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COMPARATIVE STUDY IN THE NET BARTER TERMS OF
TRADE AND INCOME TERMS OF TRADE OF THE PACIFIC
ISLAND ECONOMIES.

ROBERT MATAFONUA FOTU SOAKAI

MASSEY UNIVERSITY

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ABBREVIATIONS

-	Zero
..	Not applicable
ADB	Asian Development Bank
AIDAB	Australian International Development Assistance Bureau
ANU	Australia National University
cif	Costs, Insurance and Freight
DCs	Developing countries
DFTT	Double Factoral Terms of Trade
DWFN	Distant Water Fishing Nation
ECLA	Economic Commission for Latin America
EEZ	Exclusive Economic Zone
EXP	Export
FAO	Food, Agriculture Organisation
FFA	Forum Fisheries Agency
FIC	Forum Island Countries
fob	Free on Board
GBTT	Gross Barter Terms of Trade
GDP	Gross Domestic Products
GNP	Gross National Products
IMP	Import
ITT	Income terms of trade

LDCs	Less Developing Countries
MIRAB	Migration, Remittances, Aid and Bureaucracy
n.a.	not available
NBTT	Net Barter terms of trade
PNG	Papua New Guinea
POP	Population
RCTT	Real Cost Terms of Trade
SDR	Special Drawing Right
SFTT	Single Factorial Terms of Trade
SPARTECA	South Pacific Regional Trade and Economic Agreement
SPC	South Pacific Commission
SPR	South Pacific Region
TOT	Terms of trade
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea
UTT	Utility Terms of Trade

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ABSTRACT

It is suggested by the so-called P-S thesis that countries whose exports based upon traditional primary products will continue to face deterioration in their terms of trade. It is upon such a proclamation, that challenge the author to launched an investigation to the validity of such a claim and its applicability to the case of Solomon Islands, Tonga and Western Samoa.

The early researcher in this area shows that countries whose exports dominate by exporting traditional primary commodities tend to have more instability in its terms of trade than those who are exporting manufactured goods. However one of the most staggering finding of this research is. The terms trade of the three island economies seem to be deteriorate, at same time their purchasing power seems to be on the positive side. What it means that, despite the deterioration in the country's terms of trade their incomes seem not deter at all by such a movement. This is sound controversial to the P-S thesis but there was other trade incentive that came in to play when these countries' terms of trade deteriorate. However, perhaps it is enough to mention here that such deterioration in the terms of trade might mean so little when one take into account major factors that hammered these small island's economies. Factors like, drought, hurricane, poor quarantine service, has fueled the problem of deterioration of the terms of trade.

Empirical test was carried out to examine the impact of the Net Barter terms of trade movement on the income (Gross Domestic Products). Result revealed was un-intrigue.

Conclusion was drawn and there is a strong need for change in the export bases of the three island economies. Policies need to change to encourage regional trading. A change to the trade agreement (e.g., SPARTECA) that govern the trade activities of the island nations, is necessary. Such a change will help the island nations to compete with its trading partners effectively and competitively.

Chapter 1

" Individually as nations we are small. If we go it alone, we will be easy prey for the developers who will shop around our region until they get their best deal. The best deal for the developer will certainly mean the worst deal for the country concerned. The developer will say if he can not get what he wants in one place 'Ok I will go elsewhere I can get what I want ".

Hon. Michael Somare

(The South Pacific sub-regional UNCSTD paper, 1977:7)

Introduction.

The economic and social situation of the South Pacific region is very much dependent on the economic relationship that it has with its trade partners. To ensure that the islands of the Pacific achieve great benefit from interacting with their trade counterparts, the island nations should act as a whole. Failing to do so will put the island nations in big problems regarding trade and bargaining power. As Prime Minister Somare pointed out they become easy prey for the more developed countries.

However in the last seventeen years or so, the trade of the Solomon Islands, Tonga and Western Samoa seems to have benefited their trade partners more than advantaging the pacific island nations. Problems may be identified ranging from geographical isolation, the disadvantages gained from using unfair trade agreements, the types of products exported, and many other problems that will be discussed and highlighted in later chapters. From all the issues that have been identified, this research argues that the economies selected for this study will continued to have problems unless they change their line of export production: That is diversify their export base from total concentration on the export of traditional export crops.

As is shown in the earlier studies carried out by Singer, Prebisch, Sapsford and many others, countries who tend to concentrate in producing primary products for exports will continue to face problems with their terms of trade. This is exactly what had been found by this research. Between 1975 and 1991, the terms of trade of the Solomon Islands, Tonga and Western Samoa deteriorated.

In this research Chapter two sets out to review some of the earlier findings concerning studies of the terms of trade. Among the points that are highlighted in this chapter are the possible reasons given to account for deterioration in the terms of trade of the LDCs. Chapter Three looks at the methods that have been developed and used over the years to examine deterioration and improvements in the terms of trade. Chapter Four explains the data and the sample selection process used in this research. Chapter Five provides an overview of the South Pacific, from the social background to political and economic development to the latest changes in the area. Chapters Six, Seven and Eight focus on the Solomon Islands, Tonga and Western Samoa respectively, the three island economies that were selected for this study. Attention in these chapters is given to terms of trade and how it moves between 1975 and 1991. At the same time attention is also given to the impact of the terms of trade on these countries' income (GDP). Finally, Chapter Nine, the conclusion for this research will be given and some policy suggestions and recommendations.

Chapter 2

Literature Review

" The cheapness of the articles produced by machinery, and the improved means of transport and communication furnish the weapons for conquering the foreign markets. By ruining handicraft production in other countries, machinery forcibly converts them into fields for the supply of its raw materials..... A new and international division of labour, a division of labour suited for the requirements of the chief centres of modern industry springs up, and converts one part of the globe into a chiefly agricultural field of production, for supplying the other part which remains a chiefly industrial field.

(Marx 1970: 451)

Introduction

Marx believed that the LDCs are not given a free choice of what to produce in order to gain more from trade. He argued that the LDCs traditional industries are destroyed and they are forced to concentrate on primary production for world markets. As a consequence, the LDCs became dependent on the metropolitan countries, and their trading relationships become based on unequal power and lead to exploitation of the weak by the strong (Ayres.P,1976).

Over the years, there has been a great deal of debate on the issue of international trade, especially the impact of the *Terms of Trade (TOT)* on the development and economic growth of many LDCs. Many advocates of this doctrine pointed out that perhaps the reason why many LDCs do not really benefit from being involved in international trade is because of the type of commodities that they export, as well as the commodities that are imported. This was certainly demonstrated by two of the leading researchers on the area of terms of trade. Singer and Prebisch found that most LDCs are heavily reliant on producing primary products, and it is believed that this is one of the reason why the TOT of the LDCs continues to deteriorate because of its dependence on primary products.

Many scholars have argued that such a deterioration has very little impact on a country's economic growth and it is nothing but a "*cycle*" with recurring peaks and troughs that every country goes through. Others argue that it is because of the "*direction of trade*", that the developing countries have to compete with each other in order to export their commodities, thus forcing the price down.

This chapter aims to give an insight into some of the reasons given to explain the deterioration in the terms of trade, especially the terms of trade of those countries whose exports are based on primary commodities. Some of these reasons may help to explained why the terms of trade of the Solomon Islands, Tonga and Western Samoa deteriorated over the years.

In relation to the reasons given to explain the deterioration in terms of trade of countries whose export are based on primary products, need to ask what is the impact of terms of trade movement on a country's income (GDP). To help us answer this question, we need to look at the work done by Singer and Edström. The last part of this chapter will focus on some policy issues.

2.1 Contribution and controversies on the study of the terms of trade¹ (TOT).

2.1.1 The Prebisch-Singer thesis (P-S thesis)

This section sets the scene for what is to follow by addressing itself to some early contributions concerning the long-run behaviour of the TOT between primary products and manufactured products. The classical economists up to and including

¹ TOT in its simplest form was defined as a ratio of the price of primary products to the price of manufactured goods, or as a ratio of the price of exports to the price of imports, that is P_x/P_m . A decline in TOT results in a fall in this ratio. If the TOT decline export earning will decline, unless productivity increases by a greater proportion. On the other hand, if the fall in the ratio was due to a fall in export price because of an increased efficiency in the export sector, the result might be a stimulation or an expansion of the export sector.

John Stuart Mill, concluded that there was a tendency for the prices of primary commodities to increase in relation to those which were manufactured. The argument was that, as a consequence of diminishing returns occurring in primary production from a fixed stock of land (including mineral resources) while population increased and capital accumulated, the price of primaries would inevitably rise over the long run in relation to the price of manufactured goods, especially given the downward pressures of surplus population and the process of urbanisation on wages and production costs in manufacturing, thus resulting in an upward movement in the terms of trade.

This argument was turned upon its head in the early 1950s, when Prebisch and Singer challenged the classical prediction. The P-S thesis (as it was called) is more far reaching and leads to the view, which appears to be held by many spokesmen of developing countries (DCs), that the TOT of DCs is bound to deteriorate, progressively and excessively, as long as the distribution of economic power remains as it is at present.² Prebisch in his contribution to the study of TOT argued that there was a more rapid increase of productivity in the "*centre*" of industrialised countries than in the "*periphery*" of primary producing countries. This was not quite how the orthodox economic theorists saw it. They claimed that such an event would lead to a progressive movement of the commodity terms of trade against the centre and in favour of the periphery. Yet Prebisch's interpretation of the statistical evidence was that there had been a long-run trend of the TOT in the opposite direction - against the periphery and in favour of the centre (The Economic Record, 1990).

Prebisch went further by saying that in his view the explanation of the long-run trend lay in the superior ability of trade unions in the industrialised countries to secure for

² This interpretation was first advanced in UN Economic Commission for Latin America (ECLA), *The Economic Development of Latin America and some of its problems*, New York, 1949; also Raul Prebisch, "The roles of commercial policies in underdeveloped countries", *American Economic Review, Papers and proceedings*, May 1959.

themselves the benefit of increased productivity in times of prosperity. Prices are pushed up by trade union action, and in the downswing they are kept up by union resistance to wage cuts - *the cost push theory of inflation*. Singer on the other hand claimed that the gains of technological progress in the industrialised countries are accrued by the producers as high incomes, while in the primary producing countries such technical improvement as occurred resulted in lower prices. Therefore industrial countries have the best of both worlds as consumers of primary commodities and the producers of manufactures, while the developing countries have the worst of both worlds as consumers of manufactures and producers of raw materials.

(Prebisch,1950; Singer,1987)

The P-S thesis was criticised on numbers of grounds (Viners,1953; Hebler,1965; Ellsworth,1956; Morgan, 1957), both theoretical and factual³. From a theoretical point of view, it has been argued that there is no reason why cost-push inflation in the developed countries should lead to changes of relative prices between manufactured goods and primary commodities, and hence influence the distribution of the gains to be expected from the increases in primary production on the one hand, and manufactures on the other. On that account, any decrease in the price of the primary products relative to manufactures, as a result of cost-push inflation, would increase the demand for primaries. This process would only stop when the original equilibrium price relationship had been restored. As Hayes (1975) pointed out, this contrary theory in turn depends upon certain assumptions about supply and demand responses which are not necessarily valid. However the continuing argument demonstrates that the Prebisch-Singer view of the working of the world economy is not self evident as might at first appear.

³ This paragraph relates to the influential P - S diagnosis of 1949-50. Dr. Singer tends to interpret the trading disadvantage of DCs in terms of the distribution of technology- eg his article The distribution of gains from trade and investment , *American Economic Review, Paper and Proceedings*, 40 473:485..

In his studies, Prebisch found that the Indian terms of trade tend to deteriorate while British terms of trade improved. Farrel (1975) found that this was not quite the case. He argued that the reasons why British imports declined in price relative to exports was because of the improvement in sea transport. This reduced the price of imports through lower freight, while export prices did not include the cost of transport. Consequently not all the improvement in Great Britain's terms of trade was at the expense of other LDCs, the majority of GB's import came from Europe, USA, Canada, Australia and New Zealand, so that any improvement in the terms of trade was only partly at the expense of the LDCs . Furthermore it was argued that the quality of improvement in manufactured goods was not adequately accounted for. A detailed discussion of this issue and an attempt to overcome such data problems is covered by Kravis and Lipsey, (1987). However, detailed analysis by Spraos (1980,1983) suggested that even if there was allowance for both these factors, it still would destroy the empirical basis of the Prebisch-Singer decline-trend hypothesis.

(Economic Record, 1990)

The P-S thesis no doubt explains the conviction, which has been prominent in international discussions, that the present rapid inflation of the price of manufactured goods is bound to leave the price of primary products lagging behind. Those who reject the P-S view would argue that when the TOT of developing countries deteriorates it is probably due to the failure of the world economy to diversify. As a result the supply of primaries outruns the growth of demand.

(Sakar,1986)

2.2 Possible reasons for the deterioration in terms of trade

Over the years a range of explanations (or '*factors*') was put forward to account for the observed downward trend in the terms of trade of the less developing countries. Among the popular reasons that were put forward, was that put out by Singer (1987). He identified four main factors which are discussed below⁴.

2.2.1 Differences in the elasticity of demand for primary commodities and manufactured goods.

Singer (1950) argued that there are long run differences in the income elasticity of demand for primary products and for manufactured goods. Since primaries typically have lower price elasticities of demand than manufactures, in consequence the effect of increases in the condition of commodity supply tends to be felt more in price decrease than in quantity increase. (Sapsford, D. 1985)

2.2.2 Distribution of the benefits of technical progress

In the developed countries technical progress does not leads to a corresponding fall in price, it is absorbed by wages and profits. On the other hand the LDC's prices reflect the change in technology. The result is that the consumers of manufactured goods in the LDCs do not benefit from technical progress, but consumers of primary products in the developed countries do benefit from lower price. Putting it differently, Singer (1987) claimed that this explanation hinged on the argument that the price of manufactured goods rises relative to primary prices because they embody both Schumpeterian rent element for innovation and an element of monopolistic profit

⁴ However the reasons that are given for the deterioration in the terms of trade in less developing countries are discussed here, but not in any order of importance. It is by no mean this thesis claims that these are the only factors that help explain the reasons behind long run decline in the terms of trade of the Less Developing Countries.

coming from the power of multinational producers⁵. Singer also pointed out that the problems facing primary producers include the increasing use of synthetic substitutes for natural products, while *technical progress* has also resulted in economies in raw material usages. However the threat from synthetic substitutes seems to be a long term problem for LDCs and perhaps the only permanent solution is for them to look for alternative industries and diversify their economies (Prebisch, 1950, Singer, 1987).

2.2.3 Difference in the demand for primary and manufactured goods.

This explanation is based on differing rates of expansion in the demand for primary commodities and manufactured goods. The demand for primaries expands less rapidly than that for manufactures due to the existence of a lower income elasticity of demand for primaries than manufactures - especially in the case of agricultural commodities, due to the operation of Engel's law ⁶. (Sapsford.D, 1990)

2.2.4 Differences between competitive structures in both factor and product market.

Singer (1987) claimed that we should recognise the differences between competitive structures in both factor and product market as a difference between the industrialised countries and developing ones. This explanation was favoured by Prebisch. He pointed out that while primaries are typically produced under competitive conditions, manufacturing in the industrialised world is generally characterised by a high degree of monopoly power, organised labour and product markets respectively⁷. The

⁵ It should be noted that in some exposition of this type of explanation, it is not always clear how the force at work would result in a long term tendency over time, as distinct from once and for all effect on the TOT. For further discussion on this issue, see Sparos, 1983: 26.

⁶ A principle that states that consumers will tend to spend an increasing portion of any additional income upon luxury goods and a smaller portion on staple goods; so that a rise in income will lower the overall share of consumer expenditures spent on staple goods and increase the share of consumer expenditures on luxury goods. (Pass,C & Lowes, B. Davies, L. 1988)

⁷ An alternative framework for the analysis of long run movement in the TOT was provided by Lewis (1969) using three commodity (traditional agriculture, tropical agriculture and manufactures) model of developing and developed country trade. for a recent application of this type of approach in the context of a model of North - South trade see Evans (1987)

argument is that improvements in the productivity of labour are differently distributed in the developed countries and LDCs. For example, labour productivity in the primary production in the LDCs resulted from the unorganised nature of the labour force which was reflected in lower prices in the world market. Improvements in labour productivity in manufacturing in the MDCs were appropriated by both organised labour and monopolistic firms as higher factor incomes rather than lower prices (Economic Record, 1990). Adding to the debate on the issue, Emmanuel believed that another reason for the deterioration of the TOT in the LDCs is that labour is immobile (ie. from the LDCs) while capital moves quite freely in the opposite direction. According to Emmanuel, the consequence that will face LDCs in this case is an unequal exchange, since wages are lower in the LDCs, and their products embody a relatively large number of hours of labour. (Emmanuel,A. 1972)

2.3 Direction of trade

Further reasons were given by Briguglio (1993) to help explained the deterioration in the terms of trade. He found that terms of trade can also be influenced strongly by the direction of trade, and not entirely by the agricultural / manufacturing composition of export and imports. He pointed out that competition between developing countries in export trade and the purchase of most of their imports from industrialised countries leads to a deterioration in the terms of trade of the LDCs.

