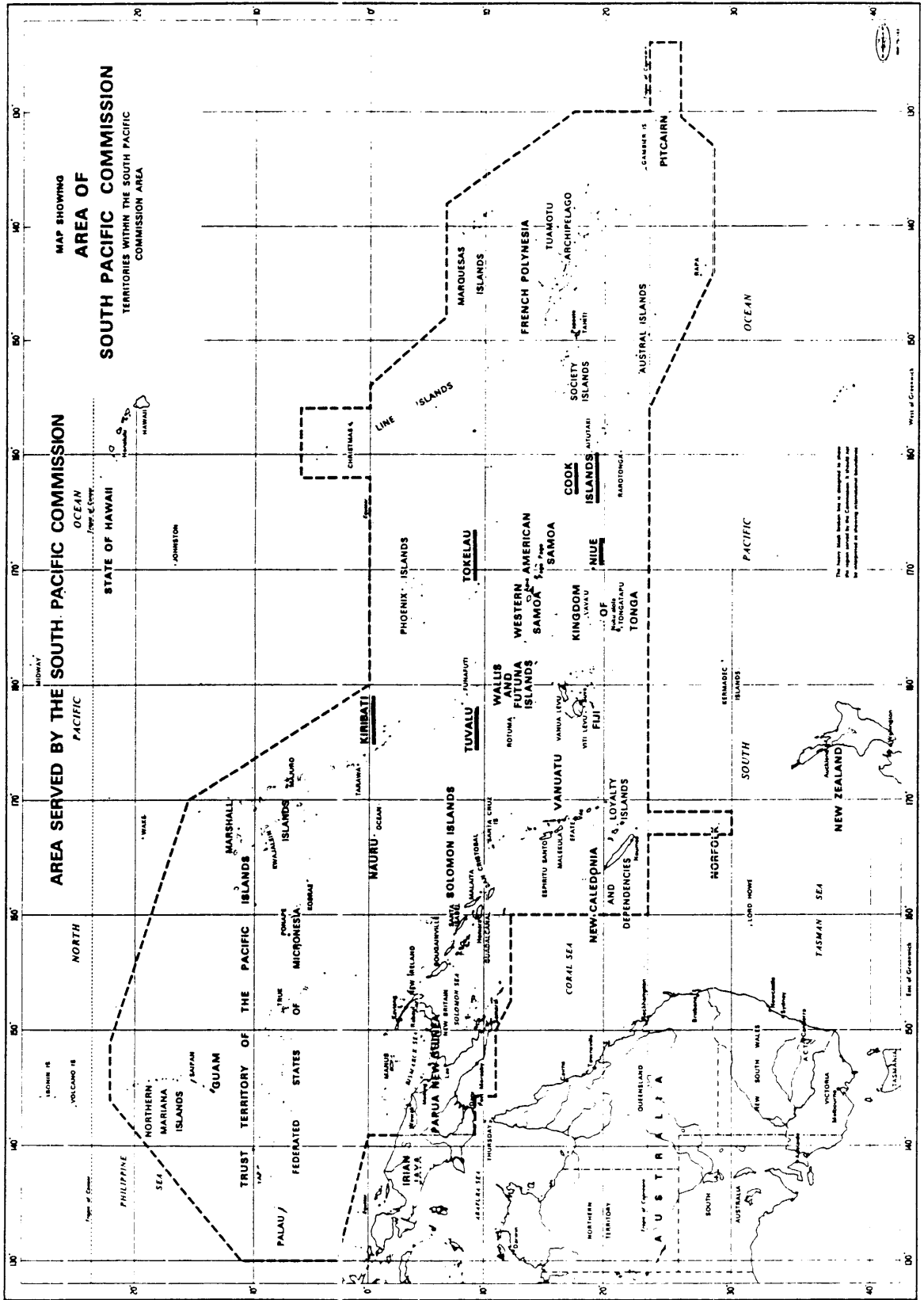
Country	Land area (sq. km)	Sea area ('000 sq. km)	Population		Density (per sq. km)	GDP per capita (A\$)
			Number in 1992 ('000)	Growth 1980-92 (%)		
Kiribati	810	3,500	75	32.3	109	1,020 (1992)
Tuvalu	24	750	9.0	20.0	346	1,374 (1992)
Cook Islands	240	2,000	18.4	5.7	71	4,998 (1992)
Niue	259	390	2.1	-34.4	8.6	2,292 (1992)
Tokelau	12	290	1.5 <sup>a</sup>	0.0 <sup>a</sup>	124	1,088 (1990)
FSM	701	2,978	108.5	41.6	155	2,584 (1992)
Marshall Islands	181	2,131	50.0	62.3	709	2,230 (1992)
Nauru	21	320	9.3	0.0	443	17,408 (1992)
Tonga	747	700	101.0	7.4	135	1,496 (1992)
Western Samoa	2,935	120	162.0	4.5	55	1,278 (1992)

<sup>a</sup> 1991 population and 1981-91 population growth.

**Sources:** NCDS, *Pacific Economic Bulletin*, various issues; SPC; SPD; Ioane 1994; AIDAB 1994a; CIA 1995; Poirine 1995 (Appendix).



Figure 2.1 Map of the South Pacific region



Source: SPC.

### 2.1.1 Kiribati

Kiribati is a small island country, situated in the Micronesia region of the Pacific Ocean (see figure 2.1). It consists of 33 islands, located astride the equator and the international date line, and sub-divided into three island groups: the Gilbert Islands, the Phoenix Islands, and the Line Islands (see appendix 2.1). The high degree of dispersion experienced by that country is reflected in the fact that its eastern-most and western-most islands are separated by a distance equivalent to the continental United States. Almost all of Kiribati's islands are coral atolls, that is, narrow, broken ribbons of land enclosing a lagoon. These atolls are low-lying, mostly rising no more than 3 metres above sea level. One island, Banaba (formerly known as Ocean Island) is of limestone origin, and rises 78 meters above sea level. The island of Kiritimati (formerly Christmas Island) is the largest atoll, and accounts for 48 per cent of the country's total land area.

Kiribati experiences a maritime equatorial climate: rainfall is more frequent in the northern Gilbert and Line islands, but droughts lasting as long as three years can affect most of its islands. The country is immune to cyclones but, in the longer term, is greatly threatened by inundations, should predictions of rising sea levels caused by global warming be realised. Because of its geomorphology, Kiribati lacks abundant surface freshwater and fertile topsoil; as a consequence, its agricultural prospects are limited. In addition, it possesses few natural resources, now that phosphate deposits on Banaba are exhausted. Marine resources, in the form of fish stocks and sea-bed minerals, are thought to be relatively more abundant, but have yet to be exploited on a large scale.

The population of Kiribati, which numbered 72,298 at the last census (1990), is mostly of Micronesian descent, albeit mixed to some extent with Chinese, European, and Polynesian blood. This population is very young, with 40 per cent under 15 years of age, and is increasing at a relatively high rate (2.24 per cent per annum between 1985 and 1990). Population growth is felt particularly strongly in the capital, Bairiki (South Tarawa Island), where 35 per cent of I-Kiribati<sup>1</sup> resided in 1990. This high rate of urbanisation, caused in part by internal migration, has resulted in very high population densities on the main island (1,610 inhabitants per sq. km in 1990), and has led to the implementation, since 1989, of a resettlement scheme designed to populate outer islands in the Line and Phoenix groups. In these groups, population density is only 9 per sq. km, with some islands uninhabited.

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<sup>1</sup> Inhabitants of Kiribati.

Prior to 1979, Kiribati was included in the Gilbert and Ellice Islands Colony of the United Kingdom. This colony was formed in 1916, after the Gilbert Islands, a British Protectorate since 1892, were joined with the Ellice Islands. In 1975, the Ellice Islands separated to become the independent state of Tuvalu (see 2.1.2). The Gilbert Islands achieved internal self-government in 1976, and full independence from the United Kingdom in 1979, upon which the name Kiribati was adopted. Since then, it has been a member of the Commonwealth of Nations, governed by a President, his Cabinet, and a House of Assembly.

### 2.1.2 Tuvalu

Tuvalu is an archipelago formed of six atolls and three reef islands, situated at the centre of the South Pacific region, a few degrees south of the equator (see figure 2.1 and appendix 2.1). Its islands, seldom rising more than 4 metres above sea level, have a combined land area of 24.4 sq. km, while their associated Exclusive Economic Zone (EEZ) covers 750,000 sq. km. They extend over 560 kilometres from southernmost to northernmost. The largest island is Vaitupu (5.6 sq. km), and the capital is situated on the main island of Funafuti (2.8 sq. km).

The climate is equatorial, usually tempered by easterly trade winds, but subject to cyclones in season. Rainfall is very variable, from year to year and between islands, with a real risk of drought. There is no surface water, except for a brackish lake on one island. Due to the lack of water, and to the presence of very poor soils, flora and fauna are very scarce. Other land-based resources, such as minerals, are non-existent. In contrast, marine resources are relatively abundant, especially fish stocks, and offer the most promising prospects for further development. In addition, the commercial exploitation of seabed minerals and precious corals (e.g. black coral) may be possible, once the results of current exploratory ventures are known.

Tuvalu's population is of Polynesian origin, with some European and Gilbertese blood. It was estimated at 9,045 persons at the end of 1991, and had grown at an annual average rate of 1.7 per cent since 1979. More than a third of all Tuvaluans live in the main island and only urban centre, Funafuti, where population density reaches 1,454 per sq. km. This figure is the highest of any Pacific archipelago.

After becoming a British Protectorate in 1892, the then Ellice Islands were incorporated into the Gilbert and Ellice Islands Colony in 1916. In 1973, a self-determination process was initiated, which culminated in the birth of the independent nation of Tuvalu on October 1st, 1978. As a consequence of this separation from the colony, a large number of Tuvaluans, hitherto living and working in Kiribati, were repatriated. Tuvalu, a member of the Commonwealth, is governed by a Prime Minister, his Cabinet, and a single-chambered Parliament.

### 2.1.3 Cook Islands

The Cook Islands are an archipelago of 15 islands, situated in the south central Pacific region, north of the tropic of Capricorn and east of the international date line (see figure 2.1 and appendix 2.1). Some of these islands are atolls (Northern Group), while others are mountainous (Southern Group). The Southern Group includes the largest island, Rarotonga, where the capital, Avarua, is situated.

The climate is tropical, and moderated by trade winds. The islands are subject to cyclones, and rainfall is relatively high. While the northern atolls lack surface water and topsoil, the Southern Group islands have fertile volcanic soils, well suited to the production of tropical fruit such as paw-paw, and citrus. Overall, however, arable land amounts to only 4 per cent of the total land area, and there are no land-based mineral resources. Marine resources are comparatively more abundant, with their commercial exploitation centring upon the production of pearlshell and black pearls.

At the latest census (1991), the population of the Cook Islands numbered 18,617, implying an average annual growth of 1.11 per cent since 1986. Cook Islanders are of Polynesian descent, with about 18 per cent of the population of mixed blood or other origin. The urban centre, Rarotonga, accounts for more than half of the population, a proportion which has been steadily increasing since the 1960s. Population density on the main island is approximately 148 per sq. km. In 1986, the proportion of the population aged 14 and under was 37 per cent.

A British Protectorate was declared on Rarotonga in 1888, and was later extended to include all Southern Group islands in the Federation of the Cook Islands. In 1901, the Federation was annexed by New Zealand, and enlarged to

include the Northern Group. In 1957, a Legislative Assembly was set up, followed, in 1965, by the adoption of a constitution and the election of the first Cook Islands Premier. In that same year, the Assembly opted for internal self-government, in free association with New Zealand. Under the terms of that political regime, Cook Islanders remained New Zealand citizens, with unrestricted access to that country. Furthermore, New Zealand continued to assume responsibilities for external affairs and defence. The Cook Islands are governed by a Prime Minister, his Cabinet, and a unicameral Parliament. The House of Arikis (chiefs) advises on traditional matters, but has no legislative powers.

#### 2.1.4 Niue

In contrast to other MIRAB countries, Niue consists of a single, large island, situated in the south central Pacific, roughly equidistant from Tonga, Western Samoa, and the Cook Islands (see figure 2.1 and appendix 2.1). The island has been created by the up-lifting of a coral atoll, the largest and highest of its kind in the world, making for a mostly precipitous coastline.

Niue's climate is tropical, tempered by trade winds, and subject to cyclones. Rainfall is moderate, but highly variable, leading to the recurrence of drought. There is an almost total absence of surface water, but groundwater is available in sufficient quantity to meet all the islanders' needs. Due to the coral origin of Niue, soils are of poor quality, imposing considerable restrictions on agriculture. There is, however, some forest cover, part of which is millable. In spite of anomalous levels of radio-activity, no mineral deposits of any significance have been discovered. Prospects of seabed mineral deposits within the EEZ are equally low. Even though fishing is, traditionally, a major Niuean activity, fish resources are generally considered scarce, to the extent that they have been surveyed.

The population of Niue, of Polynesian descent, numbered 2,239 at the last official census (1991), about 20 per cent of whom lived in the capital, Alofi. Between 1986 and 1991, the population declined at an average annual rate of 2.4 per cent, the combined result of a falling fertility rate and emigration. It appears to have stabilised in recent years, however. In 1991, 21 per cent of Niueans were aged under 15 years.

Niue was declared a British Protectorate in 1900. The following year, the island was incorporated into New Zealand, to be administered jointly with the Cook Islands. In 1904, it was given its own administration, headed by a Resident Commissioner. The decolonisation process began in 1960, with the election of an Island Assembly, followed by the progressive devolution of legislative and executive powers. After first rejecting internal self-government in 1965, Niueans voted in favour of it in 1974, in free association with New Zealand, which retained responsibility for external affairs, defence, and the continued provision of economic assistance. Niueans are New Zealand citizens, and thus have unrestricted access to that country. Niue is governed by a Legislative Assembly, a Premier, and his Cabinet.

