"Dutch Disease" in the Pacific ?

An economic effect of preferential trade access on small open economies

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Fiji, along with many other developing countries, benefits from preferential trading access to protected markets. The prices received for exports to these markets are generally higher than the prevailing international prices. Although this premium is a welcome addition to national income, it may have "Dutch Disease" effects on the economy. Inflated commodity prices may cause the exchange rate to appreciate and distort the intersectoral terms of trade. These effects would then constrain the diversification of the economy, restrict the development of exports and increase Fiji's dependency on its benefactors.

Introduction

Many developing countries benefit from preferential access to protected markets in developed countries and trading blocs. A notable example is the access the African Caribbean Pacific (ACP) countries have to European Community (EC) markets under the various Lomé agreements. Several of the Pacific Island nations, including Fiji, are members of the ACP group and beneficiaries of the Lomé agreement. A large percentage of Fiji's sugar and tinned fish production is sold to the EC at Common Agricultural Policy (CAP) prices.

Almost by definition, preferential access to a protected market enables the exporter to sell preference goods at a premium over the free market price. This premium is a *"grace and favour"* payment from the importing country (donor) to the exporter (recipient) and is a form of aid. In this paper, this premium is being characterised as trade aid.

Trade Aid another "Dutch Disease" ?

The donor of trade aid quite understandably believes that it is treating the recipients very fairly. The trade aid transfers probably more than offset any price effects the donors protection policies have on world market and, by trading with developing countries, the donor believes that it is stimulating economic development and independence. At the same time the recipient countries welcome trade aid as a valuable addition to foreign exchange earnings.

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These benefits may, however, have serious costs. Trade aid may induce a form of "Dutch Disease" in the recipient's economy.

"Dutch Disease"

"Dutch Disease" has been well documented over the past twenty years. The effects were first identified by Eide in his 1973 paper on the Norwegian oil industry. In 1976 Gregory published his more widely known paper on the effects the Australian mineral boom was having on traditional agricultural export industries. The term "Dutch Disease" was coined in "The Economist" in 1977 when used to describe the impact North Sea gas exports had on the Netherlands economy in the sixties and seventies. Subsequent work by Snape (1977), Corden (1984), Neary and Van Winjbergen (1984) and Van Winjbergen (1982 & 1984), among others, has developed the theory of "Dutch Disease".

In his 1984 paper Corden identifies several key "Dutch Disease" concepts. He separates the economy into three sectors: the *Booming Sector*, the *Lagging Sector* and the *Non-Tradeable Sector*. The first two produce tradeable goods and services while the third produces internationally immobile goods and services.

A typical example of a *Booming Sector* is the petroleum industry. Over the past twenty years, many countries have experienced sudden surges in foreign exchange earnings as they developed their oil and gas fields. The *Lagging Sector* comprise the export industries that existed prior to the boom. Typically the *Lagging Sector* is made up of agricultural commodities and other traditional exports. The *Non-Tradeables Sector* includes goods and services personal services.

Corden goes on to describe the *spending* and *resource movement* effects that "Dutch Disease" has on the intersectoral terms of trade in an economy.

The price of goods and services within the economy are increased by the *spending effect*. The participants in the *Booming Sector* use their new found income to increase their purchases and thereby bid up the price of non-tradable goods and services. The actual price effects will depend on the elasticities of resource supply, but typically the price of scarce resources such as skilled labour, land and materials increases.

The *resource movement* effect draws scarce resources out of the *Lagging Sectors* into the *Booming* and *Non-Tradeable Sectors*. Skilled labour is attracted into the *Booming* and *Lagging Sectors* by higher wages and better conditions. Coincidentally, both the advantaged sectors will capture a greater share of the other limiting resources, such as land and finance. The net impact on the *Lagging Sector* is falling market prices, rising costs and reduced access to national resources.

The use of the word disease in the term "Dutch Disease" is misleading, its pejorative implication is that an economy is disadvantaged by a sudden large increase in income. In practice, very few Governments would forego additional income simply because it changed the economic structure of the economy. The real issue is the likely persistence of the *Booming sector* and the net cost of adjusting to the changed circumstances.