2.4 The impact of terms of trade on the country's GDP growth

There is little disagreement with the view that growth in export revenue is likely to influence GDP growth positively (all other things being equal). However, the problem is that all things rarely remain equal and one would believe that the economic gains from export expansion can be compromised by changes in terms of trade. This should not be ignored. Export volume is not the only important factor in explaining how

trade relates to GDP growth. In fact, some have argued that volume expansion is likely to worsen terms of trade for exporters and, in extreme cases, to result in net losses in export revenues or "*immiserizing trade*" (Evans, Golin & Mensbrugghe, 1991). There is some debate on how the volatility of a country's terms of trade affects economic performance, and it is often asserted that such volatility is more likely to affect poor countries (such as the Pacific islands) more than rich ones. We would agree, pointing to the fact that it is the combination of the size of price shocks and the direction of the accompanying change in the terms of trade that explains why the SPCs tend to suffer more from price instability than their trade counterparts. Another possible reason why the SPCs are likely to be more vulnerable to price shocks would be that tax revenues from trade often form a larger portion of their national budgets. The controversy over terms of trade tend to polarise between those who saw LDC's terms of trade as displaying an underlying downward trend and those who claimed that their movements were merely *cyclical* with recurring *peaks and troughs*, although recent researchers have shown that cycles do not refute the existence of the underlying trend. The "Cyclist" have argued that any apparent downward trend is merely the result of a series of "*structural breaks*", but whether the interpretation of the downward movement in the LDCs terms of trade in terms of *trend or breaks* will depends of course on the analytical tools used to analyse the available data.

However in their quest to find out whether there is an *impact of trends and volatility in terms of trade on GNP growth*, Singer and Edström (1993) came to the conclusion that a complexity of factors affect income growth, of which terms of trade are only one. They also showed that terms of trade have themselves a complex relationship with income growth. Moreover they showed that volatility and fluctuation in terms of trade had a negative (but not immediate) association with economic growth (regardless of the of the direction of change), and that the direction of the relative change in terms of trade had a positive relationship with GNP growth after

one year's delay. This gives rise to an interesting harmonising of relationship between the effects of positive and negative shocks on terms of trade. For example⁸, it has been found that a larger terms of trade shock with falling relative terms of trade in a particular country (all things begin equal) has an immediate negative impact after one year delay (as a result of deterioration in terms of trade). If such a deterioration is inflicted repeatedly, the negative effects will add up over time. Besides, if there is a negative impact on terms of trade due to slowed down growth in GNP and volatility in terms of trade, there will be a vicious circle of downward spiralling causation which can develop. This may be part of an endogenous explanation for the long run tendency of LDCs to experience a downward movement in the terms of trade.

(Singer, H and Edström, J. 1993:43)

Many of the reasons and factors discussed above certainly affected the terms of trade of the LDCs including those of the South Pacific. These factors act against the interest of small LDCs, which are heavily dependent on the export of a few commodities. The combination of these factors implies a substantial impact on growth which should be studied before trade policy advice is offered indiscriminately.

2.5 Some Policy Issues

There has been widespread argument about the various causes of deterioration in TOT. Prebisch-Singer deterioration thesis is often advanced as one argument- though by no means the only argument in favour of developing policies of import-substitution industrialisation as opposed to the export promotion variety (see Singer [1987] for detailed reviews). However, as Singer (1987) pointed out, all four explanations for deteriorating trends in the terms of trade of developing countries relate as much to the characteristics of different countries, differences in technology, labour market

⁸ This example is cited in Singer and Edström (1993), and I will make a comparison between their result and the result of this research.

organisation and so forth as to the characteristics of different commodities. This observation suggests a shift in emphasis, particularly from the development policy viewpoint, away from the terms of trade between primary commodities versus manufactures and more towards the exports of developing countries whether primary commodities or manufactures versus the exports of industrial countries.

One interesting result is that the policy advice of export-substituting industrialisation to divert exports away from primary commodities (whose prices were deteriorating in relation to those of manufactures), given by some early followers of the P-S thesis to certain countries failed to solve the problems because the causes of deterioration in the terms of trade were to be found in the characteristics of the countries themselves and not in the products they produced. In short, it has been argued that the type of manufactures exported by developing countries in relation to the different types exported by industrial countries share some of the disadvantages originally highlighted by Prebisch and Singer for primary commodities in relation to manufactured goods.⁹

(Sapsford, D. 1990)

The problems that are highlighted above concerning the LDC's terms of trade raises difficulties for this thesis. Primary producers are condemned to economic backwardness. Nevertheless there are still lessons to be learned from these difficulties. Firstly, it is possible for a country to move from the primary product exporting class to the manufacturing exporting class, eg Sweden, Canada, Denmark. Secondly, some countries experience a high growth rate and a high standard of living even though they are primary product exporters, eg. Australia, New Zealand, Ireland. The examples that are cited here may not provide much immediate hope for the Solomon Islands, Tonga and Western Samoa because of the special conditions inherent in their

⁹ Singer (1987) developed this argument further, and presented some statistical evidence to suggest that the deterioration in the terms of trade experienced by developing countries since the mid-1950s can be attributed to three, perhaps equally important causes: first, the deterioration in the price of the primary commodities in relation to manufactures (as pointed out above); second, a more rapid deterioration in the price of primary commodities produced by developing countries than the price of primary commodities produced by developed countries; and finally, a fall in the price of manufactures exported by developing countries relative to the manufactures exported by industrial countries.

economies. For example developed countries have the advantage of already having a substantial manufacturing base, and further more, although they produce primary products, their techniques are science based and invariably more capital intensive than that employed by LDCs and the South Pacific countries. What makes the position of these countries (including all the other Pacific Island countries) so serious is that they have a high degree of commodity concentration in exports, a lack of manufacturers or industrial base, a small internal market and a lack of flexibility in production. Perhaps the last point is the most important and needs to be seriously considered by the South Pacific countries. Many of their resources are relatively fixed, so if demand turns away from a particular primary product, the country concerned will find it difficult to shift resources into new line of production.

(Sparos, J. 1982)

2.6 Conclusion

The contribution of Prebisch and Singer to the study of terms of trade was controversial and certainly there was no lack of opposition to it. Their thesis has certainly opened up a can of worms. As they pointed out, in less developed countries, terms of trade deteriorate because their export activity tends to concentrate on exporting primary products, while the developed countries mainly export manufactured products. Singer claimed that this result is not solely due to the LDCs being exporting primary commodities. It is the result of a whole host of factors, including failure in the distribution of the benefit of technical progress, differences in the elasticity of demand for primary commodities and manufactured goods and many other reasons discussed above. Briguglio (1993) and Gani (1994) show in their research that deterioration is not only to do with the primary products that the countries export, but also with the direction of trade that the country undertakes. Sapsford (1990) also pointed out that the causes of deterioration in terms of trade can also be attributed to the characteristics of the countries themselves and not to the products that they produced.

Having said all that, one thing is clear: the trends and volatility in the terms of trade have a positive impact on the growth of the Gross Domestic Products (GDP) of any country. Therefore before trade policy advice is offered indiscriminately, policy designers should choose the best combinations of policies and address them carefully, as they can have a substantial impact on country's economic growth.

Chapter 3

Methodology

".....in reality, I can't reduce the welfare and the well beign of our country to a simple formula or equation, and even if I will it will not mean anythng, so why bother."

(anonymous)

Introduction

The Classical Economists thought that the trend of the commodity terms of trade was an index of the direction of the change in the level of gain from trade. According to this historic doctrine, a rise in export prices relative to import prices represented a favourable movement of the terms of trade, and as a result one could conclude that there was gain from trade.

Ricardo had very little to say about this but J.S. Mill had plenty to say about the connection between the commodity terms of trade and the amount gained from the terms of trade. He also did not accept a favourable movement of the commodity terms of trade as necessarily indicating a favourable movement amount of gain from trade.

Jevons criticised Mill's use of the commodity terms of trade as a measure of gain from trade on the grounds that the total amount of gain from trade depended on total utility. He claimed that the commodity terms of trade were related to the "final degree of utility". Jevons pointed out that, in order to estimate the benefit a consumer derived from a commodity the total utility must be taken as a measure, not the final degree of utility on which the terms of exchange depend.¹

¹ W.S Jevons, *The theory of political economy*, 1871:36, also discussed by Viner, J. (1964) *Studies in the theory of international trade*.

This chapter is focused primarily on the methods that have been developed over the years to measure the gains from trade. These methods were discussed here but not to a great extent. It also explain the methods that I will used in this research.

3.1 Definition and concepts of terms of trade

A number of concepts have developed over the years which were used to measure the movements in the terms of trade. These indices were used for different purposes. The most prominent one are :

- *The commodity terms of trade or Net barter terms of trade (CTT or NBTT)*
- *Income terms of trade also known as Purchasing power of export (ITT)*
- *Single factorial terms of trade (SFTT)*
- *Double factorial terms of trade (DFTT)*
- *Real cost terms of trade (RCTT)*
- *Utility terms of trade (UTT)*
- *Gross barter terms of trade (GBTT)*

(Viner, 1964; Meier ,1980)

These indices were further classified by Meier (1980) into three categories will be discussed here in accordance with how they were classified by Meier.

3.1 Category one: *Ratio of exchange between commodities*

3.1.1 Net barter terms of trade

This index measures the trend of the physical amount of foreign goods received in exchange for one physical unit of the export goods, with a rise in the index indicating a favourable trend and vice versa². The index can then be represented symbolically as:

$$NBTT = (P_{xt} / P_{xt-1}) / (P_{mt} / P_{mt-1}) \quad (1)$$

where P_x stand for prices of the country's commodity export and P_m stand for the country's import prices. The subscripts t and $t-1$ stand for the current and the previous period respectively³. (Meier G.M, 1980)

3.1.2 INCOME TERM OF TRADE (ITT)

ITT is define as the commodity terms of trade multiplied by the volume of exports. Symbolically it is expressed as :

$$ITT = NBTT_t (P_{xt} / P_{xt-1}) \quad (2)$$

The term **NBTT** has already been define above, X_t stand for export volume for the current year and X_{t-1} stands for export volume for the previous year. This index allows for improvements in the capacity to import due to an increase in exports which is partly due to relatively low export prices, and the result is an improvement in export

² Viner's (1964) perception certainly reversed Taussig's claims, where a rise in the index indicates an unfavourable movement of the TOT. Viner points out that there is no point of principle involved and it seems more convenient to represent favourable movements of the indices by rising indices. Singer (1987), on the other hand, supports this point of view by saying that a deficit in the trade balance should not be interpreted as necessarily preferable to a balance of trade because an additional import now may have to be paid for in future trade surpluses.

³ For the purpose of this research I will measure terms of trade for merchandise only and for merchandise and services taken together (ie. Resource balance)

competitiveness (Briguglio, 1993:276). However, a rise in ITT indicates that the country can obtain a larger volume of imports from the sale of its exports: its "*capacity to import*" (Singer [1987] called it "*the purchasing power of export*") based on exports has increased. According to the direction and magnitude of the changes in the price of export and the volume of export, the commodity terms of trade (CTT) and income terms of trade (ITT) can be in opposite direction. For example, suppose there is no change in the import prices, at the same time the export prices have fallen. While this happens, the export quantities increased by a greater percentage than the decrease in the price of the country's commodity export prices. The end result would be the income terms of trade (ITT) would have improved despite a deterioration in the commodity terms of trade (Meier, 1980: 69). This theoretical discussion of ITT in relation to CTT is worth noted here because, in a later chapter we will develop it further by looking at some empirical evidence to see if such a move takes place as it is suggested by Meier.

Perhaps it is also important to mention here that Taussig (1927) developed an index called gross barter terms of trade (GBTT). Taussig claimed that the GBTT was designed to correct the net barter terms of trade for unilateral transactions: exports or imports which are surrendered without compensation or received without counter payment, such as tributes and immigrants remittances need to be taken into account. However it was defined as the ratio of the physical quantity of imports to the physical quantity of exports. *Taussig stated that the greater the ratio is the more favourable it is* (Viner, 1964:562). Because there are no international loans or unrequited transfers, a deficit in the trade balance would cause the gross barter terms of trade to be more favourable than the commodity or net barter terms of trade and vice versa. As pointed out earlier, this is not to say that trade deficit is preferable to trade balance.

3.2. Category two: *those that relate to the interchange between productive resources* -

3.2.1 Single factorial terms of trade (SFTT)

J.S. Mill pointed out that a reduction in the real cost to a country in producing its export commodities would result in a movement unfavourable to that country commodity terms of trade but might not involve a reduction in the amount of gain derived by its foreign trade. This is enough to demonstrate that the CTT may fail to provide a satisfactory guide, concerning the direction of the trend of gain from trade. Suppose that the commodity terms of trade are changing *in the same direction* as the costs of production of the export commodities. The need was to construct an index of the cost of production in terms of *average technical coefficients of production of export commodities*, and if the commodity terms of trade index was multiplied by the reciprocal of the export commodity technical coefficients index, the resultant index would provide a better guide to the trend of gain from trade than the commodity terms of trade. This new device was named by Viner.J (1964) *single factorial terms of trade (SFTT)*. This new index was represented symbolically as:

$$SFTT = NBTT_t (F_{et} / F_{et-1} - 1) \quad (3)$$

where F_{et} / F_{et-1} represents the reciprocal of the index of cost in terms of quantity of factors of production used per unit of export and SFTT represents the index of the physical amounts of foreign goods obtained per unit of cost in terms of quantity of factors of production⁴. (Viner,J.1964)

⁴ If the technical coefficients of production of the export falling, a fall would also occurring in the actual or potential technical coefficients of *home production* of the import commodities. The SFTT would tend to exaggerate the trend of gain from trade by treating the gain from trade as a gain from improvement in productivity which was not dependent upon foreign trade for its realisation.

3.2.2 Double factorial terms of trade

Meier (1980) suggested that if CTT is corrected for changes in productivity in producing imports as well as exports, the resultant index would be **double factorial terms of trade (DFTT)**. The index can be represented symbolically as :

$$DFTT = NBTT \cdot (F_{et} / F_{et-1}) / (F_{mt} / F_{mt-1}) \quad (4)$$

where F_{et} stands for cost in terms of quantity of factors of production used per unit of export at current year and F_{et-1} stand for cost in terms of quantity of factors of production used per unit of export in the previous year. F_{mt} / F_{mt-1} is an import productivity index. According to Meier (1980) a rise in DFTT would mean that one unit of home factors embodied in exports now may be exchanged for more units of the foreign factors embodied in imports. In addition to a change in the factor cost of producing imports, DFTT will diverge from SFTT. (Meier,G.M. 1980:69)

However, earlier writers on the subject accepted the fact that DFTT was identical in trends to the CTT, which could be correct under their assumptions of production under conditions of constant costs and historically stable costs. With variable cost, with respect either to output or to time, the trend of the two indices could be substantially divergent. (Viner,J. 1964:560)

3.3 Category three: *those that interpret the gain from trade in terms of utility analysis -*

3.3.1 Utility terms of trade (UTT)

UTT allow us to measure the excess of the total utility accruing from imports over the total sacrifice of utility involved in production of export. This would be indicate by a

measure of Real Cost terms of trade (RCTT)⁵ and the UTT. To estimate this, Meier (1980) calculate the disutility involved in export production and the relative average utility derived from various commodities. Recognising that the production of exports involves disutility, he correct the SFTT index by multiplying SFTT by a reciprocal of an index of disutility per unit of factor inputs used in producing exports. He concludes by saying that if RCTT rises, this indicates that the amount of imports obtained per unit of real cost (unit of disutility) has also risen. It is believed that such a measure would be welcome by classical economists who when dealing with question of public policy, were concern with subjective cost or "*disutility*". Viner (1964) defines UTT symbolically as followed:

$$UTT = NBTT \cdot SFTT \cdot RCTT \cdot (U_{mt} / U_{at}) / (U_{mt} - 1 / (U_{at} - 1)) \quad (5)$$

Where U stand for average desirability or " Utility " and **a** designates the commodities whose production for domestic consumption is forgone as a result of resorting to production for export, thus the last part of the equation, represent the index of relative desirability of import and forgone commodities, respectively, and the new TOT index, in which the index of relative desirability is incorporated, can be designated as the *utility terms of trade index*. Meier (1980) argued that one of the problem with UTT is that, it is rather difficult to determine the "*disutility coefficient*" for the factors embodied in exports. Nor can we place a cardinal value on the relative average utility of imports and the sacrificed domestic commodities. Moreover a change in the TOT is merely a summary of index of underlying forces, such as changes in productivity, factor price, and demand condition. One of the index developed by Viner in 1964 but failed to mentioned by Meir is called the **real cost terms of trade (RCTT)**. This index represents the physical amount of foreign goods obtained per unit of real cost. It was represented symbolically as:

⁵ For further detail discussion on the formula and how this index are use see Viner, 1964: 562. However RCTT is define in the appendix , but not as detail as it is discuss by Viner.

$$\boxed{RCTT = CTT \cdot SFTT \cdot (R_{et} / R_{et-1})} \quad (6)$$

where R_{et} / R_{et-1} represents the index of amount of disutility (amount of irksomeness) per unit of the technical coefficients and $RCTT$ represent the index of the physical amount of foreign goods obtained per unit of real cost.