### **2.1.5 Tokelau**

Tokelau is a group of three atolls, located in the central south Pacific region, north of Western Samoa, and south of Kiribati's Phoenix group (see figure 2.1 and appendix 2.1). The atolls have a maximum elevation of five metres.

The climate is tropical, with prevailing south-easterly winds. Tokelau is affected by cyclones, some of which have been very destructive in recent times. Surface water is non-existent, and Tokelauans depend on an unreliable rainfall for their needs. Soils are poor, and devoid of any known mineral wealth. In contrast to land-based resources, marine resources are abundant; they vary from lagoon and deep-sea fish, to trochus, giant clams, and black pearl oysters.

Tokelauans are Polynesians, with familial, linguistic, and cultural links to Western Samoa. According to the latest census, Tokelau had a population of 1,577 in 1991, which had been declining at an average annual rate of -1.3 per cent since 1986. The most populated island is Atafu. About 43 per cent of Tokelauans are aged under 15 years.

Tokelau, then known as the Union Islands, became a British Protectorate in 1889. From 1916, it was administered as part of the Gilbert and Ellice Islands Colony. In 1924, it was formally annexed by the United Kingdom and, two years later, was transferred to the administrative control of New Zealand, as part of that country's administration of Western Samoa. In 1946, the group was officially designated as the Tokelau Islands (then Tokelau in 1976), and, in 1949, incorporated officially into New Zealand. Since then, Tokelau's political status

has been that of a non-self governing territory, listed by the United Nations' Committee on Decolonisation. At the request of the latter, New Zealand has implemented a progressive devolution of legislative and administrative powers to the territory in preparation for its eventual self-determination. It is expected that, following the latter, Tokelau will choose the same status as Niue and the Cook Islands. Since 1994, Tokelau has been governed by an assembly of village representatives and a council of elected leaders of each atoll.

## 2.2 Economic characteristics

### 2.2.1 Remoteness, smallness and openness

Like most South Pacific countries, MIRAB countries are remote. The extent of this remoteness may be illustrated in two ways: first, as already mentioned, by the considerable dispersal of the island groups comprising each MIRAB country (except Niue: see 2.1.4); second, by the distances separating these countries from their nearest neighbour, and from metropolitan countries (see table 2.2).

Table 2.2 Distances separating MIRAB countries from selected countries

Country	Nearest South Pacific country	Distance (km)	Nearest metropolitan country	Distance (km)
Kiribati	Marshall Islands	680	Australia	3,500
Tuvalu	Wallis & Futuna	740	New Zealand	2,900
Cook Islands	Niue	1,100	New Zealand	2,900
Tokelau	Western Samoa	480	New Zealand	3,000
Niue	Tonga	630	New Zealand	2,400

Source: Author's estimates based on the *Hammond World Atlas* 1978.

The remote location of the islands is accompanied by a significant degree of isolation, as the distances involved have usually hindered the establishment of strong transport and communication links. However, marked inter-country differences exist in this area. Both Kiribati and the Cook Islands possess their own domestic airline, as well as domestic shipping line. In addition, the Cook Islands have an international shipping line. These two countries are arguably the least internationally isolated of the MIRAB group, as they enjoy regular air access to other South Pacific countries as well as metropolitan countries, and are visited

by several shipping lines. By contrast, Tuvalu, Niue and Tokelau face greater isolation, relying on foreign companies for international access, and on *ad hoc* means of inter-island transport. In Tuvalu, for instance, international shipping consists of just one monthly visit by the Pacific Forum Line, while only one vessel is regularly available for inter-island transport (Tuvalu 1992).

In most MIRAB countries, the continued supply of transport services has only been achieved through government ownership and/or heavy subsidisation. The ensuing financial burden on public funds has often been acute, prompting recent moves towards the privatisation of some transport operators (e.g. Kiribati's domestic airline, Air Tuarua). In the majority of cases, the scarcity of transport links available to MIRAB countries has ruled out economies of scale, resulting in high domestic and international transport costs. For instance, Briguglio (1995, p. 1629) has estimated that transport and freight costs amounted, on average, to 63 per cent of merchandise exports proceeds for Kiribati during 1987-89. This placed Kiribati in the unenviable position of having the seventh highest such percentage in the world (*loc. cit.*).

MIRAB countries fit virtually all definitions of 'smallness', whether they are economic (e.g. GDP, GNP), geographic (e.g. total land area, arable land area) or demographic (e.g. population). The only exception would arise in regard to their EEZs, which, as already mentioned, are uncommonly vast. Furthermore, any ranking of small island countries on the basis of traditional indicators of size, would see the MIRAB countries appear at the lower end of the spectrum. Undoubtedly, it is likely that a partial correlation will exist between most measures of smallness, so that, other things being equal, countries with small populations and little land also have low levels of GDP. According to Fisk (1981, p. 8), smallness places South Pacific developing countries at a serious economic disadvantage, as it implies the absence of economies of scale in domestic markets and transport. Such problems are understandably exacerbated in MIRAB countries. Other economic handicaps associated with a small size, as summarised by Briguglio (1995, pp. 1616-17), are limited natural resources endowments, high import content, limited import-substitution possibilities, dependence on a small range of export products and markets, limited ability to influence domestic prices, limited domestic competition, and inefficiencies in the delivery of public administration. Virtually all these characteristics apply, to a greater or lesser extent, to MIRAB economies.



The level of economic vulnerability derived from smallness can be measured through the use of various proxies, two of which are presented below. Following Briguglio (*ibid.*), trade dependence is used as a proxy for the degree of exposure to foreign economic conditions in table 2.3. As can be seen from this table, MIRAB countries experience an overall level of trade dependence (fourth column) which is significantly lower than in other small island countries.

Table 2.3 **Indices of trade dependence for selected countries**

	Exports/GDP (%)	Imports/GDP (%)	Imp+Exp/2xGDP (%)
Kiribati	13.9	71.2	42.6
Tuvalu	2.6	64.5	33.6
Cook Islands	8.7	71.8	40.2
SIDS	60.4	70.9	65.6
Developing Countries	38.0	43.4	40.7

**Note:** Data calculated using 1987-89 averages of commodity exports and imports, and GDP.

**Sources:** SPD; AIDAB 1992a, 1993; Briguglio 1995.

This may be regarded as a benefit inasmuch as it implies a lower sensitivity of the economy to external shocks. However, the lower index of trade dependence in MIRAB countries is almost entirely a reflection of their low exports to GDP ratios. Their ratios of imports to GDP are as high as those of other SIDS, which implies that both groups of countries are equally vulnerable to external influences such as imported inflation or increases in transport costs.

Low ratios of exports to GDP undoubtedly reduce the exposure of MIRAB countries to the vagaries of international markets for their products. This benefit is, however, mitigated by the fact that the economic contribution of the export sector is likely to be more unstable in those countries. As table 2.4 shows, the concentration of commodity exports is particularly high in three MIRAB countries: Kiribati, Niue and Tokelau. While somewhat lower in Tuvalu and in the Cook Islands<sup>2</sup>, it remains above that of other SPR countries. The reliance on a narrow range of commodities means that output and employment in the export sector are strongly dependent on international market fluctuations. This is particularly true in the case of agricultural exports, such as copra, whose world

<sup>2</sup> Given the existence of significant invisible exports (linked to tourism and the finance sector) in the Cook Islands, the true degree of export concentration is almost certainly lower than indicated in table 2.4.

price is eminently cyclical (see e.g. Guest 1986, p. 77), as well as beyond the control of the MIRAB countries. It is also true of niche exports such as stamps, the value of which, to some extent, depends on their scarcity (see e.g. Treadgold 1988, pp. 186-90). The fragility of philatelic earnings was amply demonstrated in the case of Tuvalu, with stamp export proceeds in 1989 a mere 6.3 per cent of their historically highest value reached in 1981 (AIDAB 1993, p. 56).

**Table 2.4 Concentration of commodity exports in selected South Pacific countries (1989)**

Country	Largest export	(1)	Second largest export	(2)
Kiribati	Copra	52.3	Fish	97.9
Tuvalu	Stamps	42.6	Garments	74.6
Cook Islands	Fruit and vegetables	42.1	Shells, coral, trochus	67.4
Niue	Fruit and vegetables	81.8	Handicrafts	90.8
Tokelau <sup>a</sup>	Copra	100.0	n.a.	n.a.
Papua New Guinea	Copper	33.0	Gold	64.0
Solomon Islands	Fish	40.1	Wood products	65.0
Fiji	Sugar	41.4	Clothing and footwear	60.6
Tonga	Manufactured goods	29.3	Root crops	46.5
Vanuatu	Copra	46.5	Meat	62.7
Western Samoa	Fruit and vegetables	40.0	Coconut oil	63.9

<sup>a</sup> 1982 figure. (1) Largest export's share of total commodity exports value. (2) Largest and second largest exports' cumulative share of total commodity exports value.

**Sources:** SPC; SPD; AIDAB 1991, 1992b, 1994.

From the various statistics presented above, McKee and Tisdell's contention that 'size has conspired to deny many SINS the degree of economic sovereignty taken for granted in larger nations' (1990, p. 170), seems particularly apt in the case of MIRAB countries.

## 2.2.2 Economic structure and performance

Kiribati's accession to independence in 1979 coincided with the exhaustion of phosphate deposits in Banaba, the exploitation of which had been a mainstay of the economy since their discovery at the end of the nineteenth century. As a result, exports fell by 80 per cent, while government revenue and real GDP declined by about one half (Browne 1989, p. 62). Since the early 1980s, real GDP has been growing at an average rate of 1 per cent per annum only, which has

been insufficient to maintain per capita GDP, equal to A\$630 in 1991 (AIDAB 1992a, p. 4). Kiribati was designated a least developed country by the United Nations in 1987.

In recent times, Tuvalu has experienced an acceleration of its economic growth; low levels of real GDP growth in the first half of the 1980s were replaced, in the second half of that decade, by much higher levels, averaging 9.5 per cent per annum during 1988-90. This rate was higher than that of population growth, which led to an improvement in real GDP per capita over the same period. Indeed, if only income accruing to Tuvaluans is taken into account, real income per capita rose by 12.3 per cent per annum in the three years to 1990. Tuvalu has been designated a least developed country by the United Nations.

Between 1982 and 1990, the real GDP of the Cook Islands grew at an average annual rate of 5.8 per cent. This strong performance was largely due to the rapid expansion of tourism, with the number of arrivals rising by 71 per cent over the same period. Another contributing factor was the emergence of the Cook Islands as an off-shore financial centre. Between 1982 and 1990, the contribution of the 'Finance and business services' sector to real GDP rose from 2.41 to 11.86 per cent. As a result of the expansion in tourism and finance, the Cook Islands enjoyed, at the beginning of the 1990s, a level of GDP per capita well above that of other MIRAB countries, and, indeed, above that of most independent South Pacific nations (see table 2.1).

Niue's national accounts are fragmentary, making a precise assessment of recent economic growth performance impossible. Between 1981 and 1984, GDP at current factor cost grew at an average annual rate of 5.74 per cent (SPC). If Niue's Consumer Price Index (SPD) is used as deflator, this is equivalent to an average fall in real GDP of 5.70 per cent per annum. The most recent estimate for GDP per capita is A\$2,292 in 1992 (Poirine 1992, appendix), implying a GDP figure of A\$5.4 million, and a real GDP annual growth rate of -4.9 per cent since 1984<sup>3</sup>. Since 1992, a sizeable reduction in New Zealand aid, from NZ\$9.5 million in 1991/92 to NZ\$7.0 million in 1993/94 (Lane 1994), may have caused levels of economic activity and income to fall, although this cannot be confirmed. The bulk of cash employment opportunities is provided by the public sector, with the remainder accruing from tourism and other services. A number of export-oriented commercial ventures, established with government assistance (e.g. football

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<sup>3</sup> Using the New Zealand Consumer Price Index as the deflator (the Niue CPI is not available after 1988).

manufacturing, coconut cream processing, lime and passionfruit growing) have followed 'boom and bust' cycles.

National accounts data for Tokelau also do not exist in any regularly published form. In 1990, GDP was estimated at A\$1.3 million, and GDP per capita at A\$1,088 (Poirine 1995, appendix). The next most recent figure for GDP is A\$1.8 million in 1988 (CIA 1995). This implies an average annual rate of growth of nominal GDP of minus 15 per cent over the 1988-90 period. If it can be assumed that Tokelau's inflation was identical to New Zealand's<sup>4</sup>, the previous growth figure translates into a real GDP fall of approximately -20 per cent per annum over that period.

The economic structure of all five MIRAB countries is characterised by dualism, that is, by the coexistence of a large (in terms of employment) subsistence (village) sector and a smaller formal (cash) sector. The activities carried out in the former sector consist almost entirely of agriculture and fishing for own-consumption purposes. A small amount of non-commercial construction and manufacturing also takes place. There can be some degree of overlap between the two sectors, as when surplus agricultural or fish products are commercialised, or when handicrafts are sold to tourists. As table 2.5 shows, the sectoral composition of GDP has, in recent times, been dominated by the share of services, of which government services are typically a sizeable component. The weight of services in the economy is even higher if subsistence activities are ignored.

Table 2.5 **Sectoral composition of GDP at factor cost (per cent)**

Country	Sector: Agriculture & Fishing <sup>a</sup>	Industry <sup>b</sup>	Government Services	Other Services	Year
Kiribati	19.0	9.8	31.2	40.0	1991
Tuvalu	24.4	26.0 <sup>c</sup>	23.2	26.4	1990
Cook Islands	18.0 <sup>c</sup>	6.2	26.4	49.4	1990

<sup>a</sup> Includes subsistence output. <sup>b</sup> Includes manufacturing, construction, electricity and water.