If the change is permanent, the structure of the economy will change to reflect the new economic circumstances, people will retrain and resources will be redistributed amongst the restructured economic sectors. History has many examples of these changes, for example, the industrial revolution radically changed resource usage and the pricing structure in England during the 18th and 19th centuries. The process of adjustment is difficult and some individuals and sectors never successfully make the transition but, ultimately, the economy as a whole is better off. By contrast, if the boom is short lived the cost of change may exceed the advantage of the extra income.

Trade Aid

While "Dutch Disease" theory deals with the impact of a booming sector on the rest of the economy, the analysis of the impact of trade aid is concerned with the converse effect. What happens to an economy when trade aid is withdrawn and do the costs of re-adjustment exceed the benefits ?

Many of the concepts and much of the terminology used in the "Dutch Disease" literature are applicable to the analysis of trade aid. The principal differences are that the *Booming Sector* is better described as the *Preference Sector* and the *Lagging Sector* becomes the *Other Tradeables Sector*.

The benefit of trade aid is clear; it increases the recipient's foreign exchange earnings which, in turn, should have welfare effects in the recipient economy. In the process, trade aid has a direct impact on the structure of the economy through the intersectoral terms of trade and the exchange rate. In a small open economy these effects could be substantial and, if trade aid is a short term phenomenon, may result in resource misallocation.

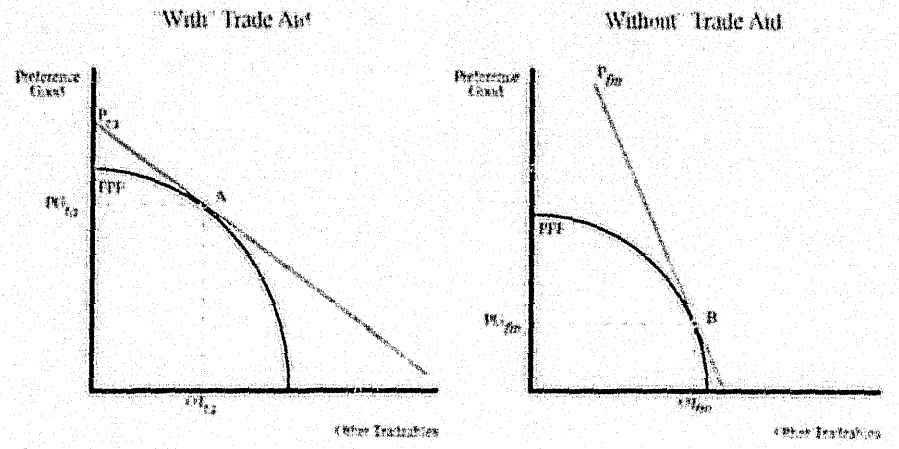
Intersectoral Terms of Trade

The *spending* and *resource movement* effects of trade aid can be represented by a general equilibrium diagram, Figure 1.

The "With" and "Without" scenarios in Figure 1 represent independent situations. The "With" scenario assumes that the country receives trade aid whereas the "Without" scenario assumes that the country has not received trade aid.

The slope of terms of trade lines, P_{ta} and P_{fm}, depend on the price ratio of the preference good to other tradeables. In the "With" scenario the relative price of the preference good would be greater than under the "Without" scenario. Hence the slope of the terms of trade line is less in the "With" scenario.

Figure 1: General Equilibrium "With" and "Without" Trade Aid



The equilibrium level of production of both the preference good and the other tradeables depends on the size and shape of the production possibility frontier (PPF). Under the "With" scenario both the absolute and relative amount of preference good produced, PG_{fm}, would exceed the amount produced under the "Without" scenario. By contrast, although the relative amount of other tradeables would be lower under the "With" scenario, the absolute amount of production may not necessarily be less than the amount produced under the "Without" scenario.

The size and shape of the production possibility frontier (PPF) depends on the country's factor endowments and level of technology. These, in turn, are affected by the quantum of foreign exchange received as trade aid. The size in the PPF reflects GDP growth over time, while the shape is linked to the mix of factor endowments and returns to scale. It is likely that the area within the "Without" scenario PPF would be smaller than the area within the PPF of the "With" scenario. It is also likely that the "With" PPF would be skewed in favour of the preference good relative to the other tradeables. This latter assumption is supported by the first part of the Rybczynski theorem which holds that "*an increase in the endowment of any factor will increase (at constant goods prices) the output of at least one good more than proportionately, and the output of at least one good must fall*" (Bhagwati, 1983 p 357).