While the discussion above was focused on indices developed to measure gain from terms of trade, it is convenient at this stage to introduce the methods that will be adopted and use in this research. In order to find out whether the terms of trade of the Solomon Islands, Tonga and Western Samoa deteriorated as they exported primary products, the "*net barter terms of trade and income terms of trade*" was employed to investigate the validity of the claimed. In addition to that, regression analysis was also carried out to examine the impact of trends and volatility of terms of trade on GDP. The method used here was developed by Singer and Edström. The equation was designed to examine the relationship between terms of trade and GNP growth of the three island economies. Three lines of enquires were undertaken:

1. Terms of trade changes were regressed against simultaneous GDP changes as well as against changes in GDP per capita;
2. Time lags were introduced in order to asses the most likely directions of causation in the various relationships, on the assumption that statistical association will fade out more slowly for an equation expressing the correct direction of determination than for the reverse direction. The variables selected were

: GDP in US currency, at constant prices

: total population & TOT index (1975=100)

The annual percentage change were then calculated for terms of trade, GDP and GDP per capita between 1975-1991. The assumption that was used here is a positive

relationship between terms of trade and GDP. Therefore a positive sign is awarded to the TOT, and the equation look like this:

$$\text{GDP} = \alpha + \beta \text{NBTT} + \varepsilon \quad (7)$$

$$\text{GDP/POP} = \alpha + \beta \text{NBTT} + \varepsilon \quad (8)$$

where GDP = annual per cent changes in GDP (US currency, constant prices),

$\frac{\text{GDP}}{\text{POP}}$ = annual per cent changes in GDP per capita, and TOT = annual per cent

changes in terms of trade index (1975), α = the intercept, β = is the x coefficient or slope, and term ε = the error term.

Chapter 4

Data and Sample Selection

Introduction

The data that was used in this research was obtained from numerous volumes in the Australian National University: National Centre for Development Studies, various issues of International Trade Statistics Year Book, South Pacific Commission: Overseas Trade, Statistical Year Book for Asia & the Pacific and Handbook of international trade and development statistic, AIDAB and various publications on development from World Bank. Various statistical abstracts from the Solomon Islands, Tonga and Western Samoa were also used in this research.

The selection of countries and the periods for this study were made purely on the basis of data availability of complete time series. The countries that were selected are politically stable, capable of realising high economic growth rates and can be very competitive in certain areas of primary production. The data base of the three countries selected for this study, yields a universe of 45 observations over fifteen years from 1975 to 1989, which might or might not improve the significance of the results of this research, when compared to a sample size of forty or fifty observations.

4.1 Exports and imports prices and the deflation processes.

Data that were used to calculate the terms of trade indexes were defaulted to 1975 constant US dollars. For exports, the international standard basis of valuation is *free on board (fob)*, for imports the valuation is on variety of bases including *cost, insurance, freight (cif)*, *current domestic value in exporting country (cdv)* and one

or two other valuation methods. For consistency, I have chosen to use the *fob* valuation method and it is fortunate that both export and import are recorded in *fob*. These export and import prices were deflated according to corresponding export and import price indices¹. The Solomon Islands, Tonga and Western Samoa all have different export and import trade indices. Prices of exports and imports are expressed in two currencies, either in the local currency of the country concerned or in US currency.

One issue that we must draw attention to is that of deflation involved approximations and estimations because the availability of data is limited. However, where this problem occurs, logical adjustments were made. One of the main difficulties facing this research was the reconciliation of exports and imports. For example, an export recorded by country A as going to country B should also be recorded by country B as an import from country A. In principle these two figures should be the same. In practice there are wide discrepancies. Some of these can be accounted for by different bases of valuation depending for instance, on whether freight and insurance are taken in to account, and the possible differences between *cif* valuation and landed cost.

While there were difficulties concerning the reconciling of exports and imports data, the greatest frustration was trying to obtain all the necessary and required quality data for this research. Perhaps the bulk of the research went in to shaping the data into some sort of acceptable format so that the adopted methodology could be used. This does not discount the value and importance of this research, as it provides a foundation for further research on the deterioration in the terms of trade of countries whose main survival depends on the exporting of primary commodities. It is a very controversial and topical area, and it certainly provided a great challenge.

¹ These trade indices were obtained from the key indicators of developing Asian and Pacific countries.

Chapter 5

Regional Perspective of the South Pacific

*The poorer the country, the smaller the invisible surplus
that can be extracted, and the less hopeful its prospect for
development; the basic economy reality is simple :
" to him that hath shall be given "*

(Zanetti, G & Shaw, B. 1967:2)

Introduction

The South Pacific is known for the richness and diversity in culture of its countries. It is also known for the isolation of the islands from each other, making development harder and leaving a lot of unused and underutilised resources. Such difficulties make it very hard for Pacific island countries to experience '*constant economic growth*', and create consistent surpluses in their current accounts.

However this chapter will provide an *overview of the South Pacific countries*, followed by a look at their *trade patterns*. In the third part we will examine the *effectiveness of intra-trade between island nations*. In the last part of this chapter I will try to provide some *analysis of the South Pacific Regional Trade Economic Agreement* (SPARTECA), and the role it has played in the development and promotion of intra trade and international trade between the island nations¹ and their major trade partners.²

¹ The Pacific Island countries that are selected for this study are Solomon Island, Tonga, Western Samoa. The result of this study do not represent the situation of all the islands in the Pacific. However the selection of the islands for this study was purely on data availability and the fact that there have not been any studies carried out on these three islands *concerning their terms* of trade. A study has been carried out by Gani, A. on the terms of trade of Fiji and Papua New Guinea. The result of that study will not be published here but will be acknowledged in the literature review chapter.

² The trading partners of the three islands that are selected for this study are Australia, New Zealand, United Kingdom, Japan. These countries were selected arbitrary, and are used here as the major trading partners.

5.1 An Overview of the South Pacific Region.

The South Pacific region encompasses 22 island countries, scattered across a vast expanse of ocean. The land area is about 551,000 km² with a sea area (within its Exclusive Economic Zone, EEZ) estimated to be 31 million km². The island countries fall within a roughly rectangular area, with the commonwealth of the Northern Mariana Islands forming a protrusion to the north west, French Polynesia marking the eastern extremity, Tonga and New Caledonia providing the southern boundaries, and Palau providing the western perimeter. The region stretches in a north-south direction from the Tropic of Cancer to the Tropic of Capricorn, and in an east-west direction from longitude 130 W to 140 E. (Fairbairn, 1985: 1-2).

5.1.1 Population and distribution

In 1982 the population of the South Pacific was hovering around the 5 million mark, with Papua New Guinea accounting for 61 per cent; Fiji 12 per cent and all the others sharing the remaining 23 per cent (see table 5.1). In broad ethnic groups, the Melanesian total is approximated at 3,726,000 million, Polynesian is estimated to be 492,000, Micronesian 228,000 and all the others (mainly Indians, Chinese, Europeans) 660,000. The dramatic increase in population from the late 80s has certainly put a lot of pressure on the economic development of the region, as was found by Cassen (1976:806).

In his opening remark concerning the problems facing the LDCs, the past President of the World Bank claimed that population growth was the greatest single obstacle to economic and social advancement of most of the societies of the developing world, (McNamara 1977:11). This is not how the government of Vanuatu see it (1984:334), this does not mean that faster population growth is also desirable. They claim that what the countries need are people who are healthy, educated and employed, with incomes to spend on manufactures. If difficulties are already experienced in providing

nutrition, health service, schooling, and jobs, economies of scale are unlikely to remove those difficulties.

Table 5.1 Annual growth rate between census years and population³

Country	1980	1982	1984	1986	1988	1990	Annual growth rate between census year (%)
Cook Islands	17.9	17.4	17.1	17.6	17.7	18	-0.2 (1981-86)
Fiji	634	658	686	714	719	732	2.0 (1966-76)
Kiribati	56.7	59.5	62.4	65.4	68.2	72.3	1.5 (1973-78)
Nauru	-	-	-	-	-	-	1.5 (1973-81)
Niue	-	-	-	-	-	-	3.8 (1973-81)
Papua New Guinea	3	3.2	3.3	3.4	3.6	3.7	2.1 (1971-80)
Solomon Islands	225	244	261	282	304	318	3.5 (1970-76)
Tonga	89	91	92	94.2	99.1	104	0.8 (1976-1986)
Tuvalu	-	-	-	-	-	-	3.1 (1973-81)
Vanuatu	115	120	127	133	140	147	3.0 (1967-79)
Western Samoa	156	157	159	160	162	164	0.7 (1976-81)

Source: UN, Monthly Bulletin of statistics, 1990; ADB, Key indicators of developing Asia and Pacific countries, Vol XXII, 1992.

Nevertheless, the author would argue that rapid population growth and other related aspects (e.g. rapid increase in the juvenile population) pose serious development problems for the small islands of the Pacific. The continued growth in the population will increase demand for social services and welfare facilities which may be beyond the capacity of many SPCs' domestic economies. There are many factors which contribute to the pressure provided by population growth but as Fairbairn (1985:15) pointed out, such a pressure coupled with the consumption needs of a growing population, tends to undermine investment activity and hence the growth capacity of the economy.

³ Except for Cook Islands, Fiji, Kiribati, Marshall Islands, Solomon Islands, Tonga and Western Samoa where units are in thousands.

5.1.2 Population size and density

As mentioned above, the population of the SPCs was at the 5 million mark in 1982, with PNG having over 3 million people (see table 5.2). This is 61.24% of the total population of the SPCs, and the rest is shared among the other island nations. In terms of annual growth rate, the Solomon Islands seemed to do well between the sub-period 1970-1976 whereas PNG had their highest growth between 1971 and 1980. The former have a growth rate of 3.5%, and the latter have a growth rate of 2.1% (see table 5.1). The overall population density for the Pacific as a whole is 9 persons per km². This is low in comparison to some of the other developing countries (see Fairbairn, T. 1985:16; Thakur, R. 1991:150). Comparing the island countries, it seems that Nauru is over populated, with 400 peoples per km². Behind Nauru is Tuvalu with 296, and then Guam with 200 people / km². On the other hand, there are areas in the Pacific which still have a very low population density: Such areas include New Caledonia and Papua New Guinea, which have about 7 people per square kilometre, also in the same category are the Solomon Islands where they have 8 people / Km². Even though some may believe that most of the of the islands in the above table show a over-populated figures, and that this might be an obstacle to economic and social advancement, it is also argued by many scholars that such a population growth still has a positive effect on economic growth since it results in economies of scale and promotes technological progress (Boserup 1981; Clark 1978; Simon 1977, 1981). How realistic this statement is in the case of the South Pacific remains to be investigated in the future, but for the meantime we will accept both sides of the argument: that there are positive and negative outcome for the increase in population size.

Table 5.2 Pacific Island Economies: Population, Land and Sea area

Country	Population Estimates, 1982 (000)	Land Area Km ²	Sea Area (’000 Km ²)	Population Density (person per Km ²)
American Samoa	33.9	199	390	170
Palau	12.4	497	615	25
Cook Island	16.9	240	1830	70
Fiji	658	18272	1290	36
French Polynesia	153.8	3265	5030	47
FSM	82.4	703	3051	117
Guam	108.4	541	218	200
Kiribati	59.8	690	3550	86
Marshall Islands	32.8	181	2061	181
Nauru	8.4	21	320	400
New Caledonia	145	19103	1740	7
Niue	3.2	259	390	12
Northern Mariana	18.4	471	1823	39
PNG	3126.6	462243	3120	7
Pitcairn Island	.1	5	800	20
Solomon Island	243	28530	1340	8
Tokelau	1.5	10	290	150
Tonga	99.5	699	700	142
Tuvalu	7.7	26	900	296
Vanuatu	125.6	11880	680	11
Wallis& Futuna	11.9	255	300	47
Western Samoa	157	2935	120	53
Total	5105.8	551025	30558	9

Sources: Spc, Pacific Economies 1982; Dr K.Groenewegen, Spc Demographic Unit; Fairbairn,T (1985)

5.1.3 Size

Most of the South Pacific countries are small in terms of area, and or GDP and or in population sizes, or a combination of all three. Pacific islands which are small in sizes will have certain characteristics in common, such as a high dependence on foreign trade and a *narrow export resource base*. However in his report to UNCTAD Selwyn (1978:5) stated that: there is little evidence that small countries are in general any poor than larger ones, that they have slower rate of growth, or that their people suffer from overall net disadvantages. But the *small size of a country* ... may be a major constraint on the range of options available to meet problems such as backwardness, poverty and remoteness. Thus small size is viewed as a disadvantage in operational terms even if not in absolute terms.

5.1.4 Political structure

During the first half of the nineteenth century, the increased exposure of the South Pacific to the rest of the world affected the islands' economic, social and political structure. Throughout this period the islands witnessed the arrival of missionaries from Europe and the United States. Most territories became colonies, the degree of autonomy possessed by the island administrators was modest, and indigenous political parties were almost nonexistent. Over the next few decades, in line with the development of the Pacific nations, government functions were progressively entrusted to local officials. Expatriates, however, continued to exercise a major influence over the political development and economic affairs of some islands, until they become independent. The influence of some expatriates on the political development of the Pacific countries can be seen clearly in the political format of the Pacific islands governments. Such a format has created problems in reconciling traditional social structure with the inherited Westminster system of government and the demands of the modern world (Thakur, R. 1991: 36). Britain, France, Germany and New Zealand were the major colonial powers in the South Pacific. The US had minor economic interests in the region and administrative control of Eastern Samoa (now known as American Samoa) after 1899. Australia had virtually no direct colonial presence in the region. The French had initiated direct colonial control over some islands in the Pacific, seizing the Marquesas, Tahiti, and New Caledonia and between 1840s and 1860s. Most of the islands in the South Pacific are independent (except those that became French territory) but there are still strong ties between the mother country (e.g. Britain) and the former colonial island.

5.2 Types of geographical disadvantage

The distinction between geographical and other factors is in many ways artificial, and geographical elements merge into social, political or economic situations and processes. But for the purpose of this section we will identify three classes of geographical disadvantages facing South Pacific countries. They are **Location**, the

relation of population to physical *Population and distribution*, and *Size* (the last two have already been discussed above). The geographical disadvantage observed above is one of the many problems that the SPCs face. It is recognised as an issue that needs to be dealt with especially now that the world economy is masking a strong push for "*regionalisation*". Identifying the disadvantages that the SPCs face and other associated problems will certainly help pull the island nations toward regionalisation.