<sup>c</sup> Includes mining and quarrying.

Sources: SPD; Kiribati 1992; AIDAB 1993.

The prominence of village work and home duties among the recorded occupations of the adult population, is reflected in the generally small

<sup>4</sup> As measured by the New Zealand Consumer Price Index.

participation rate in the cash economy. As table 2.6 indicates, this rate never rises above 50 per cent, and is as low as 17 per cent in Tokelau. However, the figures provided in that table almost certainly underestimate the real degree of worker involvement in the formal sector, for several reasons. First, data inadequacy did not allow unemployment to be included in the calculation of participation rates. Second, working age population figures had to be extrapolated in some cases. Third, the importance of cash employment is measured imperfectly by figures pertaining to wage and salary earners alone, because of the existence of self-employed workers, and other income-earning workers.

Table 2.6 **Formal sector participation rates (per cent)**

Country	Participation rate	Year
Kiribati	25.8	1991
Tuvalu	24.8	1985
Tokelau	17.7 <sup>a</sup>	1991
Cook Islands	42.4 <sup>bc</sup>	1990
Niue	41.6 <sup>b</sup>	1984

<sup>a</sup> Includes wage and salary earners only. <sup>b</sup> Includes wage and salary earners, and employers. <sup>c</sup> 1990 population aged 15 and over estimated on the basis of 1990 total population and 1986 age structure.

Sources: SPD; AIDAB 1992a; Ioane 1994.

Conversely, it is likely that formal sector employment figures obscure the extent of the participation in subsistence activities in some countries. According to Fisk (1980; 1981), practically all formally employed Niueans are also involved daily in the production of basic staple foods in subsistence gardens.

In the formal sector, the bulk of employment is generated by the services sector and, within it, mainly by the government services and the activities of state-run enterprises (see table 2.7). The human resources available to MIRAB countries are characterised by a severe shortage of professional, managerial and technical skills. This shortage is overcome to some extent by the hiring of expatriate workers, and by technical assistance. In Kiribati, for instance, expatriates held 94 positions at the end of 1991, making up about 4 per cent of skilled employment (Kiribati 1992). In the Cook Islands, the corresponding figures were 191 workers and 15 per cent in 1990 (SPD). The skills shortage in MIRAB countries is primarily due to the absence of sufficient education facilities, but it is also the result of the emigration of qualified and overseas-trained

workers. Although this 'brain drain' is probably more prevalent in New-Zealand-linked countries, which have unrestricted access to a high-income external labour market, it nonetheless appears to pose a real problem in Kiribati and Tuvalu (Kiribati 1992; Tuvalu 1992). In smaller countries especially, the

Table 2.7 **Sectoral composition of formal employment** (per cent)

Country	Sector: Agriculture & Fishing	Industry <sup>a</sup>	Public Sector	Other Services	Year
Kiribati	25.3	12.4	21.0	41.3	1990
Niue <sup>b</sup>	22.4 <sup>c</sup>	23.0	40.4	14.2	1984
Cook Islands	6.9 <sup>c</sup>	19.4	37.8	35.9	1990
Tokelau	..	..	56.2	..	1991

Country	Sector: Non-Govt. Org.	Coop. Societies	Public Sector	Private Sector	Year
Tuvalu	4.8	12.4	68.7 <sup>d</sup>	14.3	1987

<sup>a</sup> Includes manufacturing, construction, electricity and water. <sup>b</sup> Sectoral composition of economically active population. <sup>c</sup> Includes mining or quarrying. <sup>d</sup> Includes the civil service and government enterprises.

Sources: SPD; AIDAB 1992a, 1993; Ioane 1994.

shortage of skilled labour can result in the break-down of essential government services (Matheson 1986).

The situation in regard to unskilled and semi-skilled labour differs between countries. In Kiribati and Tuvalu, the combination of rapidly growing populations, lack of emigration outlets, and small formal sectors means that this segment of the labour market is characterised by oversupply, resulting in significant unemployment and underemployment. Recent efforts to cap the size of the public sector have only exacerbated this situation. No mention of unemployment was found in relation to the other countries; if it exists, it is likely to be less prevalent, because of the easy access to New Zealand which these countries' citizens enjoy. Moreover, in the case of Niue and the Cook Islands, a relatively larger formal sector may be better able to 'absorb' school leavers.

## 2.3 Aid to the MIRAB economies

### 2.3.1 Forms of aid

As widely recognised by aid researchers (e.g. Cassen 1986, pp. 35-36; White 1992a, pp. 203-4), there are many difficulties involved in the definition and measurement of foreign aid. Defined in the broadest possible terms, foreign aid is 'assistance on concessional terms for promoting development' (Hawkins 1970, p. 11). The fact that the terms 'concessional' and 'development' are often open to interpretation, means that the measurement of aid flows is usually fraught with uncertainty. Some forms of aid, such as military assistance and aid by non-governmental organisations, are not normally included in ODA figures, yet may have a significant economic impact. Other forms of aid, such as food aid and technical assistance, are included but may be difficult to value accurately. Even with respect to the most common form of development aid, project aid, measurement difficulties arise due to differences in concessionality and procurement tying (see below). These differences mean that published aid figures should ideally be adjusted to reflect the real value of the resources transferred to the recipient. However, data on the characteristics of the aid granted to the MIRAB countries are not sufficiently detailed, on the whole, to allow official aid statistics to be refined in any meaningful way. In the remainder of this section, therefore, the discussion is primarily based on official data, with only passing consideration given to the 'true' magnitude of the aid inflows.

It is common practice for official ODA statistics to include all items listed in a donor country's or agency's aid budget. This practice, however, often leads to the considerable overestimation of the actual transfers of financial resources taking place. According to the World Bank, such transfers only amount to less than 60 per cent of total ODA (1991, p. 78), due to the following factors:

- a significant part of ODA spending takes place outside the recipient country, usually within the donor country (e.g. study sponsorships);
- much ODA consists of technical assistance, which may involve very little in the way of financial transfers. While the cost in notional aid dollars of a planning mission may be high, much of that cost will be incurred in the donor country; and
- the costs associated with organising, administering and supervising aid transfers enter ODA disbursements figures, even though these activities do not, in themselves, promote development.

These factors led the World Bank to conclude that:

The immediate effect [of ODA] on the recipient economy may, in fact, be limited only to wages paid to local workers and expenditures registered by experts, visiting consultants, and contractors. This may be only 5-10 per cent of total program costs – though in a very small economy this can have important multiplier effects. (loc. cit.)

A similar point is made by Matheson (1986, p. 34), who notes that '60 per cent of the New Zealand aid dollar is spent in New Zealand and directly benefits New Zealand.'

The lack of detailed data makes it impossible to assess the precise extent to which actual financial transfers to MIRAB countries diverge from official aid figures. The existence of such a divergence, however, is extremely likely; in Kiribati for instance, technical assistance amounted to 26 per cent of overall ODA, on average over the 1987-90 period (AIDAB 1992a, p. 52). In Niue, the equivalent proportion was 11 per cent in 1987-88 (SPD). Thus, if even a small fraction of the aid personnel received part of their remuneration overseas, a gap would automatically be introduced between official aid figures and actual financial transfers.

Even that aid component which consists of actual financial transfers must be further sub-divided, due to its heterogeneous nature. In the context of MIRAB economies, the most important distinction is between project aid and budgetary aid. Until the second half of the 1980s, budgetary support was a form of overseas assistance common to all MIRAB countries. As is shown in figure 2.2, some countries, such as the Cook Islands and Niue, routinely received a large portion—sometimes most—of their aid allocation in the form of budget supplements. By contrast, Kiribati and Tuvalu were always less reliant on this form of assistance. Not surprisingly, these were the only two countries to see their budgetary aid terminated, in 1985 and 1987 respectively, and replaced with the proceeds of overseas trust funds (see 5.3.1.2). No time-series data are available for Tokelau, but punctual evidence suggests that the percentage of aid given as budget support is as high as in Niue<sup>5</sup>.

A second traditional distinction, within ODA, is that between outright grants and concessionary loans. The former require no repayment by the recipient, while the latter must contain a grant element<sup>6</sup> of at least 25 per cent.

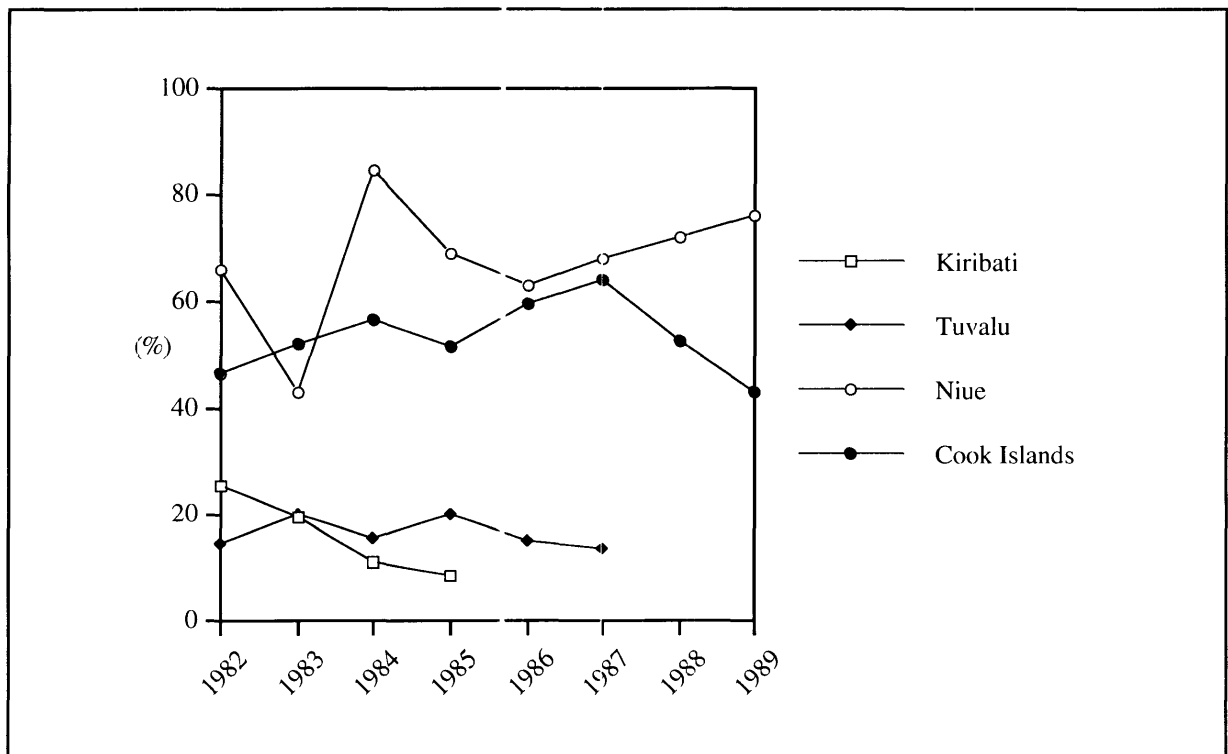
<sup>5</sup> For instance, in the 1993-94 financial year, 86 per cent of New Zealand aid to Tokelau was budgetary (New Zealand 1995).

<sup>6</sup> Defined as the 'difference between the face value of a loan and the present value of all its future



Almost all aid to the MIRAB economies is in grant form. Only Kiribati and the Cook Islands, as members of the Asian Development Bank (ADB), make any use of concessionary loans, and even then to only a modest extent. Over the 1985-88 period for instance, such funds amounted to an average of 3.7 per cent of project aid in the Cook Islands (SPD) and 4.3 per cent in Kiribati (AIDAB 1992a). The concessional nature of this form of assistance is illustrated by a 1995 ADB loan of SDR1.977 million to the Cook Islands, intended for private sector development. From the information available about this loan (*Pacific Islands Monthly* Nov.

Figure 2.2 **Budgetary aid as a proportion of total aid**  
(1982-89, per cent)



**Note:** Examination of SPD data for Niue in 1987-88 suggests that total budgetary aid for both years was recorded as having been granted in a single year only (1988). To avoid showing a percentage in excess of 100 per cent, it was decided to allocate half of the total figure to each year.

**Sources:** SPD; Mataio 1991; AIDAB 1992a, 1993.

1995), its grant element can be estimated at 67 per cent<sup>7</sup>, which is very similar to the figure of 68 per cent calculated by White (1990, p. 7) for ADB 'soft' loans.

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repayments in the form of amortization and interest, discounted at a market rate of interest.' (Makis and Dahanayake 1985, p. 4).

<sup>7</sup> Based on a 1 per cent interest rate, a 10-year grace period, a 40-year maturity period, and assuming a discount rate of 8 per cent (see Hawkins 1970, Annex, for grant element tables).

The small volume of concessionary loans, when they exist, and the absence of significant overseas commercial borrowing by either the public or the private sector, make for a very light official foreign debt-servicing burden in most MIRAB countries. During 1985-83 for instance, the ratio of debt service to export receipts fluctuated between 1.3 and 1.6 per cent in Kiribati (World Bank 1991). A major exception to this low-debt situation is the Cook Islands; this country's level of foreign debt was recently estimated at A\$198.6 million, with A\$82 million alone incurred by the government from a single (unfinished) hotel project (*The Australian* 28 Mar. 1994). Concern by overseas-owned local banks about the country's level of foreign reserves and the government's fiscal policy, resulted in a currency exchange crisis in 1995 (*The Australian* 21-22 Jan. 1995), and in the withdrawal of Cook Islands dollars from circulation (*The Australian* 13 Mar. 1996). As no international accounts are available for the Cook Islands, it is not possible to determine the exact severity of the debt-servicing burden imposed on that country. However, at the time of writing (March 1996), the government faced a deep financial crisis, amid reports that it had defaulted on some of its overseas debt (loc. cit.). It was also reported that the ADB would provide the Cook Islands with emergency financial assistance, through a structural adjustment aid package (*The Australian* 29 Feb. 1996).