Although the scenarios in Figure 1 are independent of each other, they can be used to infer the possible direction of change if trade aid was removed.

The abrupt removal of trade aid would instantaneously change the price ratio between preference goods and other tradeables. This change in price ratio would switch production away from the preference good towards the other tradeables. Even though the change in price ratio could be immediate, it is unlikely that the switching would be equally rapid. Under the "With" scenario, the mix of assets in the economy would be biased towards producing the preference good, unless these assets are highly mobile between the production of preference goods and other tradeables, the adjustment to the change in price ratio would be lagged. This asset fixity would mean that, in the short term, the level of production of preference goods would be higher than the level expected at a free market equilibrium. The level of production of preference goods would remain higher until the obsolete fixed assets had been used up. Equally, the producers of other goods would take some time to retool to meet the increased demand. It may be possible to predict the relative speed of adjustment if the nature of the assets can be determined.

The "Without" scenario shows the situation that would, theoretically, prevail at free market prices. After the removal of trade aid, the economy would move towards the "Without" equilibrium level of B, the production of preference goods would fall towards PG_{fm} and production of other tradeables would move towards OT_{fm}. In the real world, it is unlikely that free market equilibrium would ever be reached. Trade is a dynamic process and prices are constantly changing. Producers respond to these international price messages by modifying their production and investment decisions. This perpetual pursuit of the "most" profitable production mix inevitably means that at any point in time the economy would be out of equilibrium.

The welfare effects of these changes depend on consumer preferences. The loss of trade aid may mean a reduction in welfare. Comparative static analysis can identify the absolute size of these effects at a point in time, however, it provides no information about the speed of adjustment. The quantum of the welfare effects depends on both the absolute size of the adjustment and the time it takes to move from the trade aid scenarios to the free market equilibrium.

The impact of these changes on a small open developing economy could be severe. Typically small open developing economies are based on a few commodity exports. As a consequence, a large proportion of the country's productive assets are dedicated to producing a single commodity. Depending on the nature of this commodity, the assets used in its production may not be easily transferable to the production of other commodities. There is therefore a high risk that, in a two or three commodity economy, the rate of adjustment will be slow.

Exchange Rate Effects

Aid, whether in the form of trade or development assistance, increases the effective foreign exchange receipts[1] of the recipient country. In the medium to long term, increases in foreign exchange earnings are likely to drive up the exchange rate. Other things being equal higher exchange rates reduce the competitiveness of the producers of tradeable goods and services. In their joint publication (Bauer et. al. 1991) Bauer and Siwatibau identify the impact of aid on exchange rates in the following terms:

> Bauer, pp 11: *"The inflow of aid funds drives up the real rate of exchange, and adversely affects trade competitiveness. ..... the higher real exchange rate makes for continual dependence on external assistance".*
>
> Siwatibau, pp 29: *"Large aid flows do have a negative secondary impact on the tradeable goods sector, including agriculture. They enable countries to avoid, for long periods, currency adjustments that are necessary for long term growth".*

An overvalued exchange rate[2] reduces the relative value of the domestic currency, as a result, exporters receive less for their produce and imports become cheaper. Both effects reduce the competitiveness of domestic producers of tradeables.

It is axiomatic that, in the long term, no country can maintain an incorrectly valued currency. An overvalued currency will, ultimately, erode foreign exchange reserves and/or increase foreign debt to unacceptable levels. Eventually the Government will be forced to devalue the currency. The impact of an undervalued exchange rate may be a little more insidious. Undervaluation in effect means that resources are transferred abroad rather than invested at home (Dornbusch 1993 p 105). In most circumstances, domestic investment is likely to be both more politically and economically beneficial.

"Dutch Disease" is an exception to this generality. Where a country experiences a transitory windfall gain, it may be prudent to invest the funds off-shore rather than allow the additional foreign exchange earnings to drive up the exchange rate and thereby damage other tradeable sectors in the economy.

Figure 2 shows a macro economic model of "With" and "Without" trade aid scenarios in a small open economy. The "With" scenario is represented by the $_{fm}$ subscripts while the "Without" scenario is represented by the $_{ta}$ subscripts.