5.2.1 Location

It is true that certain locations become disadvantageous to a country when it comes to fulfilling its obligations towards its people. For example, an island or country which is heavily dependent on foreign trade, but isolated in distance from its market, will suffer from high transport costs. This is certainly true in the case of many Pacific countries. The fact that the Pacific islands lie at a distance from their main market and in turn from each other, implies that transport cost is one problem that will remain with the Pacific countries for quite some time. The problems are made even greater by the interaction of distance and small size. This is because there are economies of scale in vehicle size - for ship and aircraft. Only in markets which are dense (in terms of traffic per unit period) can minimum transport costs be achieved. For example, Hawaii is distant from its market but the size of traffic flowing to and from it ensures relatively low costs. Compare that to the SPCs which can only generate a very small amount of traffic on most routes. In terms of their transport links, they must choose between frequency and lower costs. Moreover, the transport infrastructure further limits the choice of vehicle: often the vehicle which would enable the best combination of frequency and cost has characteristics which prevent it from operating from a particular point. Throughput at a terminal (airport or port) is not sufficient to justify upgrading which would enable a more suitable vehicle to use the facilities. Thus the islands of the Pacific have to decide what level of infrastructure combined with vehicle is appropriate. All nations and islands face these problems, but they are chronic

problems in the case of the South Pacific. In connection with this is the important of having a good route structure of transport systems operating in the Pacific. An improved route may enable greater traffic to use a link, leading to either a larger vehicle and lower cost, or greater frequency or some combination of both (Forsyth, P. 1986:176). The fact that the South Pacific region is isolated from its main markets, and the islands are small by global standards, has reduced their potential for developing a very specialise labour force as well as the potential for economy of scale. Perhaps one could argue that this is a problem associated with being small and it is this that *limits division and specialisation of labour*. However, such a problem is exacerbated when the national territory is fragmented and isolated, as it is with the South Pacific islands. (Cole & Parry. 1986: 21)

5.3 Economic perspectives on the South Pacific

5.3.1 Agriculture

Agriculture is the backbone of the growth and development of the region. In fact it is a major provider of income and employment to almost all the Pacific region countries. Coconut is the major source of income for most of the islands, with a few islands like the Solomon Islands and Papua New Guinea producing one or two other crops like coffee, cocoa. Fiji, on the other hand, produced sugar and marketing was undertaken by a foreign-owned enterprise, while production was largely in the hands of many farmers of Indian origin. Tonga has no large-scale enterprise and in Kiribati the shortage of land and the poor quality of soil ruled out exploitation. The narrow resource base and dependence on external trade increased the vulnerability of the islands economies to changes in world economic conditions. Movements in the terms of trade had a profound effect on national income, and fluctuations in export prices were particularly hard-felt because of the lack of diversification in production (see chapters 6-8). However after the Commonwealth Countries meeting at Ottawa, in August 1973, Heads of the Commonwealth countries discussed at considerable length

"... the special problems of countries highly dependent on export of agricultural products in primary, semi processed and processed forms...They underlined the urgent need to secure equitable and remunerative returns for primary product. They also considered it essential that new international commodity arrangements should be devised which would be deal with this serious problem and protect the foreign exchange earning of developing countries against excessive price fluctuation."

(Heads of Government Communique', 1973, para 16)

The fluctuation in the price of primary products discussed above is certainly a problems that SPCs have suffered from, but worst of all is the impact that it has on the producers of the products. For example many of the primary producers in the SPCs are small time producers. When the price fluctuated it discouraged many of the small scale farmers. A clear indication of this is what had happed to the coconut industry in the Pacific between 1980-90. The price fluctuated so much that the volume of production drop dramatically (see table 5. A1). (note that, I am using coconut to illustrate the price fluctuation because it seem that coconut is the most common crop produced among the islands). Many primary products, particularly tropical agricultural products, are produced by the Pacific countries but consumed predominantly by affluent nations. Most of these products are - foods, raw materials, fuels and base metals (see table 5.3).

Table 5.3 **Selected Pacific Countries Major Export 1970 - 1989**

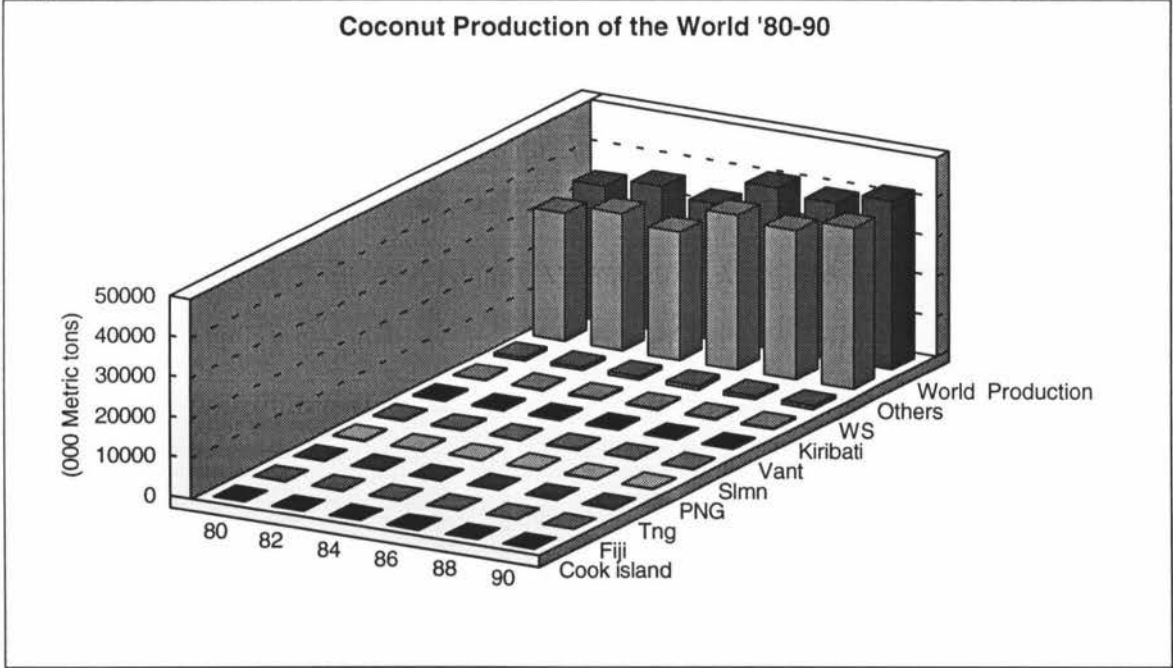
Solomon Island Principal commodity export (%)						Tonga Principal commodity export (%)				Western Samoa Principal commodity (%)			
Year	Fish	Timber	Copra	Palm oil	Cocoa	Fish	Banana	Copra	Vanilla	Copra	Cocoa	Taro	Timber
1970	..	.39	.51	..	..	..	..	..	..	..	..	..	..
1975	.24	.26	.40	..	.008	na	.09	..	..	na	.09	..	..
1980	.38	.26	.17	.12	.009	na	.05	.58	.03	na	.05	.58	.03
1985	.31	.24	.27	.13	.05	.03	.07	.57	.10	.03	.07	.57	.10
1986	.46	.31	.06	.06	.06	.07	.12	.37	.15	.07	.12	.37	.15
1987	.43	.29	.06	.06	.07	.12	.16	.28	.13	.12	.16	.28	.13
1988	.46	.23	.09	.08	.04	.15	.09	.20	.14	.15	.09	.20	.14
1989	.38	.24	.12	.12	.05	.17	.04	.12	.21	.17	.04	.12	.21

Source: Australian National University (1990), *Pacific Economic Bulletin*, Vol 5, No 2

(NB, the above percentages are not equal to a hundred because of the exclusion of manufactured and re-exported commodities)

These products account for a high proportion of their trade. Coconut products are the most common commodities exported from the Pacific area. They are a major source of food, fuel, clothing, and housing in most Pacific countries. Earnings from the selling of copra provided a regular cash flow to small farmers. The share of the Pacific as a whole in the world production of coconut is very small. In fact between 1980-90 the total coconut production from the from the SPCs fluctuated at 5% to 6%. The contributions of Tonga, Solomon Islands, Vanuatu and Western Samoa, were less than one per cent. Having said that we must also remember that *"primary products are also an important source of export earning for other developing countries"* as well. For example, in 1991 Indonesia produced 12.7 million metric tons of coconut compared to the Solomon Islands which produced only 220 thousand metric tons of coconut (see table 5. A1).

Fig 5.1



(compiled from table 5.A1)

The question to ask is, What makes some of these developing countries slightly better off, even though they are exporting the same types of product? The answer is tied to a

whole host of factors, including some that have already been discussed above (*ie, size of a country*: the fact that because some developing countries are *bigger in size, mass production* will not be a problem.). Economy of scale is in their favour and their marginal cost of production will be lower than that of the SPCs. Added on to that is the *location* (as discussed above). While developing countries depend on primary products as a major sources of export income, most developed countries also produce primary products. In fact some developed countries rely on them as a major source of income. The World Bank reported (1986), that around half of the developed countries earned in excess of 50 per cent of their export receipts from a single primary commodity, and approximately 75 per cent received at least 60 per cent of their export earnings from three or fewer primary products. For example, a study of the world's 125 largest economies indicated that in 1981, 70 per cent of the countries in this group depended on primary commodities for excess of 50 per cent of their export earning, and 43 per cent for more than 75 per cent of export earning (IMF, 1981). Within this group, particular developed economies are found to be highly dependent on primaries as a source of export earnings. For example, out of New Zealand's total exports to the Solomon Islands 51.48% are primary products, which is over half of commodities exported to the Solomon (see also table 5:A2). However, even though the South Pacific region depends heavily on the exporting of primary commodities, some areas also import primary products in large quantities. We can not automatically assume therefore that the Pacific region has a unified interest in higher primary commodity prices.

(South Pacific Trade and Economic Prospects, 1994:7)

5.3.2 Fishing

Fishing was generally only undertaken on a subsistence level, despite the abundance of deep sea fish in the area (eg, tuna, etc). The region's stocks of tuna are prolific and

geographically widespread, forming the basis for an important international fishery⁴. Doulman, D. (1991) report, that every year roughly 650,000 to 700,000 tonnes of tuna of all species are taken in the exclusive economic zones (EEZs) of South Pacific countries. In addition, significant quantities of tuna are caught on the high seas areas adjacent to these zones. However, most high seas catches are taken by distant water fishing nation fleets (DWFN) and these catches are not reported systematically to South Pacific countries or fisheries organisations in the region. The DWFN activity is generally encourage by the South Pacific Forum Fisheries Agency (FFA) because it derives revenue from selling fishing licences. This practice enables the South Pacific countries to fulfil their obligation under the United Nation Convention on the law of the Sea (UNCLOS) with respect to the utilisation of surplus fish stocks (Article 62.2). Their licence allows them to operate in the zone of FFA member countries on terms and conditions of access agreed in advance by FFA members. DWFN fleets operate from ports outside the region and have little economic interaction with the countries that licence them to fish in their EEZs. It is estimated that the DWFN catches taken from within the EEZs of South Pacific countries account for about 30% to 40% of the world total annual catch of tuna. Most of these tuna are destined for processing in canneries in Asia and United States or sold on Japan's lucrative **sashimi** (raw fish) market. Depending on reigning market prices, these catches have a value of US\$ 1 to 1.3 billion.

(Doulman,D.1991)

The fishing industry of the Pacific is still under-developed, not a single island capitalises on this vast resource and a very small percentage of their GDP is invested in these industries. Investment in large scale vessels, storage and transport facilities, packaging and fish processing should be encouraged, if the islands want to benefit from this lucrative and profitable industry. The building of medium to larger fish processing units is a project that the islands in the region should be focusing on for the

⁴ For an overview of the tuna resource base in the South Pacific, see Bob Kearney, "Tuna Resource Base in the Pacific," *Economics of fishery management in the Pacific island region*, edited by H. Campbell, K. Menz and G. Waugh (Canberra: Australian Centre for International Agricultural Research, 1989)

future. This would decrease unemployment, provide jobs and hopefully increase exports in this sector. The island nations would also have a better way of monitoring and controlling their marine resources and using in a more productive and efficient way. In addition to this it is my personal belief that the FFAs should emphasise the need to obtain secondary benefits from DWFN arrangements and progressively integrate this activity closely with the region's domestic economies. For instance, the processing of fish on the Pacific islands rather than taking the products and processing them elsewhere should be discouraged. If this is agreed to by those countries who are doing long distance fishing, then the islands will be benefit a great deal in the long run. Nevertheless the sale of access rights to DWFNs will remain an important source of revenue for many FFA member-countries.

5.4 Intra Pacific-trade and trade patterns of the South Pacific

In this section, the author will try to examine the patterns of trade in the South Pacific, but focusing on the intra trade between the islands, in the hope of throwing some light on the following major areas:

What are the prospect of developing a flourishing trade among the islands to an extent that would encourage specialisation and division of labour within the area as whole?

How far are they capable of developing a trade, both among themselves and with the outside world, in goods outside their existing narrow range of products and particularly in manufactured goods? To what extent are they dependent upon the economies of their major trading partners?

We need to examine the general pattern of trade in the area. table 5.A3 in the appendix gives the trade flow from the year 1985 to 1990. These figure are all in percentage forms. In table 5. A3, parts 1 - 6, several features stand out.

1. The predominance of Fiji is to be expected; not only does it account for nearly 70% of the total trade of the area, it also the most significant contributor to the inter-island trade. The fact that a large part of Fiji's trade with the other islands is in **re-exports** rather than in goods of its own manufacture, is also significant.
2. The varying extent of the islands' dependence on the New Zealand economy is also brought out in table 5. A3, parts 1-6.
3. Fiji and, to some extent, PNG have a substantial export trade with their major trading partner and is not depend to any marked extent upon the New Zealand market, as do Tonga and Western Samoa.

Fig 5.2 clearly shows that the islands run a substantial deficit. The fact that this happened is a clear indication that their merchandise exports fell short of the value of their merchandise imports. This raises two very important questions:

- How are these excess merchandise imports going to be financed ?
- To what extent were the imports required for present consumption ?

The best way to answer these question is by looking at the general pattern of trade. I will do this by examining the composition of both export and imports payments of selected countries in the Pacific.

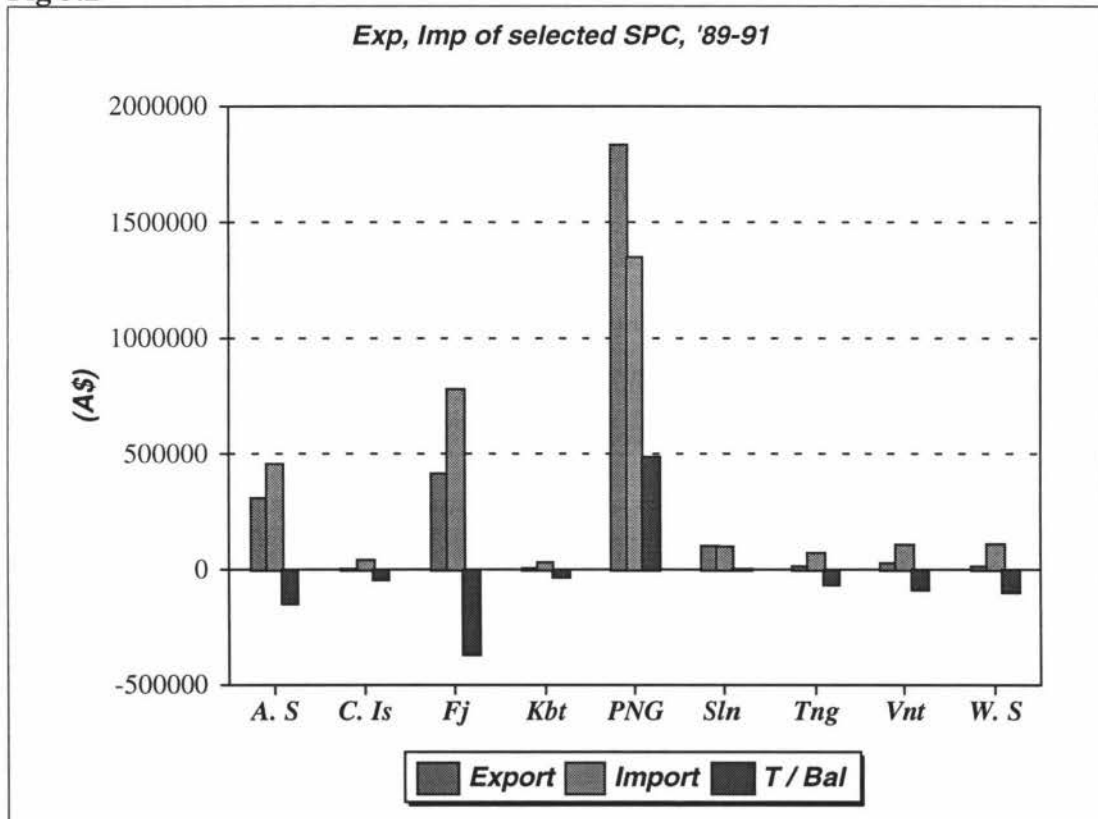
5.4.1 Exports

The export trade of the the South Pacific islands is largely focussed on homogenous products (see table 5.A5). Fiji is probably the only island whose export trade is diversified. In fact table 5.A5, clearly indicates that between 1989 and 1991 Fijis' total domestic exports accounted for 79.74%⁵, and 20.26% came from manufacturing industries. The prospect of developing a *flourishing-inter island trade* basically depends upon each island specialising in products which the other islands do not produce in any quantity. The pattern of trade shown in table 5.A5 is not very

⁵ (NB most of these products are primary products, except clothing and foot wear which was accounted for 16.16%)

promising concerning development of future inter island trade. Coconut products and coffee, tea and cocoa as well as wood and by-products seem to be very common products for the Pacific island exports between 1989-91. It seems that this period witnessed a dramatic change in Pacific export commodities. From the same table, a wide difference in the degree of diversification attained in the Pacific is shown. In this respect most progress has been made by Fiji, Papua New Guinea and to a lesser extent the Solomon Islands and Tonga. All of these have developed an impressive range of natural resource products. Fiji as well as PNG can be boast over a dozen major export items in this area: Fish and sea food provide about 7% of Fiji's total income from export, whereas PNG, it was only 0.79%.