Up until this crisis, structural adjustment lending—or programme aid—of the kind that has become familiar to many developing countries since the 1970s, had not been a feature of development assistance to the microeconomies of the South Pacific. Such aid, the provision of which is conditional upon, and aimed at, economic reform, is usually offered by the World Bank or the IMF in times of financial crisis. It typically takes the form of quickly disbursed concessionary loans, released in instalments as the policy commitments of the recipient are successfully implemented. While, as far as can be ascertained, the ADB loan to the Cook Islands would represent the first package of this kind, there is anecdotal evidence to suggest that the granting of aid to small South Pacific economies has, on occasions, been made conditional upon the adoption of donor-prescribed policies (e.g. AusAID 1995, p. 3).

Finally, no detailed information is available about the extent to which aid to the MIRAB countries is 'tied' to the provision of goods or services by firms in the donor country (procurement tying). As is well known (e.g. Cassen 1986, pp. 26-27), this common aid practice can lead to significant reductions in the purchasing power of the resources transferred, because of the overpricing of a project's inputs and associated costs. This overpricing is equivalent to a reduction

in the concessionality (magnitude of the grant element) of the aid inflow (Makis and Dahanayake 1985, pp. 4-6). On the issue of aid-tying, Bertram (1993, p. 249) has expressed the belief that the termination of UK budgetary aid to Kiribati was partly designed to benefit UK contractors and suppliers, by ear-marking aid for specific projects. To a significant extent, however, the degree of aid tying depends on the identity of the donor; for example, a recent newspaper report put the percentage of untied Australian aid at only 30 per cent, compared with 96.8 per cent for Japanese aid (*The Australian* 7 Apr. 1995).

### 2.3.2 Sources of aid

As illustrated in table 2.8, aid flows to the MIRAB countries emanate predominantly—and on occasions, exclusively—from bilateral sources. The

Table 2.8 **Sources of aid to MIRAB economies (1987-90)**

Country	Donor	1987	1988	1989	1990
Kiribati	% Bilateral	78	78	86	90
	Main Donor B <sup>a</sup>	UK	UK	Australia	Japan
	Main Donor M <sup>b</sup>	EEC	EEC	UNDP	EEC
Cook Islands	% Bilateral	98	91	88	..
	Main Donor B	NZ	NZ	NZ	..
	Main Donor M	..	UNDP	UNDP	..
Tuvalu	% Bilateral	85	96	83	..
	Main Donor B	UK	UK	Japan	..
	Main Donor M	UNDP	UNDP	UNDP	..
Niue	% Bilateral	100	96	98	..
	Main Donor B	NZ	NZ	NZ	..
	Main Donor M	..	UNDP	UNDP	..
Tokelau	% Bilateral	100	92	96	..
	Main Donor B	NZ	NZ	NZ	..
	Main Donor M	..	UNDP	UNDP	..

<sup>a</sup> Main bilateral donor. <sup>b</sup> Main multilateral donor.

Sources: SPC; AIDAB 1992a.

imbalance between bilateral and multilateral aid flows can be partly attributed to the fact that MIRAB countries gained their independence or self-governing status relatively recently, and have therefore retained strong economic links

with their ex-colonial rulers. This is true even in cases when those links are not based on political trusteeship or geographical proximity. For instance, the United Kingdom was the main bilateral donor in Kiribati and Tuvalu from their independence until 1988, even though it retains relatively little political<sup>8</sup> or economic interest in the South Pacific region. Since then, however, it has been supplanted by regional powers such as Australia and Japan. The latter country has, in just a few years, become a major aid donor in the South Pacific region.

In Niue, the Cook Islands and Tokelau, the identity of the main bilateral donor is a reflection of these countries' special relationship with New Zealand. Australia has traditionally been the second largest bilateral donor to the Cook Islands and Niue.

Multilaterally, the most generous donor to the MIRAB group as a whole in recent years has been the United Nations Development Program (UNDP), mainly through the provision of technical assistance. The European Economic Community is also becoming increasingly active in Kiribati and Tuvalu, through direct aid and export price stabilisation grants. A related form of assistance is provided by Australia and New Zealand to all MIRAB countries<sup>9</sup>, as members of the South Pacific Forum, under the 1981 South Pacific Regional Trade and Economic Co-operation Agreement (SPARTECA). According to this agreement, exports from Forum countries enjoy preferential access to Australian and New Zealand markets. However, according to Robertson (1985), MIRAB countries have not benefited measurably from this facility.

### 2.3.3 Sectoral distribution of aid

As mentioned in 2.3.1 above, part of the aid flowing to MIRAB countries is in the form of budgetary aid. Since this type of aid is subsumed into the recurrent government budget, it is not possible to distinguish its final destination from that of other government revenue. Neither is it possible, therefore, to comment on the nature of its developmental impact. However, insofar as recurrent government expenditure is directed at areas such as health and education, it is possible for budget supplements to be productive in the long run. If, as MIRAB proponents suggest, these monies are simply used to hire more public servants, a negligible contribution to growth and development can be expected.

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<sup>8</sup> Only Pitcairn Island remains under British sovereignty.

<sup>9</sup> Except Tokelau.

The characteristics of aid that is invested ('development aid') are easier to identify since, by definition, this aid is ear-marked for specific projects. The distribution of development aid flows between various sectors and forms of investment is generally believed to exert some influence on the impact these flows have on the growth rate of the recipient (see e.g. White 1992a, p. 205). For instance, infrastructural projects such as roads and airports, can be expected to expand a country's level of output within a shorter time-frame than projects aimed at improving health or literacy. Conversely, projects aimed at the exploitation of natural resources, say, may be expected to impact more quickly on the rate of growth of the recipient than infrastructural projects. On this matter, the World Bank notes that:

[In the South Pacific] the major part of aid has been applied to activities, such as human resource or infrastructure development, that have little immediate impact on economic growth or only a temporary impact on growth during the expenditure phase. (1991 p. 86)

While data on the exact sectoral destination of development aid are scarce, it is possible to use the pattern of development expenditure by governments as a proxy, since this type of expenditure is almost entirely financed by aid in MIRAB countries. This information, presented for three MIRAB countries in table 2.9, corroborates the World Bank's observation on the nature of aid-financed activities in the South Pacific region in general. In the 1980s and early 1990s,

Table 2.9 **Sectoral allocation of public development expenditure**  
(1981-89, per cent)

Country	Period	Sector: Production Sectors	Social Services	Infra-structure	Adminis-tration
Tuvalu	1981-87	19	22	38	21
Kiribati	1985-92	15	34	37	14
Niue	1980-89	4	11	60	25

**Note:** Definition of sectors varies between countries. Production sectors generally include agriculture, fisheries, industry, trade, manufacturing, financial services, tourism. Social services include education, health, culture, law and order. Infrastructure includes housing and construction, transport and communications, energy and water, public works.

**Sources:** SPD; Sinclair 1993.

spending on non-directly productive sectors accounted for more than 80 per cent of all public development expenditure, on average in these countries. In Niue, public investment in directly productive activities (e.g. agriculture, fisheries,

manufacturing) was as low as 4 per cent between 1980 and 1989. Thus, it appears that the proportion of aid used to finance investment in sectors with long gestation periods in terms of growth, is even higher in MIRAB countries than in the wider South Pacific region where, according to the World Bank (1991 p. 78), 40 per cent of aid went into directly productive activities. Within non-directly productive sectors, the largest portion of aid finance was directed at the development of infrastructure in areas such as housing, transport, and communications. This 'infrastructural bias' is a well-documented feature of aid world-wide, and is commonly attributed to the taste of the recipients and donors alike for large, easily identified, projects (Das 1986, p. 34). In Kiribati, for instance, Japan devoted 93 per cent of its 1990 aid to the construction of a new hospital in the capital, Bairiki (AIDAB 1992a).

Infrastructural bias is one of many reasons mentioned in the international literature to explain observed instances of aid's inability to raise a country's growth rate. In the next chapter, the main strands and findings of this literature are reviewed.

## CHAPTER 3

### REVIEW OF SELECTED AID LITERATURE

#### 3.1 Introduction

The substantial and increasing role that foreign aid has played in international financial transfers to developing countries in the post-World War II era, has long provided economists with considerable incentive to examine the macroeconomic impact of these concessional flows. In many cases, it has also given them cause to disagree; a major point of contention has been the ability, or lack thereof, of foreign aid to promote growth<sup>1</sup> in the recipient economy. The ebb and flow of this long-standing 'aid effectiveness' debate may be glimpsed from the following quotations:

... in general, foreign assistance is not associated with progress and, indeed, may deter it ... there is no support for the view that aid encourages growth ... the hypothesis that aid may retard development cannot be rejected. (Griffin and Enos 1970, pp. 317-18)

Foreign aid ... has a more significant effect on growth than savings or the other forms of foreign resource inflows. (Papanek 1973, p. 129)

Aid can and does contribute to growth; so do many other things. Aid can fail as well. (Cassen 1986, p. 35)

... aid in the aggregate has no demonstrable effect on economic growth ... (Mosley 1987, p. 135)

Given our imperfect understanding of the determinants of growth, and our ignorance as to how aid affects many of these determinants, attempts to estimate how aid affects growth are attempts to run before we can walk (or maybe even stand). (White 1992b, p. 134)

These are but a few of the opinions expressed by aid researchers, in just over two decades, on the subject of aid effectiveness. In spite of a large and growing number of empirical and theoretical contributions to that field of research, a common view of the impact of aid has not emerged. While significant advances have been achieved in the understanding of this impact, a great deal of uncertainty remains, as the above quote from White reveals. Indeed, it

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<sup>1</sup> Defined as the growth of real GDP.

sometimes appears as if the body of unanswered questions has been expanding at a faster rate than that of knowledge about aid! As a result, aid-related issues such as its effects on output growth, domestic saving, public and private investment, government expenditure, and the real exchange rate, are still providing grist to researchers' mills, fifty years after the advent of development assistance.

Uncertainty about their impact notwithstanding, aid flows continue unabated: according to White (1992a, p. 163), these transfers increased by 4.2 per cent per annum, in real terms, during the 1960-88 period, to reach US\$70 billion by 1988. As well as an increase in absolute terms, foreign aid also experienced a relative increase: in 1973, ODA from all sources made up 45 per cent of the total net flows of financial resources to developing countries (ADB). By 1989, this percentage had increased to 54 per cent (*ibid.*). World-wide flows of aid vary from multilateral to bilateral, from programme aid to project aid, from goods and services to financial transfers. Cassen (1986, ch. 2) has estimated that, on average between 1980 and 1983, 14 per cent of aid came as technical cooperation, 9 per cent as food aid, with the remainder in the form of financial assistance (either programme or project). Moreover, 60 per cent of all aid transferred in that period was directed at low-income countries, as categorised by the World Bank.

In spite of their absolute size, aid flows are not necessarily large in relation to the recipient countries' economies. In the early 1980s, aid was equivalent to approximately 9 per cent of GNI in 'least developed' countries, and 3 per cent of GNP in other low-income countries. In some cases, this percentage was as low as 0.2 per cent (China) and 1 per cent (India) (Cassen 1986, ch. 2). At the other end of the spectrum, aid can be a sizeable component of the economy. In some sub-Saharan countries, for instance, aid measured between 20 per cent and 50 per cent of GNP in 1987 (Mosley et al. 1992, p. 144). In the South Pacific region, the ratio of aid to GDP averaged 66 per cent in the early 1990s (see table 1.2). If the 'weight' of aid is measured in relation to investible resources, significant geographic differences are also apparent: in sub-Saharan Africa, overseas aid amounted to 138 per cent of public capital expenditure in 1987, while the percentage for South Asian developing countries was only 17 per cent (*ibid.*).

Overall, the incidence of foreign aid in an economy, as measured by the ratio of aid to GDP or GNP (the 'aid ratio'), has not been found to be a reliable predictor of its effectiveness. The host of empirical studies aimed at estimating the aid-growth relationship (AGR), have produced results spanning a very broad spectrum, showing the influence of aid on growth to be negative (e.g. Griffin and



Enos 1970), nil (e.g. Mosley 1987; Mbaku 1993), or positive (e.g. Papanek 1973; Dowling and Hiemenz 1983). The lack of uniformity of these results is not surprising, given that most studies applied linear regression techniques to cross-sectional (inter-country) data. As aid researchers have long discovered, it is possible, in any decade and in any region of the world, to point to 'high aid-high growth' countries, as well as to 'high aid-low growth' ones (see e.g. Mosley 1987, ch. 5). Moreover, according to White (1992b, p. 129), 'there is no theoretical foundation whatsoever for assuming that the impact of aid on growth is constant either across countries or across time'. Thus, depending on the composition of the sample, and sub-samples, almost any econometric result could conceivably be achieved by empirical studies.

While the diversity of individual country experiences may be caused by influences on growth other than aid, there is also evidence to suggest that the effectiveness of aid is highly variable between countries. Mosley et al. (1992, p. 121) have expressed the view, based on the literature, that inter-country variations in aid effectiveness may be the consequence of differences in: '(1) the rate of return on projects financed by aid; (2) the allocation of aid by sector; (3) the allocation of aid between capital and recurrent budgets; (4) the influence of aid on relative prices, and thence on private investment; and (5) the rate of return on private capital'. This catalogue of influences on the effectiveness of aid implies that, should the right conditions be present in some countries at some time, aid can play an important role in promoting higher growth. This is confirmed by evidence of aid 'success stories' (see e.g. Cassen 1986, p. 34; Hill 1988, p. 17; White 1992c, pp. 12-16;). The points listed by Mosley et al. also serve to underline the very diverse range of factors that shape the impact of aid; thus, an understanding of this impact can only be achieved by a detailed look at the various channels through which aid affects an economy. This is done in a latter section (see 3.3). First, however, an historical overview of the aid effectiveness debate is provided.