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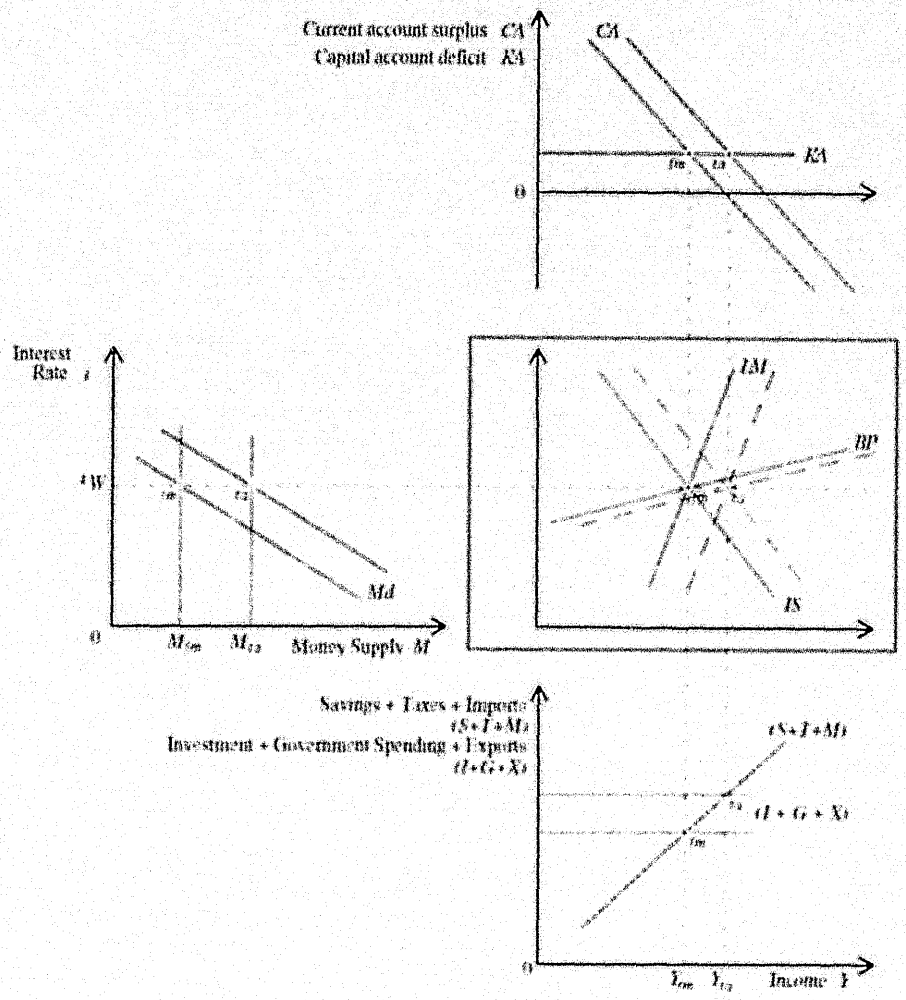
1 Typically aid comprises a mix of money and aid-in-kind. To the extent that aid-in-kind reduces the recipient's need to spend foreign exchange it increase the effective foreign exchange receipts.

2 In most small open developing countries exchange rates are managed rather than floated. There is usually little international demand for these currencies and it is generally considered that a freely floating exchange rate would be too volatile.

Figure 2: Open Economy Macro Model "With" and "Without" Trade Aid



The real interest rate *(iW)*, the marginal propensities to save *(S)*, tax *(T)* and import *(M)*, the "preferred" level of foreign reserves *(KA)* and elasticity of money demand *(Md)* are all assumed to be the same in both the "With" and "Without" scenarios. The net result is unexceptional, trade aid increases national income *(Y)* and the money supply *(M)*.

The combination of the intersectoral terms of trade and exchange rate effects will bias the economy in favour of producing the preference good. To the extent that trade aid may be a short term phenomenon this bias could lead to resource misallocation. These misallocations could be particularly important for a small developing economy which relies on a narrow export base. It is conceivable that a country could end up specialising in producing a good in which it has no comparative advantage at free market prices. In these circumstances, if trade aid is withdrawn, the economic and welfare costs of the consequent structural adjustment could be significant.

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If recipient countries could be confident that the trade aid would never be withdrawn there would be no problem, the trade aid income would simply remain part of normal export earnings. However, current moves to reform international trade and, in particular, the EC's Common Agricultural Policy (CAP) mean that many countries may lose their preferential position in the short to medium term.

What are the Implications for Fiji?