Fig 5.2



Coffee and tea seem to be better export commodities in PNG than in Fiji, for they provided PNG with 11.81% of total income from exports whereas Fiji recorded only

0.25%. Sugar seems to be one of Fiji's main export products, not only to the MDCs, but also to the Pacific. In fact it was responsible for almost half of the country's total export earnings. Comparing Tonga and the Solomon Islands, Tonga seem to be doing well in the diversification of its export base. Ten years ago one of the country's best performing product in the overseas market was copra. From the evidence given in table 5.A5 this product provided only 2.55% of the country's current total export earnings, compared with that of fruits and vegetables, which provide almost half of the country total earnings, 49.71% between 1989-91. On the other hand, coffee and tea are other products that the country exports successfully providing 15.72%. Sea food is one commodity that the country need to exploit a lot more in the future. It provides only 9.38% at the present. Compare this to the Solomon Islands where it provided 40.44% of the country's total earning for the same period. The general trend is that, the SPCs are slow diversifying their export base, and not fast enough in catching up with the pace the world has set.

5.4.2 Imports

The trade patterns of the South Pacific have been dominated by excessive imports and very low exports (see fig 5.2). Various studies (Fairbairn, T.1985, Bellam, M.1980, Browne, C et al. 1989) on the trade patterns of the South Pacific have shown that imports are quite high throughout the Pacific countries, reflecting the huge demand for consumer commodities and the need for raw materials for development. The composition of imports varies widely among the island nations, but major components are usually chemicals, petroleum products, machinery and transport equipment. The fact that imports outpace export earning, giving rise to chronic deficits, has forced many Pacific countries to enforce strong corrective measures on the import side. These include direct import controls, currency devaluation and foreign exchange rationing.

Imports played a very vital role in the development of the Pacific countries. They provide the necessary raw materials that the island nations lack. However, the difficulty in relying on imports to boost development is that the countries concerned must have enough foreign currency to pay for all their imports. In addition to that, the islands of the Pacific will become dependent on imported raw material to such an extent that their development can not grow without it. However, trade will be of great benefit to the South Pacific, if it can be guided into lines of productive activities where the island nations have a comparative advantage. Involvement in trade will certainly provide the South Pacific with imports which are essential for further development in the future. But in order to finance these imports, there has to be sufficient earning of foreign exchange from exports, allowing for private and official capital flows. For many of the South Pacific countries, earnings from exports have increased far too slowly. Smallness in size and isolation with low levels of economic development means that some of the smaller countries will remain dependent on outside influences (i.e., overseas development assistance) and remittances from overseas donors. On the other hand, perhaps the small countries of the Pacific should request that the international community set up some sort of pricing policy for the export commodities of the South Pacific countries, with a view to rectifying the price received for its primary products and hopefully achieving a satisfactory terms of trade.

5.5 Intra trade between the South Pacific countries

It might be a myth but it is common sense that the Pacific island countries should show considerable interest in expanding intra regional trade. Yet such an attitude has not developed much. Any text book in the area of intra trade will point out the importance of enhancing intra trade, not only toward economic growth and employment expansion, but achieving to a greater extent more efficient use of resources. Fairbairn (1985: 241) points out that "it is also regarded as an integral factor in strengthening regional co-operation and in reducing the present heavy trade dependence on the larger, more distant metropolitan markets". There is no doubt that the point that

Fairbairn is stressing is important for the SPCs, because it may be the only way to get most of the SPCs out of dependence on the metropolitan countries. Over the past decades, several of the South Pacific Forum countries have got together to establish an institutional and policy mechanism aimed at stimulating trading between the Forum islands. This gave birth to what is now called SPEC, which has mandated to identify new opportunities for developing regional trade as part of an overall strategy of trade expansion and to take appropriate practical steps to exploit them. As shown in table 5.A3, in 1989 the total intra regional trade (in terms of imports) was 38.34% only and exports came to 19.77%. This is very small in comparison with the amount of trade between the selected Pacific countries and their major trading partners, for example, in the same year Fiji imported 20.% from Japan, Solomon Islands 31% and PNG 24%. This amount is very significant when we compare the total intra trade between the South Pacific region (SPR). *The question is: why is it that intra trade is so small ?*

5.6 The constraints to intra trade.

There are many reasons put forward by academics, researchers and others, concerning the reasons for the slow development in the intra trade. Some of those factors are touch upon in the SPEC report (1982: 26-34), but I would like to elaborate on a few other points which I feel it is important to consider.

5.6.1 Transport costs and distance from the market:

The economic activities of the South Pacific are constrained by transport costs. The "*tyranny of distance*" between many island countries is as vast as the distance between New Zealand and Australia or between USA and Hawaii. Such a distance does not help reduce the transport costs. It seem unlikely that transport costs will change very much, and even if they do, distance by itself can be a very effective deterrent to efforts put forward by Forum countries to promote intra trade.

5.6.2 Economic structure and homogeneous products.

The economic structures of most islands in the Pacific are almost identical and the kind of economic activities that they are engaged in, are very similar. The kinds of products provided by the agricultural sector and the types of service activities they sustain are very similar. Among the islands there are no real commercial farmers - farming is carried out on small scale semi-subsistence units, producing much the same categories of products. This has hindered intra trade to a greater extent than one might imagine. Fairbairn (1986) also reported that even in the manufactured sector, the islands import the same import substitutes and this tends to restrict the range of tradeable products. The significance of this constraint has been remarked upon by Helleiner (1972:142). He concludes that ".....only as they [adjoining poor countries] begin to redevelop more diversified structures of production are they likely to be able to exchange large quantities to their mutual advantage ". Up until now it seems that Fiji is the only country to have reached this stage.

5.6.3 Tariff and trade restriction

It has been reported (see Naisali, H 1991, Hay, K & English, H 1972) that intra trade has been held back by tariffs and trade restrictions which island countries levy on products which have potential for regional trade. Tariff levels average 15 to 20 per cent for the region - levels which are heavily influenced by government revenue considerations. High tariffs are found in Fiji and Western Samoa. On the other hand, tariff preferences are also accorded to metropolitan partners. For instance, Niue and the Cook Islands gives a tariff preference to New Zealand, and the same is done by French territories to France and the EC. With such constraints, intra trade will continue to be a handicap. It is therefore an issue that the forum countries need to address in the near future, should they want to benefit from such an activity.

(Fairbairn, 1985:244)

5.6.4 Market restriction

Another restrictive effects on intra-regional trade arise from market designation arrangements between the local manufacturing subsidiary and its overseas parent. A subsidiary in the island may be prevented from competing with the parent company or another branch elsewhere in the islands, thereby eliminating possible intra-island trade.

5.7 An analysis of the South Pacific Regional Trade and Economic Agreement (SPARTECA).

The SPARTECA was signed in 1980, and came into force on 1 January 1981. It is a preferential, non-reciprocal agreement between Australia, New Zealand and the Forum countries. In the case of Australia it consisted of lists of imports eligible for duty-free access in to Australia. However, at the Cook Island Forum meeting held in August 1985, the Australian Government had already announced several liberalising measures. Accordingly, access to Australian markets was on an unrestricted basis for all products other than those to which Australia sectoral policies currently applied (clothing, textiles and footwear, sugar, steel and passenger motor vehicles).

5.7.1 The objectives of the agreement

The intention of the SPARTECA agreement is to provide freer trade by granting duty-free access to the Australian and New Zealand markets, expanding and diversifying trade, stimulating investment in exports, providing co-operation in marketing and promoting other forms of commercial cooperation. The objectives may be described as follows:

1. To achieve progressively duty-free and unrestricted access to markets in Australia and New Zealand by the Forum island countries over as wide a range of products as possible.
2. To accelerate the development of the Forum countries, in particular through the expansion and diversification of their exports to Australia and New Zealand.

3. To promote and facilitate this expansion and diversification through the elimination of trade barriers.
4. To foster the growth and expansion of the exports of Forum countries through the promotion of investment in those countries.
5. To promote greater penetration by export from FICs into Australia and New Zealand through such measures as cooperation in the marketing and promotion of goods from Forum countries.
6. To promote and facilitate economic cooperation including commercial, industrial, agricultural and technical cooperation.

(Department of Trade and Industry, 1980:16)

5.8 Key features of the 1980 version of the SPARTECA and its critique

- ① Nomination of a list of products (schedule 1 of the agreement) permitted duty free and unrestricted access to the Australian market. This list contained many products which would potentially be exported from the Pacific islands.
- ② Nomination of a list of products (schedule 2 of the agreement) to which the duties and quotas apply. These included products which had been already exported from the Forum islands to Australia and New Zealand (eg. passionfruit, timber, fabrics, etc) when SPARTECA was introduced. (Robertson, 1986:14)

In practice, the liberalization of access provisions in the initial agreement was not very generous. Sutherland (1983), pointed out that the positive list used by Australia has been a real frustration amongst Pacific exporters. The positive list of what the islands were potentially able to produce excluded some products including soya sauce, plastic garments, rubber, rain water, ballpoint pens, and mechanical digging equipment which are currently produced in Tonga. All of these have potential for the SPCs to produce.

(Sutherland, 1983:63-68)

- ③ Rules of origin (Article 5) is one of the articles which cause much dispute. SPARTECA claimed that it provided duty free access for non-manufactured

goods. Manufactured goods should contain at least 50 per cent Forum island or Australian content in order to be admitted into Australia, whereas in the case of New Zealand it must be 50% of the factory or works cost of the goods in their finished states.

Such a clause restricted opportunities to engage in labour intensive light assembly activities, with the object of exporting to these two countries. To meet these 50% rules, raw materials often can not be bought from the cheapest international supplier, but instead Australian and New Zealand suppliers (despite non-competitive pricing) must receive preference. Thus SPARTECA has been benefiting New Zealand and Australian more than the Forum countries. Moreover, SPARTECA inhibits the ability of the Forum countries to develop industries which could add value to export commodities. One example which can be given here: Fiji was trying to import Viyella material from the UK in order to manufacture men's shirts to export to the Australian market. Because it did not meet the 50% requirement, the proposed project was ended. The second instance relates to importing air compressor engines from Japan to be assembled in Fiji and then exported to Australia. As one might expect, this project failed because of its inability to meet the 50% rules. Thus, SPARTECA has not been able to encourage manufacturers to develop any line of products where value can be added in the Forum countries, without their having to be worried about the 50% rule restriction. This one clause probably discourages a lot of foreign investors from investing in the Forum countries. It gives foreign investors no choice in terms of where to buy their supply. So this agreement has been administered in a somewhat harsh and unsympathetic way. It has been argued (see Robertson, 1986; Falvey, 1986) that SPARTECA has not made any great impact on the export and output levels of the Forum countries. It was also pointed out that even with the relaxation of access to the Australian market in 1985, Forum countries exports were not improved dramatically. However there are a number of important factors to be addressed:

Lack of price competitiveness

A number of products exported from the Forum countries, as well as other developing countries, attract no duty or marginal rates of duty (products like coconuts, tropical fruits and fruit juice). Consequently the duty free access available under SPARTECA does not give a competitive advantage to the Forum countries. Most of the Forum countries, major trading partners will continue to buy from the lowest cost producer. As one might imagine, the Pacific islands are not the cheapest producer of any product. Consequently the developing countries of Southeast Asia, with their very high labour productivity, their commitment to quality, their relatively low wage rates, and their economies of scale, can be expected to continue to dominate in most product categories.

Scarcity of marketing and management expertise

Pacific countries are certainly short of skilled manpower with useful management and marketing skills. Such people are likely to be employed in the government administration. The lack of entrepreneurship has reduced the ability of the island countries to sell non traditional products (i.e., clothing, canned food etc). On the other hand, it is difficult to persuade the major trading partners of the island countries to switch from any existing source to an unknown supplier unless there is a significant advantage to be gained from doing so. Such an advantage would include low price, quality, and the delivery of goods in time. Many of the islands will not be able to provide this or, even if they do, may not be able to sustain it.

Exchange rate effects

Most of the Pacific islands currencies have fluctuated more than those of their major trading partners. Such fluctuations have forced most of the Pacific island currencies to

appreciate more than their trading partners currencies. As a result, their export prices have been seriously inflated, thus reduces the competitiveness of their products in the overseas market. The ability of the Asian exporters to provide cheaper substitutes, and the fact that their currency appreciates more slowly than their trading partners makes them more competitive than the Pacific island countries.

Competitive domestic producers

Many products produced in the Pacific can be produced by most of the Forum countries, trading partners (with the exception of coconuts). In many cases, these products can be produced more efficiently by SPC's trading partners than by the forum countries themselves. The trading partners have an efficient way of producing products, but they have lower freight costs, an ability to tailor products to consumer needs, and can divert resources to other projects if markets slow down or demand decreases, whereas in the Pacific islands' case it is virtually impossible to changes the line of production if the market changes its directions.

Lack of interest of island trading companies.

It appears that most of the overseas companies who have been operating in the islands for more than two or three decades have given up because they have found it unprofitable to continue. This is certainly the case with Burn Philip Ltd, and Morrish Hedstrom Ltd, two of the long time servers of many Pacific islands. It is sad to see this happen but business can not survive in a competitive environment with out any competitive advantage or any sort of remedies (e.g. tax exemption, ability to gain legal right in the market, i.e., monopoly).

Conclusion:

This chapter was designed to provide as much details about the Pacific countries, not focusing on any one country. Most of the issues discussed here are either from previous researchers, findings or come from my own working experience in Tonga for two years at the Development Bank of Tonga. However the importance of these issues is that they provide a background to some of the problems that face the South Pacific countries today. Finding remedies for these problems may not reached overnight but the important thing is that these problems are identified and that policy makers will develop policies tailored toward to the problems that the island nations already faced

Chapter 6

*".....our natural resources are no
longer an advantage, our education system is lacking.....
the recommendations for action are eagerly awaited. "*

(NZ Business, 1990:22)

Solomon Islands

Country Profile

The Solomon Islands are a scattered archipelago, with twenty-one larger islands covering almost 29,785 square kilometres, and stretching across 1500 kilometres of the South Pacific Ocean. There are six main islands, up to 200 kilometres long and 50 kilometres wide, that account for about 80% of the total land area and population. Most of the land mass consists of precipitous mountain ranges covered with dense tropical forest and divided by deep and narrow valleys. The rivers are narrow and unnavigable, and the coastlines are surrounded by extensive coral reefs and lagoons. Rainfall is heavy, and cyclones periodically cause considerable damage to settlements and crops. With 318,000 people, the Solomon Islands is the third most populous Pacific Island nation. Although it has a relatively low population density (see table 6.2) of 8 persons per square kilometers, the nation has one of the highest birth rates (3.5% per annum) in the world (Browne & Scott 1989:109, AIDAP, 1991). Internal migration has resulted in even higher population growth in the capital city of Honiara and the surrounding area of Guadalcanal, leading to a rapid expansion of the labour force. As a consequence, basic wage rates are relatively low¹ and unemployment is a problem around Honiara. Fertility is declining, but it is unlikely to ease the pressure on the labour market in the foreseeable future.

¹ The government pays SI\$ 0.72 per hours for casual labourers.

Table 6.1

Key indicators: selected Pacific Island economies, 1989			
Countries	Population (million)	GNP per capita (US\$)	Land area (Sq Km)
PNG ^①	3.5	730	462840
Fiji ^①	0.723	1510	18272
Solomons ^①	0.293	420	28369
Tonga ^①	0.099	727	699
WSamoa ^②	0.166	663	2935

① 1980 figure, ② 1986 figure. source: Pacific Economic Bulletin, Vol 4, No 1, 1989

* Estimate only

Based on the World Bank estimates, GNP per capita was about US\$430 in 1988, placing the island in the group of countries with low income. The strong ties between the extended family provide for most basic needs in most of communities. The country's overall health and education services are relatively under-developed (see table 6.2). There is a severe shortage of qualified personnel (eg., doctors, teachers and nurses) and the problem is exacerbated by the increased demand for services from the rapidly growing population. As indicated by the World Bank report (1989:97) malaria remains the most important health problem in the Solomon Islands, and is the leading cause of death.²In the education sector, the primary school attendance ratio is less than 50 per cent. Only 27 per cent of adult population is literate and barely 1 per cent of the population have a tertiary qualification World Bank Report (1989:97). It is estimated that 90 per cent of the population lives in rural areas, depending on subsistence farming for food and cash income, and the other 10 per cent resides in Honiara. The major crops are coconut, cocoa and palm oil. Although the area suitable for mechanised agriculture is limited, shortage of arable land is not a serious problem. While there are several large agricultural plantations jointly owned by the government and foreign investors, 87 per cent of the land is communally owned and investment in agriculture is impeded by the land tenure system and unresolved land claims. (ANU, 1989)

² In 1987, the incidence rate of malaria was 245 per 1000 population.