### **3.2 The aid-growth relationship: historical background**

Despite the relatively short existence of institutionalised foreign aid, the understanding of its effects has undergone numerous transformations. Typically, each transformation signalled the rejection of the existing 'aid paradigm', and its replacement with a new one. The history of the study of the aid-growth relationship, therefore, is one characterised by a series of cycles, in the course of which a theory seeking to explain the macroeconomic impact of aid was

proposed, refined and, eventually, discredited. Such cyclical evolution is best approached from a chronological perspective. Accordingly, three successive phases pertaining to the understanding of the impact of aid are examined below.

### 3.2.1 Aid as 'manna from heaven'

Research taking place during the first phase, which lasted approximately until the late 1960s, was strongly influenced by modern growth theorists such as Rostow, Lewis, and Rosenstein-Rodan. Rostow (1956), for instance, suggested that, in order to achieve the famous 'take-off into self-sustaining growth', developing countries needed to save and invest no less than 10 per cent of their national income. Lewis concurred, asserting that 'the central problem in the theory of economic growth is to understand the process by which a community is converted from being a 5 per cent saver to a 12 per cent saver' (1963, pp. 225-6). The importance accorded to saving was underlain by these economists' perception of developing economies as 'labour surplus' economies, where a shortage of physical capital was the only constraint on growth. From this perception, it logically followed that, should domestic saving prove insufficient to achieve the investment ratio required by a target rate of growth, it could be supplemented with foreign savings such as foreign aid or other forms of foreign capital inflow. External capital requirements could therefore be readily calculated by looking at the gap between actual saving and required investment rates.

A related and influential theory of growth, known as the 'big push', is associated with Rosenstein-Rodan. According to Das (1986, p. 27), this theory asserts that the pace of development of a country can be accelerated by undertaking a broad range of development projects at the same time, so that they create markets for each other's goods<sup>2</sup>. This strategy has also been described as a comprehensive and integrated programme of industrialisation, aimed at taking advantage of 'internal' as well as 'external' economies of scale (Myint 1973, p. 96).

It is not surprising, given the kind of 'development paradigm' prevailing at the time, that early students of the AGR favoured models embodying that view of the growth process. Conceptually, these early models were based on the Harrod-Domar growth model (see e.g. Levacic and Rebmann 1982, pp. 265-72 for

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<sup>2</sup> It is interesting to note that Rosenstein-Rodan's prescription for economic growth is diametrically opposed to that of Hirschman's (1958), who recommended an 'unbalanced growth' approach, whereby only activities with the strongest inter-industry linkages were to be promoted initially.

a summary). In that model, the economy's equilibrium growth rate ( $g$ ) is given by the ratio  $(s/v)$ , where  $(s)$  is the marginal (and average) propensity to save, and  $(v)$  is the incremental capital-output ratio (ICOR). As a result of receiving foreign aid amounting to a fraction  $a$  of GDP, the growth rate would increase to  $[(s+a)/v]$ , an increase of  $(a/v)$  (Mosley 1980, p. 79). Implicit in that formulation is the belief that a dollar of aid, or external resources, would translate into a one dollar increase in investment which, in turn, would increase output according to the ICOR (assumed to be constant). It is clear that, within this framework, the AGR is a simple mathematical relationship, resting upon identifiable economic parameters. For this reason, Griffin (1970, p. 100) labelled these early aid models "Keynesian" in spirit, because they relied on fixed 'technical' relationships, such as the ICOR, and a stable saving propensity.

Certainly, the 'aid variant' of the Harrod-Domar model had the advantage of simplicity, and of providing seemingly clear-cut answers to the question of foreign aid needs. If, for instance, the growth target ( $g^*$ ) was set at 5 per cent per annum, and the economy-wide ICOR ( $v$ ) was equal to 3, it could be inferred that the achievement of the target required the country to have an investment ratio ( $s^*$ ) of 15 per cent<sup>3</sup>. In the event that the domestic saving performance fell short of that required ratio (say, 10 per cent only), the amount of aid needed to fill the savings 'gap' could be determined precisely (i.e. 5 per cent of GDP).

One drawback of the standard Harrod-Domar model was the assumed fixity of the average propensity to save. In terms of the simple growth calculations above, it implied that the absolute amount of aid had to grow continuously for the target growth rate to be maintained, once it had been achieved. Self-sustaining growth was thus beyond reach. If, however, it could be assumed that the marginal propensity to save exceeded the average propensity, self-sustaining growth became attainable. The necessary condition for that result to be achieved was for the marginal propensity to save to exceed the investment ratio required by the growth target (i.e.  $s^* = g^*v$ : see Healey 1971, p. 42). The more it exceeded it, the more quickly aid would become redundant.

An influential refinement to the Harrod-Domar model of aid was introduced by Chenery and his associates (e.g. Chenery and Bruno 1962; Chenery and Strout 1966). Their model, which became known variously as the 'two-gap' or 'dual gap' model, sought to incorporate a greater degree of realism than its

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<sup>3</sup> That is, given  $g^* = s^*/v$ , it must follow that  $s^* = g^* \times v$ .

predecessors. Specifically, it postulated that, if a country was unable to increase its exports receipts, a foreign exchange shortage—or gap—could come to represent the dominant constraint on growth, instead of saving. For this situation to arise, it was necessary for output to be produced according to a fixed proportions (Leontief) production function, with domestic and imported capital goods appearing as distinct factors of production, ruling out the possibility of import substitution. Typically, the following production function was postulated (Healey 1971, p. 37):

$$P = \min (\alpha K_d, \beta K_m) \quad (3.1)$$

where  $K_d$  = domestic capital goods  
 $K_m$  = imported capital goods  
 $\alpha$  = reciprocal of fixed domestic capital ICOR  
 $\beta$  = reciprocal of fixed imported capital ICOR

In this function, output is constrained by the smaller of the two bracketed expressions. Accordingly, output growth is limited, *ex ante*, either by a shortage of foreign exchange with which to import  $K_m$  (a 'trade gap'), or a shortage of domestic savings with which to finance  $K_d$  (a 'savings gap'). If the savings gap is the largest, therefore the dominant one, then foreign aid acts purely as an addition to domestic savings, and the economy will grow at precisely the same rate as that predicted by the Harrod-Domar model. Conversely, if the trade gap is dominant, then aid can be more conducive to growth than domestic resources.

The heightened contribution of aid under a binding trade gap, arguably the most important contribution of the two-gap model, can be intuitively understood. Imported capital goods are a necessary part of gross capital formation, the remainder being made up of domestic capital goods. When aid relaxes a trade gap, it allows imported capital to be combined with hitherto idle domestic resources; hence, the impact aid on overall investment is greater than it would have been, had external resources only served to supplement domestic savings. Thus, if a foreign exchange gap happened to be binding *ex-ante*, the economy's growth potential (based on desired domestic saving) would be untapped for lack of foreign currency with which to purchase imported equipment and machinery. Ultimately, the two gaps are necessarily identical, in an *ex-post* or national accounting sense. This equality would be brought about by a number of short run forces in the economy, for example unplanned stocks accumulation (*ex-ante* trade gap) or reductions (*ex-ante* savings gap) (Healey

1971, pp. 61-62). This result, however, would necessarily be achieved at the expense of the target or potential growth rate.

The simplicity of the basic two-gap model, combined with its ready applicability, resulted in its application in many empirical studies of the aid-growth relationship (e.g. Adelman and Chenery 1966; Chenery and Strout 1966). Not surprisingly, these studies invariably concluded that aid had had a favourable effect on the growth rate of output. For instance, Chenery and Strout (*ibid.*, p. 702) estimated that the productivity of aid<sup>4</sup> ranged from 0.44 to 1.14 in Pakistan. Adelman and Chenery (1966, p. 10) found this productivity to be equal to 2.49 in the case of Greece.

Its ability to forecast aid requirements meant that the two-gap model was rapidly adopted by aid practitioners as well as researchers. From both a donor's and a recipient's point of view, the two-gap framework was doubly attractive, in that it appeared to justify the provision of aid on the grounds of achieving self-sustaining growth, and it allowed a country's need for assistance to be quantified precisely. According to White (1992a, p. 175), a variant of the model was still in use by the World Bank in the early 1990s.

In spite of its popularity and undeniable originality, the two-gap model came under growing criticism in the early part of the 1970s. It was, first of all, attacked for the 'structural' rigidity of its underlying assumptions: the fixity of the ICOR, the absence of factor substitution in production, the implicit price inelasticity of the demand for exports, the absence of relative price movements and, hence, the impossibility of re-allocating resources between sectors (see e.g. Healey 1971, ch. 4; Findlay 1976, ch. 10). According to Healey (*ibid.*, p. 57), 'if [prices are flexible and] resources are optimally allocated, there can only be one constraint (savings) on growth and one *ex-ante* resources gap (savings).'

A second influential strand of criticism was directed at the assumption that one dollar of aid would necessarily translate into one dollar (or more in the case of a binding trade gap) of investment. The best-known exponents of this criticism are Griffin (1970) and Griffin and Enos (1970). These two authors argued cogently that, in some circumstances, it was possible for foreign aid to retard development by lowering the growth rate of a country. Their arguments, along with those of other aid critics, are considered in the next section.

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<sup>4</sup> Measured over an arbitrary period as the increase in terminal year GNP permitted by a one dollar increase in cumulative assistance.

### 3.2.2 The dark side of aid

Perceptions of foreign aid as less than universally beneficial did not begin with criticisms of the two-gap model. Such misgivings had, in fact, been expressed almost as soon as aid began on a large scale in the post-war period (e.g. Baran 1952, quoted in Knapman 1986, p. 143), and have continued ever since. In many instances, however, the attacks on aid were founded more on an ideology than economics. On the Left, aid was viewed as an instrument of imperialism, or neo-colonialism. Of particular concern to this school of thinking, was the alleged bias of aid against the poor and in favour of undemocratic governments. On the Right, objections to aid are most succinctly captured by Knapman: '... aid is bad for long-term economic well-being because (like charity) it encourages malingering and scrounging.' (1986, p. 145). The most famous proponent of this view, Lord Bauer, has long maintained that foreign aid effectively impedes development and poverty alleviation efforts of the recipient, and also goes against the interests of the donor (e.g. Bauer et al. 1991, ch. 1).

In part, Bauer's contention is based on evidence that physical capital has but a relatively minor role to play in the growth process. Analysis of the determinants of growth in developed countries appears to indicate that efficiency gains are much more important sources of growth than investment. Looking at those sources in the United States between 1948 and 1973, Denison found that increases in the capital stock explained only 15 per cent of the growth in potential national income, with the remainder attributed to changes in employment, workforce, skills, resource allocation, knowledge, and economies of scale (1980, p. 220). In developing countries, Blomström et al. (1992) similarly found that the growth rate of per capita income in the 1960-85 period was not strongly influenced by the fixed investment ratio. However, they also found that foreign direct investment had a significant positive influence on per capita income growth in higher-income developing countries. From this, they suggested that lower-income developing countries did not have the ability to absorb new technology associated with investment by foreign firms. Not all studies agree with the view that physical capital is of secondary importance where growth is concerned. For instance, Otani and Villanueva (1990) found that a 10 percentage point increase in the domestic saving ratio would increase the long term growth rate of per capita output by 1 per cent for an average developing economy. However, they also found human capital, export performance, real interest rates, and population growth to be strong influences on growth.

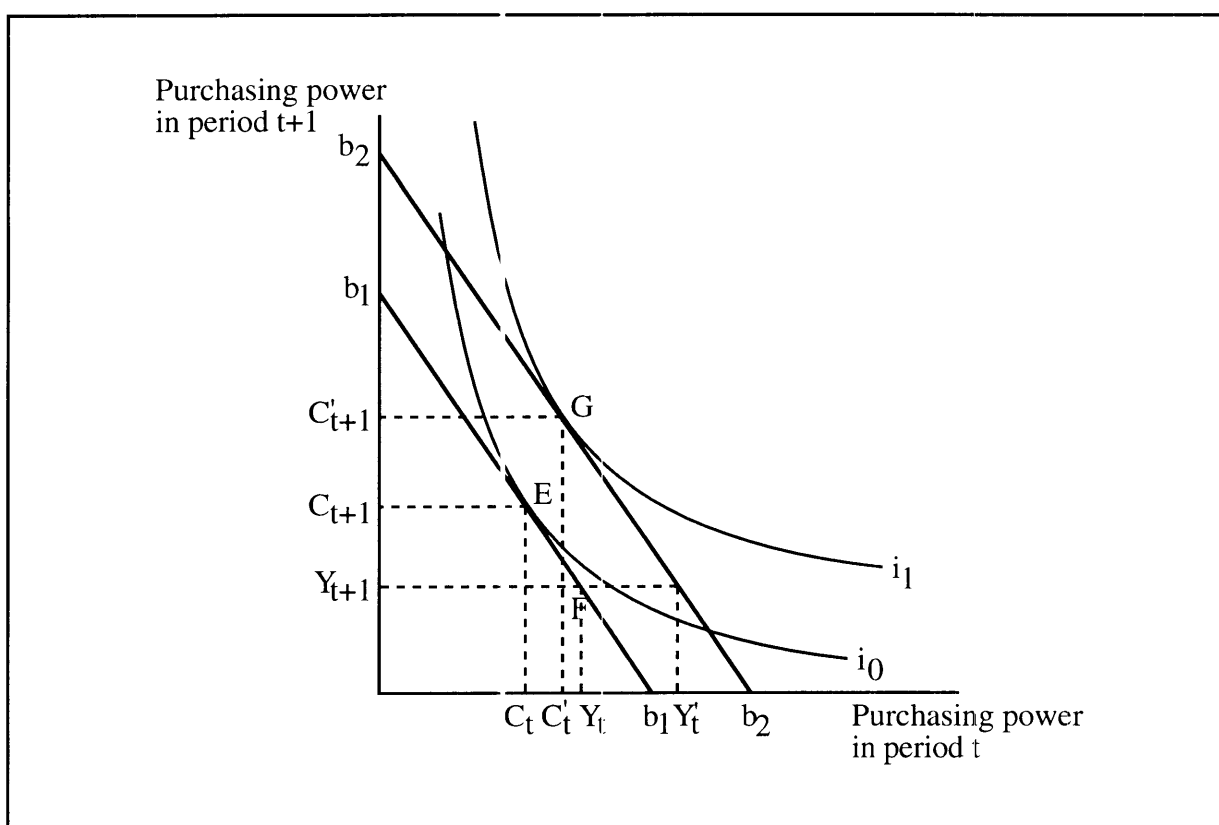
It seems clear that the reality of the growth process cannot be easily circumscribed to the 'physical capital bottleneck' view of development embodied in the two-gap model and its predecessors. Significantly, what has been termed 'human capital' (education, knowledge, skills) is generally thought to exert a strong influence on growth. This may explain why low-income developing countries, where a shortage of such capital is more likely to exist, were not found to benefit from foreign investment in the study by Blomström et al. By extension, they may not be able to invest foreign aid in physical assets effectively, if that aid involves the transfer of inappropriate technology. If a country does not possess the human capital to combine with the physical variety, then the volume of aid and its productivity will become inversely proportional. In other words, foreign aid used for physical investment will lead to an increase in the ICOR.