Fiji is a small open developing economy. It has a small population, 730,000, with a per capita income of around US$2,000 pa. The economy is heavily dependent on two major sectors, tourism and sugar, both of which are price takers on the international market. Its economy is further constrained by remoteness from world markets and the high cost of public administration.

Fiji Economy

The Fiji economy grew rapidly in the immediate pre and post independence periods[3]. This early growth was based largely on sugar and copra exports. The growth rate slowed during the last half of the 70's and eventually came to a halt in the early 80's. Despite continued growth of the tourism industry, which replaced the disappearing copra industry, the economy languished during the first half of the 80's. In the mid 80's the economy grew at slightly more than 2 per cent per annum which was insufficient to keep pace with the population growth (World Bank op cit). Throughout this period, the Government pursued an inward looking economic development policy with a strong emphasis being given to import substitution, self sufficiency and economic diversification.

1986 appeared to be a turning point for the economy, real growth rose to 8.3 percent in response to improved sugar prices, falling oil prices, increasing tourist arrivals and expanded manufacturing output (Sturton 1991). The coups of 1987 reversed this apparent recovery, business confidence was seriously damaged, tourist arrivals plummeted, sugar production fell sharply and there was a rapid flight of both capital and skilled workers out of the country. By the end of 1987 the economy had contracted by 6.1 percent (Sturton op cit). The rapid erosion of foreign reserves caused by these events was halted by two substantial devaluations, totalling 33 percent, and the imposition of strict foreign exchange controls.

Following its success in stopping the immediate drain on foreign reserves, the Interim Government addressed itself to strengthening that basic structure of the economy. Over the next 5 years it implemented a series of micro economic reforms designed to give the economy

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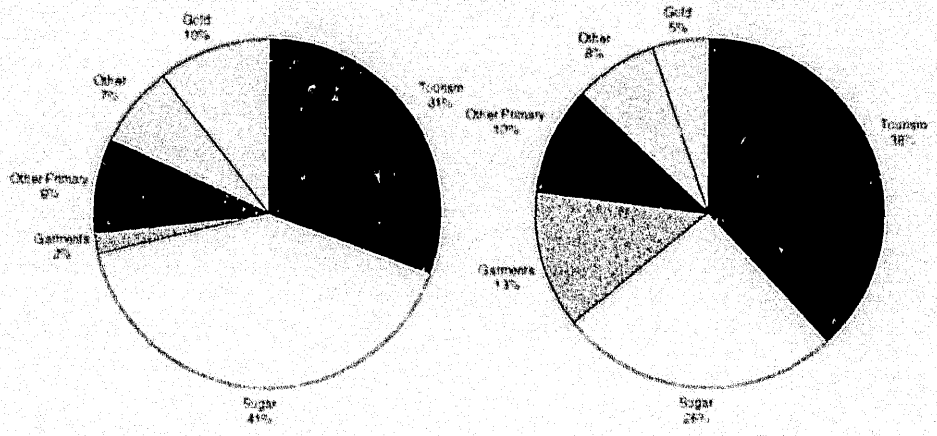
[3] Fiji was British colony from 1874 to 1970.

an outward looking export orientation. The economy responded rapidly and, despite a disappointing investment performance, grew by 13 percent in 1989 and further 5 percent in 1990.

Figure 3: Sources of Foreign Exchange: 1987 & 1991 est.



1987 1991 est.

Source Supplement to Fiji Minister of Finance 1992 Budget Address

In 1991 sugar, tourism and garments accounted for 77 percent of foreign exchange earnings, see Figure 3. The most notable changes were the emergence of the garments industry and the continued growth of the tourist industry. Both sectors were assisted by the lower exchange rate and the garment industry benefited from special tax exemptions.

Fiji Sugar Industry

From 1880 to 1973 the Fiji sugar industry was controlled by the Colonial Sugar Refining Company of Australia (CSR). Initially, cane was grown on company controlled plantations with most of the manual work being done by indentured labour from India, the indenture system ceased in 1920. Immediately after the cancellation of the indenture system, CSR was faced with a serious shortage of labour. This shortage was overcome by the establishment of a tenant farming system with the former labourers being contracted to grow cane on small family farms. CSR retained ownership of the mills and infrastructure and supplied various inputs to the tenant farmers. The system currently operating in Fiji retains most of the essential elements of the tenant farmer system. The composition of industry is show in Table 1.