Table 6.2 **Social indicators, 1988***

Indicator	Units	Solomon Islands	Asia	Low income
Crude birth rate	per 000	42.0	26.8	30.4
Crude death rate	per 000	10.0	8.8	10.0
Infant mortality rate	per 000 of births		61.5	72.6
- male		40.0		
- female		36.0		
Life expectancy at birth	years		63.7	61.4
- male		59.9		
- female		61.4		
Population per:				
- Doctor	persons	9542	1422	1462
- Hospital bed	persons	189	733	756
Gross enrolment ratios				
- Primary	%	48.0**	105.3	99.3
- Secondary	%	11.0**	37.5	33.4
Adult illiteracy rate	%	85.0	39.5	43.3

* or most recent estimate.
** attendance ratios from 1986 census. These may be affected by cyclone Namu. Enrolment ratios are usually higher.

Source: World Bank, Toward Higher Growth in Pacific Island Economies: Lessons from the 1980s, vol 2.

The Solomon Islands was a British protectorate which gained independence in 1978. It is a parliamentary democracy, a member of the United Nations and the Commonwealth, with Queen Elizabeth II as Head of State. Elections are held every four years. From 38 members who are elected, a prime minister is chosen who in turn appoints the cabinet. Politics tend to be dominated by personalities rather than party affiliation. Political consensus has been difficult to achieve and sustain, and this has hampered the cohesive and timely implementation of economic policies, including the inability to carry out longer term planning and project formulation. Moreover, the authorities have begun devolving power to the provinces, a process that is proving to be slow and expensive. The country certainly needs better control over its resources and extensive administrative reform.

(Browne & Scott, 1989, AIDAB, 1991)

6.1 Economic Structure

The natural resource base of the country helped to sustain an average GDP growth of 4.5 per cent per annum during 1981 and 1984 (World Bank, 1991:99). Joint ventures from copra, cocoa, palm oil, timber and fish made a major contribution to primary production and export performance. In the same report, the World Bank claimed that there was an improvement in the terms of trade in 1983 and 1984, which helped to strengthen the overall balance of payment position of the country and reduce the current account deficit to less than 10 per cent of GDP. In the past six years the output of goods and services has barely kept pace with population growth. A high level of government expenditure has placed a strain on the economy, thus over the last five years the Government has introduced a structural adjustment package aimed at reducing the government deficit. Planned measures include cutbacks in the size of the public service, a widening of the tax base, and the sale of government trading concerns. Much of the private investment has resulted from an inflow of foreign capital. The major foreign investors are Australian and increasingly Asian (the latter being well represented in the logging industry). Tourism is in its infant state and yet to make a significant impact on the economy, but it is growing rapidly. Its potential lies mainly in the country's scenic attractions, small scale eco-tourism and scuba diving (World Bank 1991, Central Bank of Solomon Islands, 1990). Since gaining independence, the Solomon Islands have struggled to diversify from dependence on copra as a major source of export income. The reason is, that the country is at very early stage of development. Copra's share of the total value of exports was successfully reduced to 12 per cent in 1985-87 (table 6.3). According to AIDAP (1991), the decrease in the export share of copra was achieved largely through an increase in the export of fish products³ (10 per cent increase in export share above that of 1975 and 1977), cocoa (4 per cent increase to 6 per cent of total exports) and palm products (with a more modest increase of slightly more than 2 per cent to 8 per

³ According to the FAO, fish exports from the Solomon Islands represented over 30 per cent of the country's total exports in 1970s, setting the country in fifth world place in this field. At the same time, 37.7 per cent of the active population employed by this sector. (Blanchet, G. 1990:2)

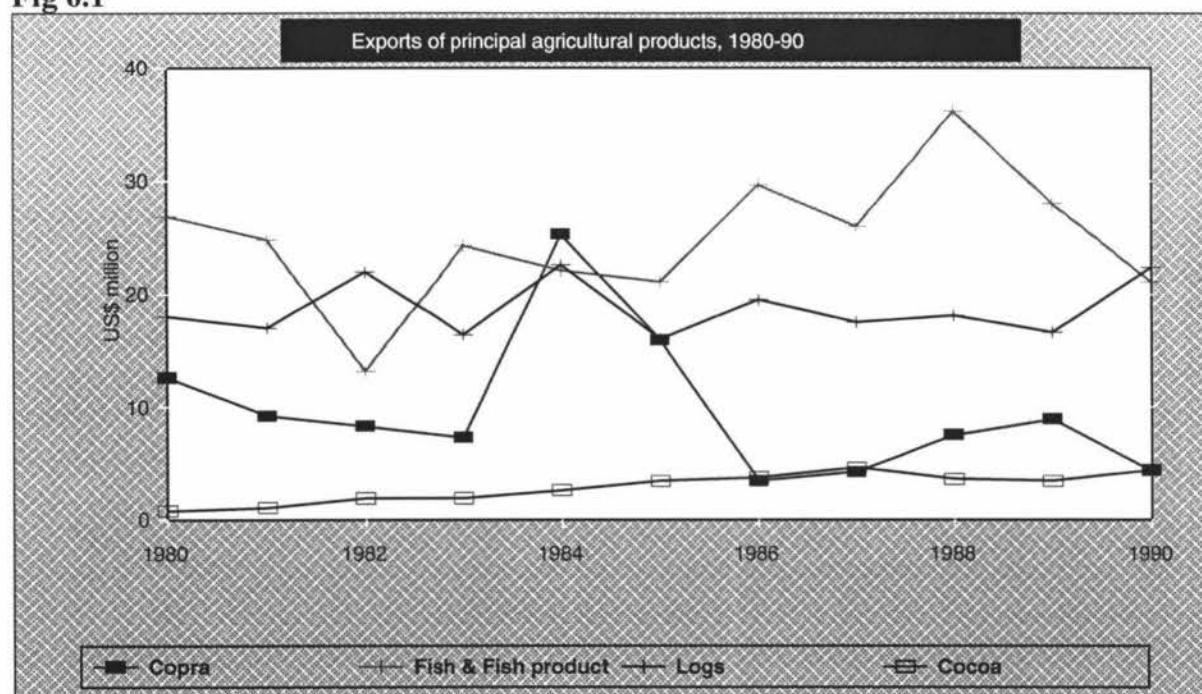
cent of the total). These products continue to account for most export earnings. In 1990 the price of cocoa and the value of exported fish were declining. Despite that, these two industries have displayed an overall upward trend in the early 1980s (see fig 6.1). The future projection for timber shows that production levels will decline at the end of the century, as a result of pressure on fisheries and cocoa. (AIDAP, 1991)

6.3 The growth in volume and value of principal exports, 1975-77 to 1985-87

	Average annual volume of exports (tonnes)		Value of exports (per cent of total)		annual growth rate in vol of exports
	1975-77	1985-87	1975-77	1985-87	1975-77 to 1985-87 (%)
Copra	28802	34630	28.2	11.9	3.8
Wood products	233	353	28.1	28	5.3
Fish Products	9404	32630	29.5	39.3	16.7
Palm products	3782	18152	5.6	8.1	21.7
Cocoa	150	2162	1.6	5.8	39.6
Sub total	..	..	93	93.1	..
other	..	..	7	6.9	..
Total	..	..	100	100	..

Sources: Solomon Islands, Commodities Export Marketing Authority (1991), and AIDAP, 1991

Fig 6.1



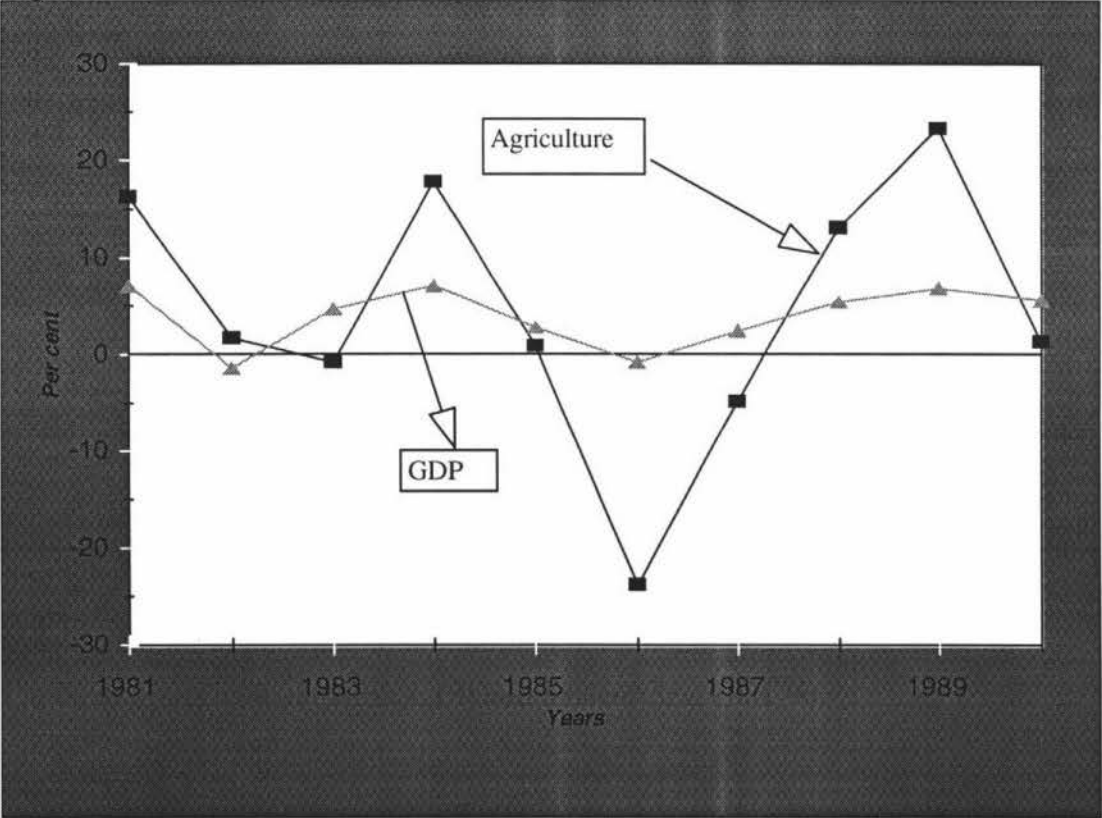
(compiled from Table 6.A1)

In 1991 the primary sector contributed 31 per cent of GDP. This mostly came from large scale joint ventures with foreign enterprises for the export oriented production of copra, timber, fish, palm oil and cocoa. The transport, manufacturing and construction sectors contributed 15 per cent to the country's GDP; while trading and financial services contributed 13 per cent, and the social sector 23 per cent. Non monetary output (the subsistence sector) contributed 18 per cent of GDP. The value of exports (cocoa, copra, logs, fish and palm oil) rose by 39 per cent in 1993, due largely to the excellent performance of the forestry sector which contributed 57 per cent of total export receipts. However it also reflected world prices unusually high in 1993 which stimulated logging production. Fish and palm oil exports both recorded a modest increase in value, but copra and cocoa receipts were down (the latter by 26 per cent) on the previous year (MFAT, 1994). According to the AIDAB (1991), the Solomon Islands, real GDP increased at an average annual rate of 3.6 per cent, despite negative growth rates in 1982 and 1986. The fall in real GDP in '86 was exacerbated by cyclone Namu, the effects of which can be seen clearly when examining the performance of agricultural sector output (see fig 6.2). However agriculture, which includes tree crop production, commercial fishing and logging, contributed 32 per cent of GDP in 1990 (see table 6.A2 & 6.A4). The agricultural sector continued its decline in 1987, despite the rapid recovery of farm production in that year. The slow growth in the output of the fishing and logging industries delayed the overall recovery of the whole sector.

Investment in the fishing industry has been dominated by public and private investment in the commercial fleet for tuna and skipjack, and more recently by private investment in a new cannery. The development of the industry has been important to the diversification of the economy. However Cole and Parry (1986) claimed that this achievement comes at a relatively high cost to the country. The joint venture between the Government and Taiyo Gyogyo company has not provided the Government with an adequate financial return, and has forced the Government to pump in a lot of public resources.

Despite having sold their share in the company, the Government faces substantial debts remaining from the venture. With the operation of overseas commercial operators, and a less interventionist approach by the Government, there is some cause for optimism that the fishing industry will achieve adequate returns to individuals, and to the nation, in the form of resource royalties and export earnings. However at the same time there was a substantial decline in total employment (see table 6.4). The growth in formal employment fell remarkably, immediately after the period of cyclone Namu in 1986 and 1987. Nevertheless the average annual rate of growth of the formal work force remained at about 3 per cent during the four-year period from 1984. Employment growth in the formal sector recovered in 1988, and fell subsequently to just under 2.5 per cent per annum.

Fig 6.2 Growth rate of GDP and agricultural 1981-90.



(compiled from Table A3)

Table 6.4 Formal employment by sector, 1984-90

	1984	1985	1986	1987	1988	1989	1990
Primary industry	7705	8116	8512	6695	7088	7608	7583
Manufacturer+construction	3240	3204	3156	3254	3430	3564	3688
Transport and utilities	2505	2464	1910	1273	1520	1650	1615
Trading & financial service:	2822	3091	3095	3392	3095	3469	3388
Social & personal services	6414	7121	7353	9179	9712	9147	9787
Total employment	22688	23996	24026	23793	24845	25438	26061
Annual percentage change	5.7	5.8	0.1	-0.1	4.4	2.4	2.4

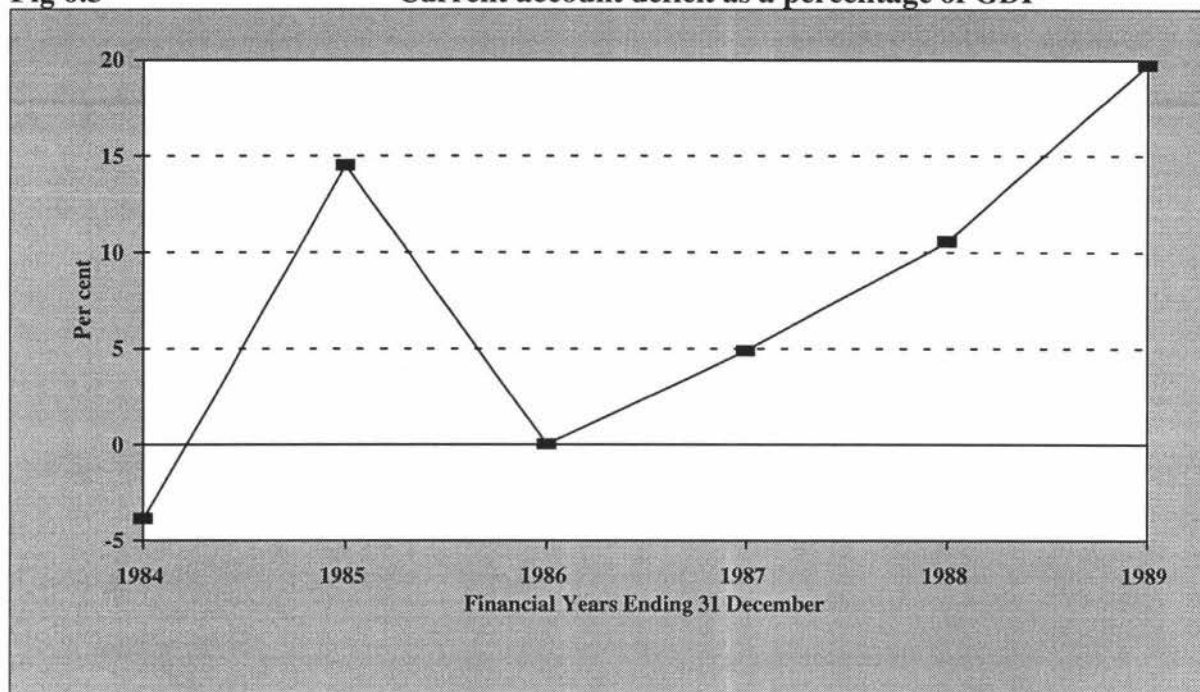
Source: Central Bank of Solomon Islands, Annual Report 1990, Honiara, 1991a

6.2 Solomon Islands Balance of Payments (BOP)

To examine the BOP of a country there are several balances that must be considered. For policy purposes, the Central Bank is in charge of the country's current account. This account reflects the underlying strength or weakness of an economy and its capacity to mobilise and utilise its resources efficiently and effectively. A current account deficit implies that the domestic demand exceeds the country's total output (current account deficits have to be financed by overseas borrowing generating inflow in the capital account). Borrowing the funds required to finance the deficit becomes increasingly difficult and costly as the nations indebtedness grows. In an open economy like that of the Solomon Islands, a deficit in the current account is not necessary undesirable. In fact, it is quite normal for developing countries to run deficits in their current accounts while they pursue policies designed to promote growth and development. Such a policy necessitates a significant importation of capital goods, and invariably there is an expansion of domestic demand for all sort of consumer goods, many of which are not made locally. The key consideration, therefore, *is not the deficit per se but rather its sustainability*. Between 1987 and 1989 the Solomon Islands current account deficit as a ratio to monetary GDP rose from 21.5 per cent to 37.3 per cent.