The raising of the ICOR by aid is one of two major arguments opposed to two-gap-type models, by Griffin (1970), and Griffin and Enos (1970). Specifically, they argued that capital imports do not leave the productivity of investment (of which the reciprocal of the ICOR is a proxy) unchanged. Rather, this productivity is lowered due to the characteristics of aid, and to the type of investment it finances. They noted that aid was usually tied, which would serve to increase the costs of, and hence lower the return on, investment projects. Regarding the latter, they remarked that most aid-financed investment is primarily undertaken by the public sector, and therefore spent on large infrastructural projects, with long gestation periods and a relatively slight impact on growth. This pattern is further strengthened, according to them, by the donors' ideological bias against productive activities and preferences for 'monumental' and easily identifiable projects. Finally, they argued that the transfer, by aid, of inappropriate technologies also serves to reduce the productivity of investment.

The second, and more influential, argument directed by Griffin and Enos at aid proponents was that foreign savings, such as aid, inevitably displace domestic savings. As a result, a dollar of aid may translate into as little as a 25 cents increase in investment (Griffin and Enos 1970, p. 321). The key to this, at the time, surprising assertion lies in the fact that 'an anticipated aid inflow will be treated as an increase in income and so, unless the marginal propensity to save is one, allocated between both saving and consumption.' (White 1992a, p. 176). According to Griffin, aid is 'fungible', that is, it can be spent for a purpose other than that for which it is officially earmarked. This is because if the project financed by aid was going to be undertaken anyway by the recipient, aid monies in reality

finance marginal expenditure projects, which are as likely to be on consumption as on capital goods (1970, p. 103). A geometrical illustration of this point can be provided using a standard inter-temporal budget constraint diagram (see figure 3.1).

Figure 3.1 Griffin's analysis of an aid inflow



Source: Adapted from Griffin 1970, p. 104.

In the diagram above, the slope of the indifference curves  $i_1$  and  $i_0$  is determined by the government's or the community's rate of time preference, while the intercepts and slope of the budget constraints  $b_1-b_1$  and  $b_2-b_2$  are a function of the amount of resources available and the rate of return on investment ( $r$ ) respectively. Initially (period  $t$ ), it is assumed that income is  $Y_t$  and consumption, determined by the inter-temporal equilibrium  $E$ ,  $C_t$ . This leaves an amount  $S_t (= Y_t - C_t)$  to be saved and invested. Because of this initial saving, consumption in the next period ( $C_{t+1}$ ) is able to exceed income ( $Y_{t+1}$ ) by an amount equal to  $S_t(1+r)$ . If aid is now provided as a grant, the budget constraint facing the economy shifts to  $b_2-b_2$ . Assuming that neither present consumption  $C_t$  or future consumption  $C_{t+1}$  are inferior goods, an inflow of aid necessarily shifts the inter-temporal consumption equilibrium from point  $E$  to a point situated to the north-east of it, such as  $G$ . At that point, current income is  $Y'_t$ , current consumption  $C'_t$ , and current saving  $S'_t (= Y'_t - C'_t)$ . It is possible to



show that, at this new equilibrium, only a fraction of the aid inflow has been invested. Let:

$$\text{Saving without aid: } S_t = Y_t - C_t \quad (3.2)$$

$$\text{Saving with aid: } S'_t = Y'_t - C'_t \quad (3.3)$$

$$\text{Aid} = \Delta Y = Y'_t - Y_t \quad (3.4)$$

The effect of aid on consumption and saving in period  $t$  is as follows:

$$\Delta C = C'_t - C_t \quad (3.5)$$

$$\Delta S = (Y'_t - C'_t) - (Y_t - C_t) \quad (3.6)$$

Now:

$$\Delta Y_t = \Delta C_t + \Delta S_t \quad (3.7)$$

$$= C'_t - C_t + (Y'_t - C'_t) - (Y_t - C_t)$$

$$= Y'_t - Y_t$$

$$= \text{Aid} \quad (3.8)$$

Since, from the diagram,  $\Delta C_t > C$ , it follows that  $\Delta S_t < \Delta Y_t = \text{Aid}$ . Hence, the total amount of investible resources available to the economy has increased by less than the aid inflow. If it can be assumed that aid itself cannot be directly diverted into consumption because it is earmarked for projects, it must be the case that the increase in consumption has been permitted by a reduction in domestic saving. Hence, Griffin (1970, p. 105) concludes, the aid inflow has been partially offset by a decline in the saving performance of the recipient.

According to Griffin and Erios (1970) and Griffin (1970), the occurrence of a negative aid-saving relationship (ASR) had been previously reported in many regions and countries, such as Latin America, Brazil and Israel. These authors also conducted their own regression analyses on cross-sectional and time-series data, which appeared to confirm the hypothesised inverse relationship (ibid.). The mechanisms through which foreign capital lowered domestic saving were thought by Griffin to include (1970, pp. 106-7):

- a reduction in public saving, which could occur as a result of reduced taxation or tax collection efforts (i.e. a reduction in the 'tax effort');
- a reduction in private saving, resulting from the greater availability of external finance; and

- an increase in the consumption of importables and exportables, following the greater availability of foreign exchange.

By combining the effects of aid on domestic saving and on the ICOR, Griffin was able to show how, in principle, a country's growth might be increased by a *reduction* in foreign aid (1970, pp. 110-12), something which was not possible in previous aid models. He and Enos obtained empirical results showing that such an inverse AGR may have affected Latin America during 1957-64 (Griffin and Enos 1970 pp. 318-9). They, however, did not claim that this detrimental result was inevitable or universal, concluding rather that 'it is clear that there is no close association between the amount of aid received and the rate of growth of GNP' and that 'the thesis that aid may retard development cannot be rejected.' (Griffin and Enos 1970, pp. 317-8).

Even though it was, in turn, to come under criticism, Griffin's and Enos' contribution to the understanding of the impact of aid was a significant one. It showed that the optimism and determinism which had characterised previous aid research were theoretically, and in some cases empirically, unfounded. Furthermore, it brought to the fore hitherto overlooked effects of aid, the study of which was to occupy researchers in decades to come.

### 3.2.3 The pendulum swings back

The publication, in 1972 and 1973, of two articles by Papanek marked the beginning of a new phase in the understanding of the AGR and associated issues, during which the assumptions, the methodology, and the conclusions of the 'aid revisionists' were, for the most part, rejected. The flaws identified by Papanek in the revisionists' theory of aid effectiveness are numerous indeed. The first difficulty arises as a result of the measurement of both aid flows and saving. Following conventional economic practice, domestic saving is measured as a residual, by subtracting foreign inflows from investment. While appropriate in cases when aid is wholly invested, Papanek (1972, pp. 938-9) argued, this procedure would incorrectly show a decline in domestic saving when aid was partly used for consumption purposes. His point can be demonstrated in the following way. Let:

$$\text{Domestic Saving} = \text{Investment} - \text{Foreign Savings} \quad (3.9)$$

$$\begin{aligned} \Leftrightarrow \quad S_d &= I - S_f \\ \Rightarrow \quad \Delta S_d &= \Delta I - \Delta S_f \end{aligned} \quad (3.10)$$

If part of the aid inflow ( $\Delta S_f$ ) is used for consumption, it follows that:

$$\Delta S_f > \Delta I \quad (3.11)$$

which implies (from 3.10):

$$\Delta S_d < 0 \quad (3.12)$$

Thus, Papanek concludes, it would be inappropriate to infer that aid has *caused*, in any behavioural sense, a reduction in domestic saving. The reduction is simply a reflection of the fact that domestic saving is defined as domestic income (excluding aid) minus consumption. Moreover, he adds that the measurement of saving as a residual in this procedure, is likely to be further biased because of the common underestimation of investment, both monetary and non-monetary, in developing countries.

A second measurement problem raised by Papanek (1972, pp. 939-40) concerns the definition of aid in the revisionist studies. In these studies, he notes, all foreign capital flows were aggregated, and measured using the difference between imports and exports of goods and services. According to him, such procedure leads to the incorrect calculation of foreign resource inflows by ignoring the influence of net factor payments to abroad. The bias thus introduced could be a non-negligible one in countries (such as some MIRAB ones: see e.g. table 6.4) with large such payments. Moreover, Papanek contends, the effects of aid are likely to differ from that of other flows, but they cannot be identified on the basis of this method of calculation.

On a more theoretical note, Papanek (1972, pp. 936-8) questioned the appropriateness of the saving function implicit in the work of the revisionists. He accepted that an inverse relationship between saving and aid was a distinct possibility under certain formulations of that function based on tax effort or investment opportunities. However, he contended that there were some equally plausible saving functions that would yield opposite results. This would be the case, notably, if not only investment but also domestic income was increased by aid, so that more domestic savings were generated. Even if aid only served to increase the income of some groups in society, he argued, these groups, such as industrialists and exporters, were more likely to save than others.

Undoubtedly, Papanek's most durable contribution to the understanding of the impact of aid stems from a third criticism of the purported negative aid-

saving relationship: previous aid researchers, Papanek asserted, had made the common mistake of confusing *correlation* with *causality*. That is:

High rates of foreign inflow and low rates of savings were often correlated, but this represented no causal relationship. Rather, both the low rate of savings and the high rate of capital inflow were often caused by exogenous variables, resulting in a deterioration of the economy: wars, civil wars, and a deterioration in the terms of trade were the most obvious. (Papanek 1983, p. 170)

In times of economic crisis, therefore, relatively high levels of aid are likely to be *associated* with a poor saving performance and low growth, simply because aid is meant to relieve the effects of the crisis. That is not to say that aid donors are primarily motivated by the needs of the recipient, but, rather, that countries in dire economic straits are more likely to receive aid, *ceteris paribus*. Country surveys by Papanek (1972, pp. 942-44) appeared to lend support to his explanation, showing that, in times of war, political disturbances, and terms of trade collapse, aid was relatively more abundant.

Papanek's analysis may be extended to include another joint influence on both the magnitude of aid and saving performance, namely income per capita. His own findings (1973, pp. 127-8) indicate that a low saving rate is strongly associated with a low level of income per head. If, as some studies have shown (e.g. McGillivray and Oczkowski 1991), the amount of aid allocated to a country is inversely proportional to its level of income per capita, a negative—although non-causal—relationship between aid and saving would ensue.

Papanek (1972; 1973) also noted that a range of country-specific factors were likely to affect the saving performance, and hence the growth performance, thus making the application of cross-sectional regression analysis a contentious exercise. Such factors are likely to include the saving ethic, natural resources endowments, and export orientation. Thus, he concluded, 'as long as both savings and [foreign resource] inflows are substantially affected by third factors, the negative correlation between the two found in many studies sheds little or no light on their causal relationship.' (1972, p. 950)

Papanek (1973) proceeded to test the accuracy of his hypotheses in his own empirical inter-country study of the aid-saving-growth nexus. His main finding was that foreign aid had a favourable effect on growth in developing countries, one which was almost twice that of domestic saving, and more than twice that of other foreign resource inflows. His explanation for the effectiveness of aid was that, contrary to domestic resources, aid is able to fill a foreign exchange gap as

well as a savings gap. Together, domestic and foreign savings 'explained' about a third of output growth. A negative and significant correlation between aid and saving was found, but dismissed by Papanek as the result of the kind of extraneous influences already discussed. Finally, there was little correlation between aid and foreign private investment, strengthening his opposition to the amalgamation of these capital flows.

The significance of Papanek's early 1970s contribution to the aid debate, lies in its partial rehabilitation of the conventional aid wisdom as embodied in the two-gap model. Following his 1972 and 1973 papers, the view of aid as an effective 'engine of growth', over and above domestic resources and other forms of foreign resources, was restored. Papanek's generally favourable view of the role of aid was not without qualifications, however. For instance, he acknowledged that his analysis suffered from 'all the problems of cross country analysis' and that 'there is ... no assurance that the model tested is not misspecified.' (1973, p. 129) Relatedly, he recognised the existence of significant regional differences, concluding that 'only careful analysis of individual countries can really shed any light on the impact of foreign inflows on savings, exports or growth' (1972, p. 949). These caveats notwithstanding, Papanek's insights were to provide much of the impetus for subsequent advances in the aid debate, as other researchers attempted to verify or refine his findings.