Table 1: Composition of Sugar Cane Growing Sector, 1990

	Mills									
	Lautoka		Rarawai		Penang		Labasa		Total	
	(no.)	(%)	(no.)	(%)	(no.)	(%)	(no.)	(%)	(no.)	(%)
Growers	8445	39.0%	5793	26.7%	2573	11.9%	4849	22.4%	21660	100.0%
Ethnic Origin										
Indian	6222	28.7%	4917	22.7%	1381	6.4%	4017	18.5%	16537	76.3%
Fijian	2172	10.0%	860	4.0%	1168	5.4%	812	3.7%	5012	23.1%
Other	51	0.2%	16	0.1%	24	0.1%	20	0.1%	111	0.5%
Registered Area										
0.0 to 4.0 ha	5195	24.0%	3230	14.9%	1215	5.6%	2030	9.4%	11670	53.9%
4.1 to 6.0 ha	1735	8.0%	1358	6.3%	665	3.1%	830	3.8%	4588	21.2%
>6.0 ha	1515	7.0%	1205	5.6%	693	3.2%	1989	9.2%	5402	24.9%
Form of Land Title										
Native Lease	4549	21.0%	3453	15.9%	2026	9.4%	3565	16.5%	13593	62.8%
Crown Lease	1210	5.6%	1494	6.9%	215	1.0%	1169	5.4%	4088	18.9%
Freehold	1390	6.4%	656	3.0%	249	1.1%	111	0.5%	2406	11.1%
Vakavanua	1288	5.9%	176	0.8%	83	0.4%	4	0.0%	1551	7.2%
Other	8	0.0%	14	0.1%	0	0.0%	0	0.0%	22	0.1%
Method of Delivery										
Portable Line	978	4.5%	844	3.9%	265	1.2%	1140	5.3%	3227	14.9%
Truck/Trailer	2882	13.3%	2281	10.5%	245	1.1%	1327	6.1%	6735	31.1%
Lorry	4585	21.2%	2668	12.3%	2063	9.5%	2382	11.0%	11698	54.0%

Source: Landell Mills Report, 1991

The most notable feature of the Fiji sugar industry is the disaggregated nature of the growing sector. Unlike most other cane producing countries, Fiji does not use the estate system. This has the advantage of dispersing the benefits across a large number farmers. There are some 21,660 growers of whom 54 percent farm 4.0 hectares or less. In 1987-89 the average area cultivated was 4.2 hectares of which 3.0 hectares (70 percent) were harvested. During the 1989 season 12 percent (2,809) of the growers produced 20 tonnes or less while 1.6 percent (354) delivered over 600 tonnes (Landell Mills 1991).

In 1973 the Fiji Sugar Corporation (FSC) took over CSR's interests in Fiji and became the sole miller of sugar cane. FSC now operates four mills, the tramway system, two bulk loading terminals and the Sugar Cane Research Centre.

Since 1974 Fiji, along with a number of other African, Caribbean and Pacific countries, has been a party to the European Community's Lomé Convention. Under this convention Fiji receives preferential access to the EC market for specified quantities of certain commodities. Fiji's sugar industry is a major beneficiary of this preferential access.

Since the inception of the Lomé agreements, net sugar trade aid transfers from the EC to Fiji have exceeded F$650m. Figure 4 provides an indication of the importance of sugar trade aid to Fiji from 1972 to 1988.