Fig 6.3

Current account deficit as a percentage of GDP



(compiled from Table 6.A5& Table 6.A6)

A more sustainable level would be around 10 to 15 per cent. (see fig 6.3). Between 1986 and 1988, the external reserves of the country looked very healthy, but this was not the case because the country underlying balance of payments position since 1984 has been quite weak. The flow of STABEX funds between 1984 and 1988 has helped to disguise the growing pressure on the external reserves. For policy reasons, it is more meaningful to look at the current account position when assessing the balance of payments performance. In the long run, a country can improve its BOP through appropriate action to constrain demand and increase output. Many countries have experienced the need for fiscal policies to work in concert with appropriate monetary and exchange rate policies, if domestic demand is to be effectively reduced. From a supply side point of view, government should provide the necessary incentives to promote and expand production, and provide the right environment for increased investment and output by the private sector. In the Solomon Islands every effort should be made to remove structural impediments to growth, such as those relating to land, transportation, telecommunications and the training of local personnel.

6.3 Exports and Imports

In 1990, exports from the Solomon Islands were dominated by the output of the logging and fishing industries (US\$ 22.4 million and US\$ 21.1 respectively) supported by palm oil (US\$ 7 million). The largest market for the country's exportable products was Japan, with Australia second. In fact, from 1978 to 1990 the increase in the value of exports from the Solomon Islands to Japan alone totalled US\$ 23.3 million, an increase of 23 per cent. Such an increase was attributed to the good performance of the logging industry (see also table 6.A8). On the other hand, the country's imports were dominated by machinery and transport equipment (37 per cent), manufactured goods (20 per cent), food and live animals (14 per cent) and mineral fuels (10 per cent) (see fig 6.4 and table 6.A1 & table 6.A7). As a result of the more rapid rate of growth in the value of merchandise imports, the current account deficit widened from a sustainable 5 per cent of GDP in 1987 to around 20 per cent in 1989 (see fig 6.3). Although the ratio had decline to 18 per cent in 1990, the position of the balance of payments on current account remains a major concern, especially when we notice in fig 6.4 that exports start to decline again in 1989. As it shows on the table 6.A1 and A7 in the appendix, the volume of exported logs increased by 52 per cent, but the gain in value terms was less (35 per cent) being more than offset by falls in the export value of copra, palm oil and fish.

(see also AIDAB,1991)

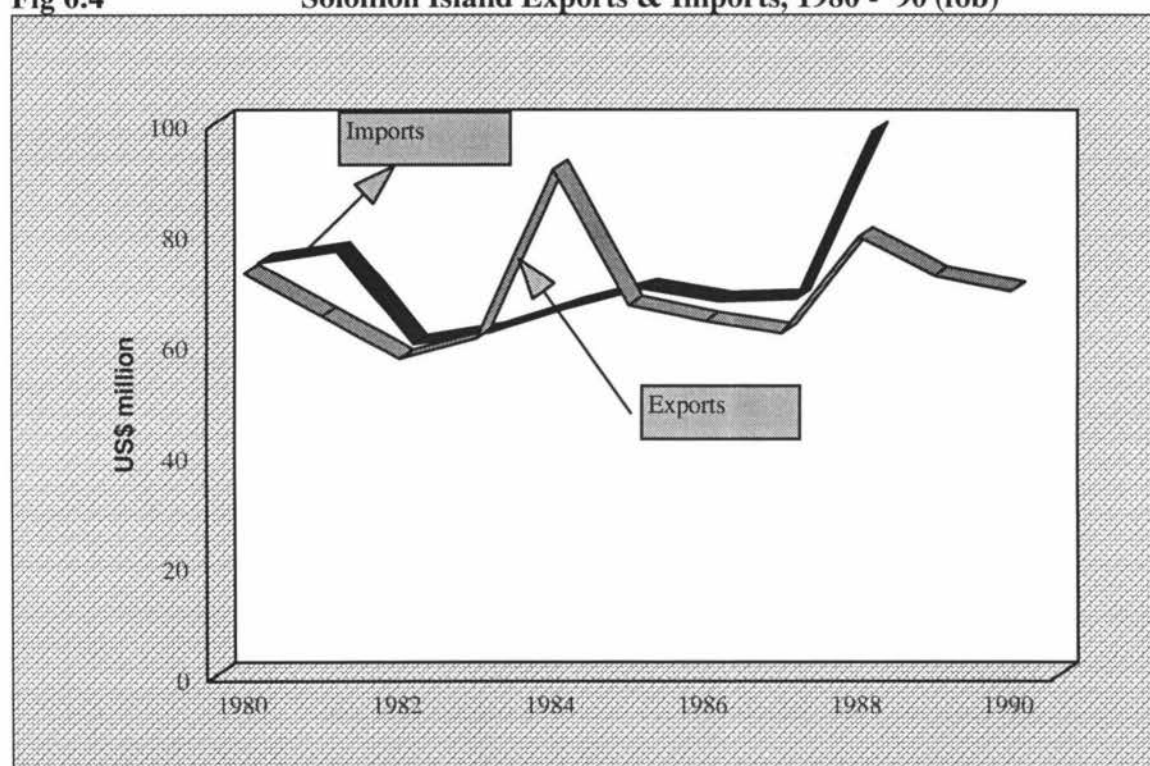
6.4 Solomon Islands Net Barter Terms of trade (NBTT)

Solomon Islands Net Barter terms of trade, were calculated using formula number one in chapter three. Table 6.A3, in the appendix gives the annual changes in NBTT and ITT, whereas table 6.5 gives the annual changes averaged over five years.

Table 6.5 Five yearly changes in the NBTT and ITT (%)		
Sub periods	Net Barter terms of trade	Income terms of trade
1975 - 1979	115.53	91.95
1980 - 1984	116.91	116.51
1985 - 1989	87.88	93.96

(see also Table 5.A3)

Fig 6.4 Solomon Island Exports & Imports, 1980 - '90 (fob)

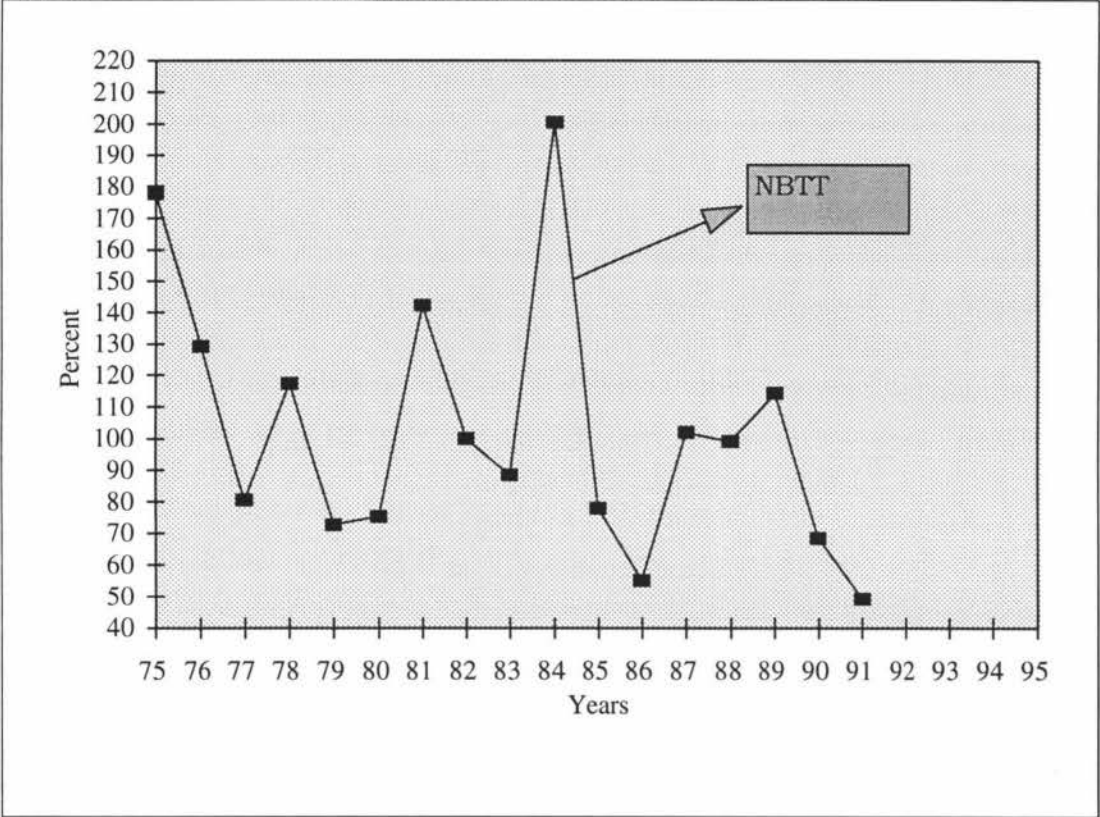


Compiled from Table 6. A1 & 6. A7)

Any figure lower than 100 shows a deterioration in the terms of trade on a five yearly basis, whereas figures above 100 shows an improvement in the terms of trade. This statement also applies to the annual percentage change in the NBTT and ITT in table 6.A3. As is shown in the table above, between the first two sub periods the Net Barter terms of trade of the Solomon Islands improved slightly, then deteriorated dramatically over the last sub period. The 1984 improvement in the NBTT of the Solomon Islands meant that they could enjoy more foreign goods in exchange for a given volume of

exports (on the basis of relative prices only). In the other words, the Solomon Islands were able to export less to receive the same amount of imports. The country's real income rose faster than output because the purchasing power of its exports increased. The improvement in the late, 70s and early, 80s of NBTT was due to the sharp increase of the commodity prices in favour of the Solomon Islands.

Fig 6.5 **Solomon Islands Net Barter Terms of Trade**



(compiled from Table 6.A3)

However between 1985 and 1989 the NBTT deteriorated rapidly and reached a five year low of 87.89 per cent. This is consistent with how the economy performed in that period. In 1984⁴ the country experienced a very healthy surplus of US\$25.51 million, the current account swung back to a deficit of 0.87 million in 1985, and worsened when cyclone Namu struck in 1986. The NBTT show a very disturbing result between 1989 to 1991; in

⁴ For example, the fact that 1984 registered a huge improvement in NBTT was due to the subsidies that the countries received through, STABEX scheme, and was not entirely attributable to the performance of the export industries. On the other hand 1986 registered a poor performance in the country's NBTT, but this was due to the disaster (cyclone Namu) that hit the country.

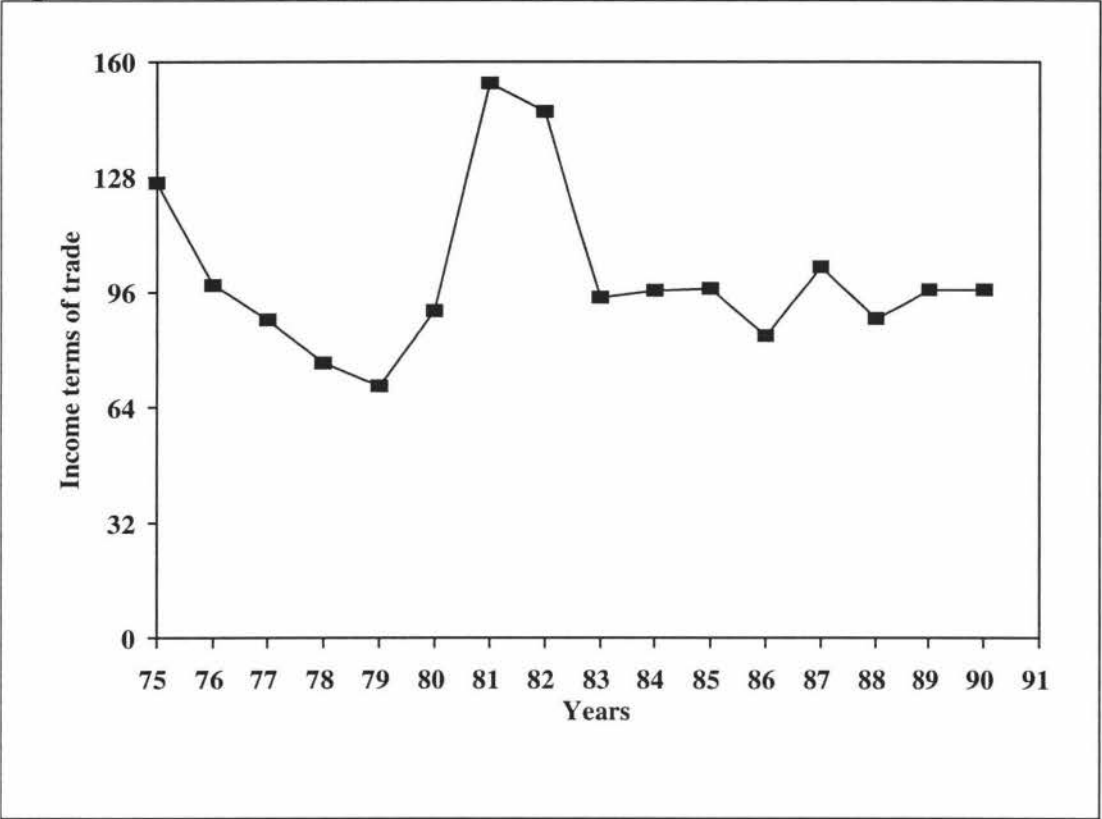
fact the economy consistently performed below the country average annual NBTT which is 73 per cent. Such a performance will not help the country to provide greater economic stability which is necessary both for an improved business investment environment and to establish conditions for sustainable growth. Overall, the fifteen year period (1975-1989) in the Solomon Islands economic performance, (in terms of their NBTT) shows that there is a tendency for it to deteriorate more (see table 6.5 & table 6.A3) in the future. If the country does not widen its export base or consider diversifying from concentrating its exports in primary products, will continue to experience inconsistent economic performance.

6.5 The Income Terms of trade (ITT)

The Solomon Islands ITT performed differently from the NBTT (see fig 6.6). It appears that the NBTT moved conversely to the ITT⁵. However, what the ITT tends to show is that if the ITT increases, the country is in a stronger position or has greater potential to obtain larger amount of imports from sale of its exports: that is *"its capacity to import"* is enhanced. The Solomon Islands' capacity to import depends very much on the competitiveness of the products they are exporting and the strength of the demand for those products. Table 6.5 shows that the capacity of the country to import deteriorated between the 1975 and 1979, then improved 1980 and 1984 and then deteriorated again after 1984. The low values of the ITT indicates that the Solomon Islands declined in the corresponding sub-periods, and this has severely limited the nation ability to import. According to Briguglio (1993) and Gani (1994), a small island nation does not have any control over its export prices; moreover they strongly suggest that a small country's export prices are determined by the export prices of the import- supplier. Table 6.A3 illustrates that from 1977 to 1980 the Solomon Islands ITT performance was below the annual average (i.e., 95%), due to low export prices in that period. However this trend swung in favour of the Solomons Islands between 1980 to 1983, which is consistent with the result on table 6.A3 (see also fig 6.7).

⁵ There should be no surprise in such a movement because, this is consistent with Briguglios' finding. (compare with Gani 1994, Sparos 1983, Athukorala 1991)

Fig 6.7 **Solomon Islands ITT movement between 1975-'91**



(compiled from Table 6. A3)

In addition to that, the 1984 performances in the country's current account showed a surplus. In actual fact that had very little to do with the country's export competitiveness because the bulk of the money came from the STABEX subsidies scheme. Over this period, the ITT ranged between 95 per cent and 84 per cent, just below the ITT annual average which is equal to 100. There is no surprise that this occurred because imports in this period were very slow to increase. Should there be a sharp increase in imports we would expect the terms of trade to increase as well (because the increase in foreign exchange earnings from export will mean that the country will now be able to buy more foreign goods). However, one can not rule out the delay effect of the surplus (as a result of the STABEX scheme) in the economy, because in 1985 the ITT increased to 97 and then remained the same for 1986.

6.6 Comparison Between ITT and NBTT

The yearly data depicted in table 6.A3 show that when the NBTT improved, the ITT deteriorated and vice versa (see fig 6.8). This finding is consistent with the studies performed by Briguglio (1993) and Gani (1994). The question is whether there is a trade off between the NBTT and ITT. In other words does an attempt to increase export demand through lowering of export prices⁶ (in relative terms), gives rise to a deterioration in the country's NBTT and an improvement in the ITT? The result would then be a negative correlation between the NBTT and the ITT. Thus any attempt to increase demand by lowering of the price of exports, will see the NBTT moves up (or down) while the ITT moves totally in the opposite direction (i.e. downward) and vice versa.