### 3.3 New approaches to an old debate

With economists' perception of the effectiveness of aid once again tending towards the positive end of the spectrum in the mid-1970s, a number of unanswered questions still remained. In some cases, these questions were related to issues which had been raised in such seminal works as Griffin's and Papanek's. In other cases, they concerned previously overlooked—or ignored—ramifications of the impact of aid. In others still, they were related to issues which had failed to gain lasting attention when they were mentioned initially. As a result, the research into the impact of aid experienced both a deepening and a diversification during the period extending from the second half of the 1970s until the early 1990s. The deepening came as a result of aid researchers' efforts to model some of the effects which had been previously suggested or observed, and their desire to refine empirical methods of investigation. The diversification occurred as keys to the problem of aid effectiveness were sought further afield, in such areas as fiscal policy and economic structure.

The great number and range of aid studies which have appeared in roughly the two decades following the last recognised 'phase' of the aid debate, necessarily make for a broad and somewhat arbitrary taxonomy. While it has undoubtedly been marked by valuable advances, this period has not been dominated by any 'aid paradigm', thus ruling out the use of the generic term 'phase' to describe it. If anything, it has been characterised by a willingness to recognise that the effects of aid were probably country-specific, largely unpredictable, and more complex than originally thought. In the following sections, aspects of the more recent aid debate are summarised with reference to the main avenues followed by researchers.

### 3.3.1 The impact of aid on growth

Empirical studies of the aid-growth relationship have been, on the whole, relatively frequent since the middle of the 1970s, contradicting Papanek's (1983, p. 171) assertion that 'the whole controversy seems to have disappeared from professional concern' following his two seminal papers discussed above. To a large extent, however, the debate has been conducted among aid scholars, rather than practitioners: according to White (1992b, p. 121), the lack of interest of the latter is all the more surprising given that, in his opinion, the major empirical finding of the aid literature is the absence of a relationship between aid and growth.

One possible explanation for the perceived lack of 'official' interest in the macroeconomics of aid in general, and the AGR in particular, is the contradictory and often flawed nature of the published results. It is conceivable, therefore, that aid professionals have, in the main, preferred to disregard these findings. The diversity of econometric results pertaining to the AGR is reflected in the very wide range of coefficients obtained by the regression of the aid ratio on growth. As is clear from a selection of these coefficients presented in table 3.1, measures of the impact of aid on growth have varied over a very wide range, both between and within studies. According to a survey of the literature by Bornschieer et al. (1978), the main inter-study differences are in terms of sample size and composition, research designs, statistical estimators, time period, and the measurement of variables. The derivation of several coefficients within the same study usually stems from their author's attempts to measure aid effectiveness in different time periods (e.g. Snyder 1993), or particular groups of countries (e.g. Papanek 1973; Mosley 1980). Less frequently, coefficients are

Table 3.1 Aid-growth coefficients: results of selected studies

Author(s)	Dependent Variable	Explanatory Variable	Coefficient of aid	Data & Model
Papaneke 1973	Growth rate of GDP	Aid/GDP	0.20 to 0.47	CS, SL
Gupta 1975	Growth rate of GDP	Aid level	0.15	CS, SE
Mosley 1980	Growth rate of GDP	Aid/GNP	-1.02 to 0.45	CS, SL
Dowling and Hiemenz 1983	Growth rate of GDP	Aid/GDP	0.36 to 0.46	CS+TS, SL
Gupta and Islam 1983	Growth rate of GDP	Aid/GDP	0.30	CS, SE
Mosley et al. 1987	Growth rate of GNP	Aid/GNP	-0.04 to 0.01	CS, SL
Lächler & Nunnenkamp 1987	Growth rate of GDP	Aid/GDP	-0.23	CS, SL
Rana and Dowling 1988	Growth rate of GDP	Aid/GDP	0.009	CS+TS, SE
Snyder 1993	Growth rate of GDP	Aid/GDP	-0.35 to 0.53	CS, SL

**Notes:** CS = cross-sectional data. TS = time series data. SL = single line equation. SE = simultaneous equations system.

**Sources:** As indicated in table.

obtained for alternative model formulations or estimation procedures in the same study (e.g. Mosley et al. 1987).

It is clearly possible, given the plethora of results reported in the literature, to find evidence to support the contention that aid is good, bad, or ineffective where the rate of growth of GDI' is concerned. To examine these results in detail is beyond the scope of this chapter; however, it is of interest to mention a few important findings in relation to observed differences in aid effectiveness. In several contributions to the recent aid effectiveness debate, Mosley and his associates (e.g. Mosley 1980; Mosley 1987; Mosley et al. 1987; Mosley et al. 1992) proposed and tested successfully a number of possible determinants of the impact of aid. In particular, they showed that aid effectiveness was higher when:

- the tax effort of the recipient economy's government was high;
- the rate of return on investment was high;
- the proportion of aid allocated to the recurrent budget was low; and
- the 'crowding out' of private investment by aid was low.

The rationale behind these factors will be examined in detail in later sections. In addition, these authors suggested that aid effectiveness passed through a cycle as a country's development stages unfolded (Mosley et al. 1992). That is, given the gestation lags of aid, the country would normally evolve from a 'high aid – low growth' stage, to a 'high aid – high growth' one, to a 'low aid – high growth' one.

This, they argued, explained why large cross-sectional empirical studies, by taking a 'snapshot' of countries at different stages of development, could not be expected to reveal a significant AGR.

The degree of financial liberalisation of the economy is thought by Dowling and Hiemenz (1983) to be another determinant of the effectiveness of aid. In their cross-sectional study of Asian economies, they found that not only had a high tax effort and degree of financial liberalisation<sup>5</sup> contributed directly to growth, but these two variables had also enhanced aid effectiveness. They surmised that, in the case of financial liberalisation, the link was due to its effect on the optimal allocation of foreign resources.

Finally, some authors (e.g. Krueger 1981) have expressed the view that aid could promote growth by forcing recipient governments to adopt growth-promoting policies. This argument is especially relevant to the provision of programme aid by the World Bank and the IMF, the granting of which is conditional upon the implementation of donor-approved macroeconomic and balance of payments policies. However, one such policy, trade liberalisation, was not found by Mosley et al. (1992) to have any significant influence on growth.

In recent years, there has been growing criticism of the methodology favoured by empirical studies of the aid-growth relationship. The most significant criticisms are linked to the use of cross-sectional data, the omission of variables, and the problem of simultaneity. According to White (1992b), the use of cross-sectional data presupposes that all countries react in approximately the same way to an inflow of aid. Yet, he points out, even Chenery and Strout's (1966) two-gap model predicted that the impact of aid would vary between countries, depending on the nature of their binding gaps, their marginal propensities to save, and their incremental capital-output ratios. Moreover, White argues, there are other reasons why the impact of aid should be expected to vary between countries, such as differences in the characteristics and sectoral distribution of aid, and country-specific influences on growth. This expectation is confirmed by a statistical test (White 1992b, pp. 129-30), which resulted in the hypothesis that saving, exports, official transfers and long term capital inflows influenced growth in the same fashion in all countries being rejected with 99.9 per cent confidence. Thus, this author concluded, parameter instability precludes the pooling of data across countries when measuring the AGR. However,

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<sup>5</sup> As measured by a proxy:  $M_2/GDP$ . A small value of that ratio is expected to reflect financial repression (Dowling and Hiemenz 1983, p. 7).



another study has shown that a positive and significant AGR could be detected from cross-sectional data, provided country size was included as an explanatory variable (Snyder 1993). In any event, it is doubtful whether country-specific studies, using time-series data, are necessarily more authoritative. Using the same data set as that used by Mbaku (1993) to find that aid had had a non-significant impact on growth in Cameroon, Giles (1994) employed a different econometric technique to show that some aid (loans) had in fact significantly benefited growth in that country.

The omission of variables in AGR studies is another serious problem, according to White (1992a, p. 198). Since aid-growth equations estimated in these studies are typically derived from a Harrod-Domar growth model, they do not allow for the likely effect of health and education on growth. Furthermore, even if 'human capital' variables are added to the RHS of a Harrod-Domar-based equation (e.g. literacy in Mosley et al. 1987), the indirect impact of aid on growth *through* these variables will not be captured (as they are held constant by definition in single equation regressions). In addition, incorporating the vast array of country-specific, or period-specific, influences on growth in cross-sectional studies is not practical, thus reinforcing the omitted variables bias in these studies.

The third problem, the simultaneous determination of aid and growth ('simultaneity'), was first raised by Papanek (see 3.2.3). According to him, aid flows could be partly *determined* by growth performance, as well as determining it, if, for instance, aid was more forthcoming in times of economic crisis. If this were true in reality, estimating the AGR on the basis of a single-line equation would be inappropriate. However, Mosley et al. (1987, p. 632) found that, while aid flows were correlated with the *level* of GNP, there was no evidence of any simultaneity between aid and GNP *growth*. White (1992b, p. 131) concurs that a simultaneity bias between aid and growth is only a remote possibility.

Even if aid is exogenous, estimates of the AGR based on single equations will suffer from multicollinearity if aid is related to other variables on the RHS. Typically, these explanatory variables have included domestic saving and private capital flows, in addition to aid. However, if, as suggested by Griffin and Enos (see 3.2.2), aid and saving are inversely related, the appropriate econometric approach is one which consists in fully specifying a system of simultaneous equations, and estimating it using suitable techniques such as indirect least-squares or two-stage least-squares (White 1992b, p. 131). This approach is even more warranted if the

existence of feedback effects between income growth and saving is assumed. Studies using a simultaneous equations approach are a minority in the literature (e.g. Gupta 1975; Hill 1988; Rana and Dowling 1988), even though they can provide extremely interesting insights into the channels followed by the impact of aid. Rana and Dowling, for instance, show that, in spite of a negative indirect effect on growth (through a reduction in saving), aid had a positive overall (direct + indirect) impact on the growth rate of GDP in Asian developing countries. Thus, their findings are able to explain both Griffin and Enos' and Papanek's seemingly opposite results!

### 3.3.2 The impact of aid on saving

Given that the aid-saving relationship (ASR) underlines much of the aid effectiveness debate, it is perhaps surprising to find that estimates of this relationship do not vary over as wide a range as those pertaining to the AGR. As is illustrated in table 3.2, estimates of the coefficient of aid in saving equations have been consistently negative. Since Papanek's (1972; 1973) contribution to the

Table 3.2 Aid-saving coefficients: results of selected studies

Author(s)	Dependent Variable	Explanatory Variable	Coefficient of aid	Data & Model
Griffin 1970	GDS/GDP	Aid/GDP	-0.84 to -0.73	CS, SL
Griffin and Enos 1970	GDS/GDP	Aid/GDP	-1.14 to -0.73	CS, SL
Gupta 1975	GDS/GDP	Aid level	-0.78	CS, SE
Levy 1984	Public saving level	FKI	-0.16	TS, GE
Lächler & Nunnenkamp 1987	GDS/GDP	Aid/GDP	-0.99	CS, SL
Rana and Dowling 1988	GDS/GDP	Aid/GDP	-0.08	CS+TS, SE
Morisset 1989	GDS level	Aid level	-2.07 to -0.98	TS, SL

**Notes:** FKI = foreign capital inflow. CS = cross-sectional data. TS = time series data. SL = single line equation. SE = simultaneous equations system. GE = general equilibrium model. GDS = gross domestic saving.

**Sources:** As indicated in table.

debate, considerable uncertainty has remained regarding the significance of this negative sign for the impact of aid. Based on 1970s cross-country data, Mosley (1980) agreed with Papanek's contention that the negative sign was not a reflection of a genuine causal relationship. This was confirmed by Morisset (1989) who showed, using 1960-81 data for Argentina, that aid or foreign capital inflows

were not substituted for domestic saving. In addition, he found that, as suggested by Papanek, both foreign capital inflows and saving had been jointly influenced by exogenous factors linked to monetary and fiscal policy.

Evidence of foreign capital inflow (including aid) being substituted for government saving was found by Levy (1984), in relation to Egypt during the 1960-77 period. He estimated that about 16 per cent of foreign capital inflow displaced public saving, and judged the relationship to be a causal one. Further, he showed that this inverse relationship was sufficient to decrease the overall (private + public) saving ratio, even though foreign aid increased private saving through its effect on income growth. His findings, therefore, tend to support the need to consider the impact of foreign aid on public saving (the 'fiscal response debate': see 3.3.3) separately from that on private saving.

According to White (1992a; 1992b), much of the aid-saving literature suffers from the same shortcomings as have been discussed already in the context of the AGR. In themselves, therefore, the use of cross-sectional data and single-line equations, and the omission of variables would be sufficient to cast some doubt on most published estimates of the ASR. Moreover, White contends that much of the research is based on inadequate theoretical foundations, making empirical estimates doubly suspect. In particular, he shows that Griffin's (1970) purported negative ASR is flawed on two counts, theoretical and empirical:

- (i) *theoretical*: in Griffin's formulation (see figure 3.1), the 'aid multiplier' is implicitly equal to one, so that income cannot increase by more than the aid inflow. In reality, White argues (1992a, pp. 178-9), this multiplier is likely to exceed one, so that, as long as saving is positively related to income, positive feedback effects will occur. If the 'aid multiplier' and/or the marginal propensity to save are high enough, it is quite possible for saving to *increase* overall; and
- (ii) *empirical*: the aid-saving relationship estimated by Griffin and others is mis-specified. Instead of estimating the full saving equation:

$$S/Y = (1 - \beta) - \alpha/Y - \beta A/Y \quad (3.13)$$

where S = saving

Y = income

A = aid

$\alpha$  = autonomous consumption

$\beta$  = marginal propensity to consume out of income and aid

yielded by their implicit model, they only estimate a truncated form of it:

$$S/Y = (1 - \beta) - \beta A/Y \quad (3.14)$$

This, according to White (1992b), necessarily introduces a downward bias in the estimate of  $\beta$ , and results in the whole equation being mis-specified. In a series of statistical tests, that author shows that a more general saving function, incorporating known influences on saving (e.g. real income, the export ratio, inflation) in addition to aid, proves much more satisfactory, particularly if formulated in difference form<sup>6</sup> to remove country-specific influences.