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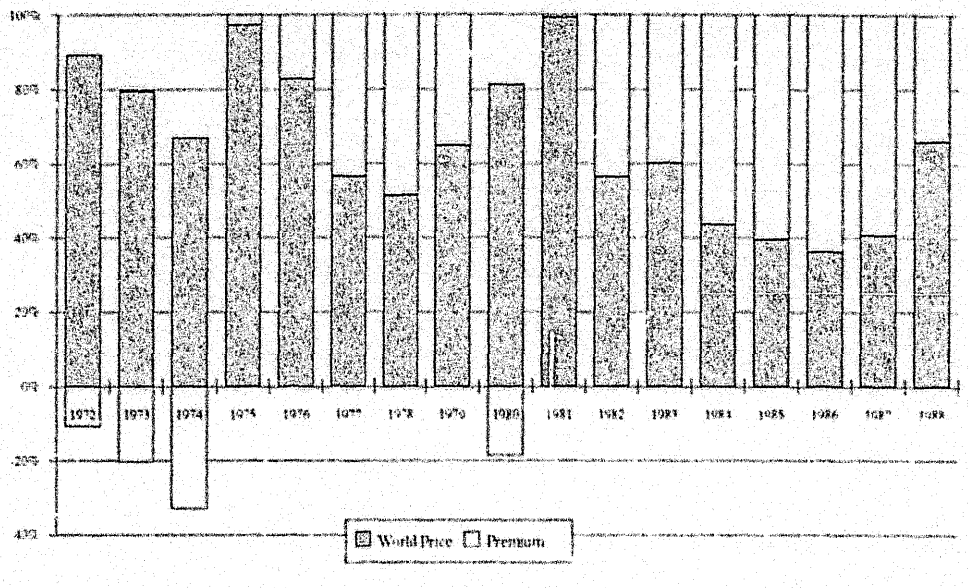
In a typical year sugar exports earn Fiji over F$230.0m[4], of this approximately 65 percent (F$150.0m) comes from sales to the EC under the Lomé convention[5]. Currently the EC price is around triple the world price. The balance is sold under a variety of agreements to several other countries. Of these, Japan and the U.S.A. also pay substantial premiums, albeit for quite small quantities.

Figure 4: Fiji Sugar Cane - World Price/Trade Premium



In effect, Fiji is receiving trade aid of around F$100 m per annum from the EC. This accounts for 18 percent of Fiji's total export income and 11 percent of Fiji's foreign exchange earnings. The loss of this income would have significant implications for the Fiji economy.

Economic Dependency

Trade aid reinforces commodity and aid dependency. One of the most often stated aims of development assistance is to encourage economic independence. Preferential access to protected markets is often viewed as an effective method of stimulating economic independence. Whereas, in fact, it may result in the opposite.

Economic diversity is another oft stated goal of economic development. The conventional argument is that economically diverse economies are better able to withstand the

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4 Fiji Bureau of Statistics, Current Economic Statistics

5 Fiji Sugar Marketing, pers comm.

shocks of change in the world demand for commodities. It is not proposed to re-argue the benefits of diversification versus specialisation in this paper. Suffice it to say that an economic system which specialises in the production of subsidised commodities is treading a dangerous path. Especially where the amount of subsidy and its continuation is dependent on the goodwill of another party.

Future

World trade is currently going through major re-adjustments. On one hand, the outcome of the Uruguay round of the GATT negotiations will liberalise world trade while on the other, new trading blocs are being formed and old ones are weakening.

Small, open developing economies are among the most vulnerable to these changes. Almost inevitably they are the residual price takers of the world markets. They have little or no influence on international prices and, in most cases, their production is insignificant in terms of world consumption.

It is likely that the trade reforms will be introduced gradually and this will give trade aid recipients time to adjust to the new situation. The economic impact of the adjustments will depend on both the speed and degree of adjustment required. Those countries which have used trade aid to underwrite heavy capital investment in the production of the preference good and those which have used trade aid to support inefficient production practices will have the most difficulty in coping with the changes. Ultimately much of the benefit they stood to gain from the trade aid will be lost to redundant assets and inefficiency.

Fiji's sugar industry is likely to have particular problems. The industry's capital infrastructure has been designed to handle large volumes of relatively low quality cane, which is collected from widely dispersed smallholdings. Many of the outer cane growing areas are either too far from the mill or too unproductive to be viable at world prices. The changed circumstances could force prices down from the current F$45-50 per tonne to around F$20 per tonne. Only the most efficient farmers operating on the best land will survive this re-adjustment. Ironically, it is also likely that, with the implementation of improved work practices and a better pricing system, Fiji may be able to maintain close to its current level of sugar production, albeit grown by less than one third the number of farmers on one half the current acreage.

Conclusion

Trade aid is similar to all other subsidies. It is an indirect and clumsy mechanism which distorts the operation of the recipient economy. Developing countries will always welcome the

extra foreign exchange but if efforts are not made to mitigate the distortionary effects of trade aid its medium to long run costs may outweigh the short term benefits.

In the longer run the best thing developed countries can do to assist those less well off nations would be to remove the artificial impediments to trade which they selfishly erect to assist selected groups in their own economies. Trading blocs like the EC may be able salve their conscience by giving the less well off limited preferential access to their markets, but are they really helping or is this beneficence simply another shackle on the development of the poorer economies.

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