White's mis-specification argument appears to be indirectly confirmed by studies of the determinants of saving in developing countries. For instance, in a study of these determinants in Sri Lanka, Wickramanayake (1992) showed that per capita income, real and nominal interest rates, and price expectations were more important in determining real gross domestic saving than foreign capital inflow<sup>7</sup>.

### 3.3.3 The 'fiscal response' debate

The potential for aid to provide governments with disincentives to save was first mentioned in the context of the aid effectiveness debate by Griffin (1970: see 3.2.2). Since that time, the 'fiscal response' debate, as it has come to be known, has become an important strand of the literature dealing with the aid-saving relationship. A seminal contribution to this strand was made by Heller (1975), who showed that, in a cross-section of African countries, aid served largely to increase government current consumption, reduce taxes, and replace domestic public borrowing. As previously mentioned, the fact that development aid may in reality be used for non-developmental purposes is due to its 'fungibility': if aid is ear-marked for a project which the government was going to undertake anyway, then these incremental funds are really financing marginal projects, or even consumption. Alternatively, the government may use aid to fund a reduction in its 'tax effort', that is, the raising of new taxes and the collection of existing ones. Ultimately, the more aid is 'switched' into consumption, directly or indirectly, the less it will promote growth.

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<sup>6</sup> e.g.  $d(S/Y) = (S/Y)_t - (S/Y)_{t-1}$ .

<sup>7</sup> The coefficient of which was negative and significant, but small.

Mosley (1980) used the ratio of tax revenue to the available tax base as a measure of the tax effort, to examine the impact of that effort on aid effectiveness. He found that 'high aid - low growth' countries had a falling tax effort, whereas this effort was rising in 'high aid - high growth' countries. From this observation, he concluded that a rising tax effort 'implied a determination to build up a development budget from local resources without harming the recurrent budget, and that this prevented those aid-inflows which were developmental in intention from soaking into the recurrent budget.' (1980, p. 88) While Mosley reiterated the importance of fungibility in subsequent papers and books (Mosley 1987; Mosley et al. 1987; Mosley et al. 1992), he also acknowledged that the scope for 'switching' became progressively less as the share of aid in the recipient country's development budget increased (Mosley et al. 1992, p. 141).

The empirical evidence derived from country studies does not allow a consensus to be reached regarding the prevalence of aid-switching. As mentioned in 3.3.2, Levy (1984) found it to be occurring in Egypt. Broadly supportive results are also cited by White (1992a, p. 194) in relation to Pakistan, Kenya and Vietnam. However, he also mentions results showing that aid had the effect of drawing additional government resources into investment in India, in a case akin to reverse-switching, or 'crowding-in'. Finally, Papanek (1983) was not able to discern any clear relationship between aid inflows and the tax effort of five Asian countries.

A number of criticisms have been directed at the 'fungibility' argument as an explanation for aid ineffectiveness. Several are made by Cassen et al. (1986, ch. 2), who question, firstly, the implicit assumption of the 'fiscal response' literature that aid-financed consumption is somehow 'wasted'. They point out that recurrent spending on health, nutrition, and education can have substantial benefits, including in terms of GNP growth. Secondly, in a point similar to Papanek's (1972), they note the likely influence of exogenous factors on both tax revenue and aid flows: for instance, a current account crisis could result in both lower foreign trade taxes and higher aid inflows. Even when switching is taking place, they contend, aid still has the potential to be productive as long as worthwhile investment opportunities exceed the available finance, or if investment projects are complementary. Finally, they remark that the benefits of non-project forms of aid (e.g. structural adjustment loans, technical assistance) cannot be easily diverted into non-productive uses.

White's (1992a) critique of the fiscal response literature is strongly reminiscent of that which he makes of the aid-saving literature. He argues, in essence, that theoretical models of the relationship between aid and the tax effort are only partial, as they fail to take into account the potential impact of aid on income. If, he contends, the portion of aid which is effectively invested leads to an increase in future income, higher taxes would result which would offset any displacement observed in the short run. Elsewhere, he shows that such an offsetting mechanism could even operate in the short run, so that a fall in taxes may not take place at all (White 1990, ch. 4). As in the case of the ASR, White argues that only through more rigorous modelling and the use of systems of simultaneous equations, will it be possible to capture the total effect of aid on taxes.

### 3.3.4 The impact of aid on investment

In the context of the aid effectiveness debate, two questions are typically asked regarding the impact of aid on investment: (i) how does aid affect the *level* of investment, particularly of private investment?; (ii) how does aid affect the *productivity* of investment? Both questions have their origins in criticisms of aid. Bauer, for instance, contends that aid will 'crowd-out' private investment, both of local and overseas origin as well as entrepreneurship (e.g. Bauer 1984, ch. 3). With respect to investment productivity, the relevant criticism is that made by Griffin (1970) and Griffin and Enos (1970), to the effect that aid will increase the ICOR (see 3.2.2). These two strands of the literature on aid and investment are now examined in turn.

In two studies, Mosley rejected Bauer's proposition that aid was inversely related to other foreign inflows (Mosley 1980, p. 82) and to private sector investment (Mosley 1987, p. 129). In the latter study, he found that a strong positive relationship existed, in some countries, between aid and private investment. This suggests the possible existence of a 'crowding-in' mechanism, whereby aid financed public sector investment facilitates its private sector counterpart. White (1992c) has shown that such a mechanism was in operation in Sri Lanka in the 1970-88 period, as a result of strong complementarity between private and public investment. In a survey of empirical studies, White and McGillivray (1992) found evidence of both crowding-in and crowding out, as did Sundararajan and Thakur (1980) in a study of Korea and India.

White (1992d) believes that the stimulation of private investment is due to public sector projects' demand for inputs, and to improvements in access and services. Mosley et al. (1987) mention two other reasons which may explain a positive relationship between aid and private investment: first, programme aid may be specifically designed to relieve a balance of payments constraint hampering the private sector; and second, when aid is disbursed through agricultural credit agencies and development banks, it is usually on-lent to the private sector.

The positive impact of aid on private investment notwithstanding, it is possible for the impact of aid on aggregate investment to be negative if public capital expenditure is strongly and adversely affected. Using cross-section data for five South Asian countries and a simultaneous equations model, Ahmed and McGillivray (1990), found that aid ratios had not had a significant impact on investment ratios. This result is in opposition to Levy's (1984) study of Egypt, in which he found that the average investment-income ratio was increased by aid. According to White (1992a, p. 199), the impact of aid on investment is one of the few areas of the aid effectiveness debate showing any consensus. He reports that, of the studies which have regressed investment on aid, none have found a negative relationship, and only one reported an insignificant result (White 1992d). However, the coefficients reported in the studies he surveyed ranged from 0.11 to 3.15, which suggests that the consensus he claims exists does not extend very far.

Although the impact of concessional resources on the productivity of investment (as measured by the incremental capital-output ratio) had been a matter of debate since the early 1970s, a great deal of uncertainty persists. For some authors, the raising of the ICOR can explain the failure of aid to foster growth or, alternatively, its relative ineffectiveness in comparison with other types of resources (e.g. Voivodas 1973; Dowling and Hiemenz 1983; Rana and Dowling 1988). Rana and Dowling (*ibid.*, pp. 7-8) show that, in Asian developing countries, aid has had a significant negative impact on the incremental output-capital ratio<sup>8</sup>, whereas foreign private investment has increased it. Other authors differ, for a number of reasons. Papanek (1983, p. 174) drew attention to the difficulties of measuring and comparing ICORs with any accuracy in different countries, due to price differentials and exchange rate fluctuations. When he examined the aid-ICOR evidence in five Asian countries, he found that rising

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<sup>8</sup> Hence a positive impact on its reciprocal, the ICOR.

aid levels had coexisted with both high and low ratios. White (1992d) expressed similar reservations about aggregating ICORs across countries and across sectors, and observed that a range of other determinants of the ratios also needed to be considered. Evidence presented by Mosley et al. (1987) shows that low ICORs (denoting productive investment) frequently coexist with high aid ratios, thus contradicting expectations based on Griffin's (1970) argument.

A recent study by Khan and Reinhart (1990) throws an interesting light on this debate: they show, based on a cross-section of 24 developing countries, that private investment plays a much larger role in the growth process than public investment. From their result, it follows that the allocation of aid-financed investment between the public and private sectors will, *inter alia*, determine the economy-wide productivity of investment and hence the value of the aggregate ICOR. Given that, in recent times, the delivery of aid has tended to favour the private sector (e.g. Mosley 1987, p. 138; White 1992d, p. 10), it is likely that, if anything, aid has had an increasingly positive impact on economy-wide investment productivity.

### 3.3.5 The trade theory approach to the effects of aid

According to White (1992a, p. 207), the application of trade theory to the impact of aid can be traced back to early-1970s criticisms of the overly rigid assumptions underlying the two-gap model (e.g. Findlay 1973: see 3.2.1). However, this approach truly gathered momentum following work by van Wijnbergen (e.g. 1986), who pointed out the relevance of the so-called 'Dutch Disease' or 'booming sector' literature (e.g. Corden and Neary 1982; van Wijnbergen 1984) for the analysis of the impact of aid. In essence, van Wijnbergen's argument was that, like the windfall revenue that accrued to the Netherlands following the discovery of large natural gas deposits, an aid inflow would lead to a temporary appreciation of the real exchange rate (RER), that is, to the fall in the price of tradable goods relative to that of non-tradable goods. In turn, this relative price movement would result in a decline in traded goods production and exports (van Wijnbergen 1986, p. 135).

The key to the outcome described above lies in production and consumption decisions being altered by aid-induced relative price movements in such a way that an economy-wide re-allocation of resources occurs, triggered by the increased profitability of non-tradable goods production. A contraction of the



tradable goods sector ensues, which is compounded by the higher cost of its non-tradable inputs, the prices of which have been bid up. Thus, as in the case of a commodity boom, aid can ultimately result in a reduction of a country's international competitiveness and export (or import-competing) capacity. This reduction may, in turn, have long term damaging effects on the economy, especially if aid flows are subsequently terminated. If or when the boom stops, the country is likely to suffer the economic consequences of sub-optimal investment and lower productivity gains in the tradables (non-booming) sector (Ahlburg 1991), and, possibly, of the loss of 'learning by doing' externalities. According to van Wijnbergen (1984), it is a well-established stylised fact that economic development is synonymous with the performance of the traded goods sector, where most technological progress occurs. If the growth of that sector is hindered—even temporarily—by an appreciation of the RER, income per head in the economy may be permanently lowered.

It should be noted, however, that the emergence of a trade deficit, following an injection of aid, should not necessarily be construed as a symptom of the Dutch Disease. As has long been recognised, such a deficit is required if aid is to translate into a transfer of real resources from the donor to the recipient (e.g. Kindleberger 1963, ch. 18). No problems arise if the trade deficit simply reflects an expansion of the recipient economy's absorption possibilities, with the competitiveness of the traded goods sector unaffected by the aid inflow. If, however, the trade deficit is primarily achieved through a contraction of that sector, the negative effects associated with this contraction mean that the long term benefits of aid are likely to be reduced.

According to White (1992a, p. 218), the aid-induced appreciation of the real exchange rate is now a well-established and robust theoretical result, which awaits further comprehensive empirical investigation. Supportive evidence is, however, progressively emerging. Younger (1992) expressed the belief that the persistence of rapid inflation and the crowding-out of the private sector in Ghana in the 1980s, were symptoms of an aid-induced Dutch Disease phenomenon. Elsewhere, Weisman (1990) used a computable general equilibrium model of the PNG economy to show that an increase in aid would result in a significant appreciation of the RER.

It should be noted, finally, that, its strong theoretical basis notwithstanding, the conclusion that the tradables sector is *always* and *entirely* hindered by the existence of a booming sector is an unwarranted generalisation. As noted by

Weisman (*ibid.*, pp. 9-10), some or all tradables industries could in fact prosper in the event of: (i) factor intensity reversal in the booming sector; (ii) terms of trade alteration by the booming sector (iii) imperfect substitutability between domestic and foreign products in consumer demand; and (iv) perverse price effects in the presence of intermediate products. In most cases, however, these difficulties are ignored through the use of appropriate assumptions.

### 3.4 Conclusion

As was foreshadowed in the introduction to this chapter, more questions than answers are unearthed by a survey of the aid effectiveness literature spanning several decades. Despite improvements in econometric techniques, data sets, and theoretical rigour, an understanding of the 'true' nature of the aid-growth relationship and its attendant issues remains an elusive goal for aid scholars. If any certainty has emerged from the vast amount of theoretical and empirical research on the impact of aid, it is that the reception of aid by developing economies is not the unmitigated boon that early researchers described, nor is it always as harmful as its critics claim. While the failure of aid to live up to economists' early expectations as a harbinger of self-sustaining growth is undoubtedly sobering, some comfort can be taken from the considerable advances in understanding the impact of aid. These advances, achieved by splitting the problem up into its numerous components, hold some promise for the ability of donors and recipients alike to put aid to better use in the future. To quote White:

No policy implications may be drawn from the literature on aid and growth because of its over-ambitious scope and ultimately inconclusive nature. Less ambitious studies are more likely to have implications that may be translated into donor policy. (1992b, p. 134)