6.7 Composition and direction of trade

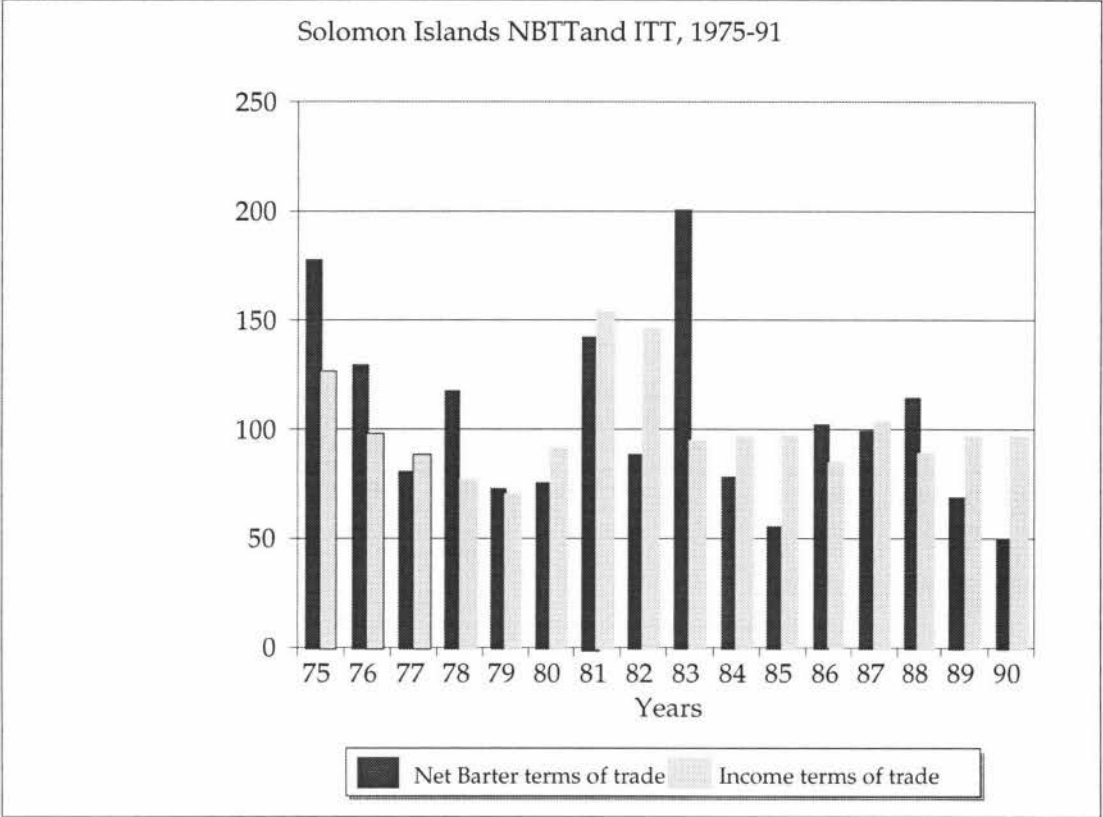
As mentioned in chapter 4, many of the less developed countries tend to experience deteriorating terms of trade. As the P-S thesis suggested, those countries whose export trade concentrates on primary products face a very sluggish increase in demand (relative to supply), while countries which export manufactured goods face a more rapidly growing demand (relative to the supply). Prices of imports into developing countries tend to increase at a faster rate than prices of export from those countries. The argument here is based on the heavy dependence of the LDCs on export of primary products, and on the low income and price elasticities associated with the demand for primary products, when compared to other merchandise and services. This argument is very relevant to the case of the Solomon Islands, because they depend very heavily on the exportation of primary products⁷. The primary product exports of the

⁶ Small countries like that of the SPCs can not lower prices in the world market, but what they could do (among many ways) is devalue their domestic currency in relation to their major trading partners currency. This will help to increase the demand for their products because products are now cheaper in these overseas market.

⁷ See table 5.A1 Merchandise exports, 1980-1990 and Table 5.A6 Merchandise imports, 1980-1990

Solomons'constitute 94 per cent of total exports, whereas manufactured products compromise only 6 per cent (see table 6.A9).

Fig 6.8



(compiled from Table 6.A3)

On the other hand, the of imports are mainly consumption goods, at the expense of manufactured and capital goods. This is not very healthy for an economy which is struggling with excessively high debt burden and which has very little foreign reserves. One reason for the deterioration in the Solomon Islands, NBTT is that the country imports goods from countries where prices, measured in a common currency, the US dollar, for example, have increased faster compared to the prices in countries with which the Solomons competes to sell its exports. It is rather tempting to say that Solomon Islands export and import prices are determined by the prices prevailing in their major trading partners' markets. This is not quite the case, because the Solomon Islands exports goods and services to its trading partners in competition with other Pacific

neighbours as well as the developing countries. (This an area that needs to be examined further in the future. For those who are interested see Gani, A.1994, Briguglio, L. 1993).

6.8 The main finding on terms of trade, with the OLS method

As mentioned in chapter 3, this research employs the Ordinary Least Square method to examine the relationship between Net Barter terms of trade, GDP and GDP per capita (the model that I want to test is listed in the footnote⁸). *The Hypothesis tested here is that Net Barter terms of trade influence income (GDP).*

Table 6.6A Testing the relationship between Net Barter terms of trade and GDP growth between 1975 - '91 using the linear log model (Model 1 Result.)

OLS ESTIMATES USING THE 17 OBSERVATIONS 1975-1991					
Dependent variable - GDP					
VARIABLE	COEFFICIENT		STDERROR	T STAT	PROB t > |T|
0)constant	184.41299		18.65888	9.883	< 0.0001 ***
2) NBTT	-0.15220		0.07038	-2.163	0.0471 **
Mean of dep. var.	160.70588		S.D. of dep. variable		69.03782
Error Sum of Sq (ESS)	58134.36933		Std Err of Resid. (sgmahat)		62.25451
Unadjusted R-squared	0.238		Adjusted R-squared		0.187
F-statistic (1, 15)	4.677		Prob. F >		4.677 is 0.047137
Durbin-Watson Stat	0.351		First-order auto corr coeff		0.850
MODEL SELECTION STATISTICS					
SGMASQ	3875.624622	AIC	4326.841444	FPE	4331.58046
HQ	4369.207775	SCHWARZ	4772.464874	SHIBATA	4224.296733
GCV	4392.374571	RICE	4471.874564		

Note: * = significant with 95% confidence, ** = significant with 99% confidence and *** = significant at 99.9% confidence.

Even though the coefficient of determination was typically low (that is the R^2 was 0.187 for GDP and 0.204 for GDP per capita, respectively), the T value for GDP and GDP per capita were 2.2 and 2.3 (in absolute value) respectively, indicating a clear significance at 99%

$$^8 \text{GNP} = \alpha + \beta \ln \text{NBTT} + \varepsilon \quad (7)$$

$$\text{GDP/POP} = \alpha + \beta \ln \text{NBTT} + \varepsilon \quad (8).$$

These two equations will be use for the Linear log model. The last two equation that is 9 and 10 will be used for the double log model. That is both variables are put in logarithm form.

$$^9 \ln \text{GNP} = \alpha + \beta \ln \text{NBTT} + \varepsilon \quad (9)$$

$$\ln \text{GDP/POP} = \alpha + \beta \ln \text{NBTT} + \varepsilon \quad (10).$$

Note also that GDP_c is used rather than GDP/POP, but they mean the same thing.

confidence level. The negative sign on the slope or the NBTT coefficient is not supportive of the hypothesis that the movement of the NBTT influences the GDP. However the slope term is highly significant at 99%.

Table 6.6B Testing the relationship between NBTT and GDP per capita, using the linear log model *(Model 2 result)*

OLS ESTIMATES USING THE 17 OBSERVATIONS 1975-1991				
Dependent variable - GDP_c				
VARIABLE	COEFFICIENT	STDERROR	T STAT	PROB (t > |T|)
0) constant	2.36175	53.69703	12.521	< 0.0001 ***
2) NBTT	-0.45776	0.20254	-2.260	0.0391 **
Mean of dep. var.	601.05882	S.D. of dep. variable		200.84555
Error Sum of Sq (ESS)	481462.39337	Std Err of Resid. (sgmahat)		179.15773
Unadjusted R-squared	0.254	Adjusted R-squared		0.204
F-statistic (1, 15)	5.108	Prob. F >		5.108 is 0.04
Durbin-Watson Stat.	0.493	First-order auto corr coeff		0.756

MODEL SELECTION STATISTICS

SGMASQ	32097.492891	AIC	35834.42	FPE	35873.67
HQ	36185.29	SCHWARZ	39525.02	SHIBATA	34985.16
GCV	36377.15861	RICE	37035.56872		

Note: * = significant with 95% confidence, ** = significant with 99% confidence and *** = significant at 99.9% confidence.

One aspect of the results which conforms to common sense expectations is that the influence of NBTT is stronger on GDP than on GDP per capita. That is, one would expect the differential population growth rates to "dilute" the extent to which growth in GDP would translate into GDP per capita. The value of adjusted R² in model 2 is 0.204, which is slightly higher than the adjusted R² in the first model is 0.187 (see table 6.6A). Therefore in terms of goodness of fit between the two models, the second model result must be preferred, although only by a very slight margin.

Table 6.6C Double log of the dependent variable (GDP) and the independent variable (NBTT)
(Model 3 results)

OLS ESTIMATES USING THE 17 OBSERVATIONS 1975-1991				
Dependent variable - l_GDP				
VARIABLE	COEFFICIENT	STDERROR	T STAT	PROB t > |T|
0) constant	7.40619	0.81056	9.137	< 0.0001 ***
5) l_NBTT	-0.52250	0.17079	-3.059	0.0079 ***
Mean of dep. var.	4.95075	S.D. of dep. variable		0.57712
Error Sum of Sq (ESS)	3.28149	Std Err of Resid. (sgmahat)		0.46772
Unadjusted R-squared	0.384	Adjusted R-squared		0.343
F-statistic (1, 15)	9.360	Prob. F >		9.4 is 0.008
Durbin-Watson Stat.	0.513	First-order auto corr coeff		0.745

MODEL SELECTION STATISTICS

SGMASQ	0.218766	AIC	0.244236	FPE	0.244503
HQ	0.246627	SCHWARZ	0.26939	SHIBATA	0.238447
GCV	0.247935	RICE	0.252422		

Note: * = significant with 95% confidence, ** = significant with 99% confidence and *** = significant at 99.9% confidence.

The table 6.6C and 6.6D illustrate the outcomes of OLS estimations after taking logarithms of the independent and dependent variables. The coefficient of NBTT can be interpreted as being the constant elasticity of terms of trade with respect to GDP and GDP per capita, as applicable. (Which we would expect to have a positive sign)

In the last two tables (6.6C and 6.6D), the intercept term have a very high t statistic (in absolute value). The P- value for the two tailed test is 0.008 for GDP and 0.012 for GDP per capita. This means that if we ought to reject the hypothesis $H_0: \alpha = 0$ against $H_1: \alpha \neq 0$, there is a 0.8 percent chance of making a type 1 error, which is very low indeed, and hence it is very safe to reject H_0 and conclude that β is significantly different from zero.

Table 6.6D Double log of the dependent variable (GDP per Capita) and independent variable (NBTT) *(Model 4 results)*

OLS ESTIMATES USING THE 17 OBSERVATIONS 1975-1991				
Dependent variable - l_GDP_c				
VARIABLE	COEFFICIENT	STDERROR	T STAT	PROB t > |T|
0) constant	8.05468	0.61085	13.186	< 0.0001 ***
5) l_NBTT	-0.36782	0.12870	-2.858	0.0120 **
Mean of dep. var.	6.32616	S.D. of dep. variable		0.42414
Error Sum of Sq (ESS)	1.86364	Std Err of Resid. (sgmahat)		0.35248
Unadjusted R-squared	0.353	Adjusted R-squared		0.309
F-statistic (1, 15)	8.167	Prob. F >		8.167 is 0.011975
Durbin-Watson Stat.	0.543	First-order auto corr coeff		0.729

MODEL SELECTION STATISTICS

SGMASQ	0.124243	AIC	0.138707	FPE	0.138859
HQ	0.14006	SCHWARZ	0.152993	SHIBATA	0.13542
GCV	0.140808	RICE	0.143357		

Note: * = significant with 95% confidence, ** = significant with 99% confidence and *** = significant at 99.9% confidence.

The elasticity of NBTT with respect to GDP and GDP per capita is 52.25 and 37.78 respectively. This implies that a one percent increase in NBTT will also increase GDP by 0.52 percent, and GDP per capita by 0.38 percent. The value of the R^2 for the double log model is 0.343 for GDP and for GDP per capita it is 0.309. More realistically, a 10 per cent increase in NBTT is expected to increase GDP and GDP_c on average by 0.52 per cent and 0.38 per cent respectively (which of course is less than 10 per cent). The value of R^2 for double log model 3 is 0.343, and for model 4 is 0.309. Therefore, in terms of goodness of fit between the two models, model 3 is to be preferred, although the margin between the two is very small. However model 3 explains only 0.34 per cent of the variation in GDP and model 4 explains 0.31 per cent respectively which is not surprising because NBTT is only one of several variables that account for GDP. There may be other crucial variables omitted from the model which need to be identified and test again in the future.

Conclusion

The Solomon Islands is among those islands nation of the South Pacific which have suffered from being isolated from their major trading partners. Long distance imposes higher transport costs on export products, thus inhibiting the ability of these countries to compete in foreign markets. Among the main problems that the Solomon Islands has, is the nature of the commodities that it exports. As has already been found by Prebisch and others, countries whose exports are based mainly on *primary products are subject to lower economic growth*. This will happen because of the inconsistency performances of the NBTT and the ITT. This research finding confirms Prebisch's and Singer's finding. However readers may question the period selected for this study, because terms of trade were affected by other occurrences. For example, between 1979 and 1981 a second oil shocks, affected world trade and one would expect the price of primary products to deteriorate in this sub-period. Such a disturbance in the NBTT performances raises the question of the appropriateness of the inclusion of the sub-period 1975 and 1979 in this study. As is shown in fig 6.5, Solomon Islands, NBTT declined very rapidly then slowly improved again in 1981, and the same result is produced by the ITT. If we could extend the period to 1960 a much greater deterioration in the terms of trade would appear and the result would be slightly different.

One thing that should be highlighted here, is that the movement of the NBTT and ITT does not follow the pattern that Prebisch and Singer showed in their studies (i.e., the Solomon Islands NBTT and ITT tend to fluctuate more than Prebisch and Singer suggest in their studies). Some may argue that the size of the economy is different but the facts remain that the countries whose exports are based on primary products will suffer more than those who are exporting manufactured products. With that in mind, any movement

in the price of primary products will be felt more by those countries who are exporting primary commodities. All this of that will be displayed in the fluctuation of the NBTT and ITT.

It was also argued that NBTT has an impact on the GDP; the actual hypothesis stated that there is a positive relationship between NBTT and GDP. This was not quite the case with the Solomon Islands, as the major findings of the OLS showed. The NBTT had a negative coefficient, indicating that there was a negative relationship between the two variables. However the only logical explanation that can be put forward here to account for such behaviour in the NBTT of the Solomons is that the NBTT may move inversely to the GDP because the external influences on NBTT are stronger than the external influences on the values of the total of the final goods and services produced by the economy. For example in 1979-'80 the Solomons' GDP was rising despite the second oil shock; at the same time the NBTT deteriorated. Certainly further investigation on the relationship between GDP and NBTT is still needed.

Chapter 7

I like free trade, but ... free trade between England and India ...is a race between a starving, exhausted invalid, and a strong man with a horse to ride on. Srivastava, 1956: 234)

Kingdom of Tonga

7.1 Background:

The Kingdom of Tonga is a mini state in the southern part of the Pacific. It belongs to the culture area of Polynesia. Tonga comprises 150 islands with a population estimated at 100,000¹ distributed over 36 of these islands². The geographical situation of Tonga is roughly 700 kilometres south east of Suva (Fiji), 700 km south west of Apia (Western Samoa) and 2000 km north east of Auckland. The total surface area of the island is 699 Km² whereas the total sea surface within the borders of the kingdom is hundreds of times larger³. The Kingdom is divided into three parts: Tongatapu where the capital, Nuku'alofa is, and the Ha'apai and Vava'u groups. About two-thirds of the population of Tonga live in Tongatapu. The kingdom of Tonga was unified during the second half of the 19th century, but remained isolated until it became a British protectorate in 1900. The UK managed external relations with little involvement in the domestic affairs, Although not formally independent until 1970, Tonga maintained a greater degree of independence than most Pacific territories which were under foreign rule. The legislative assembly, which is selected every three years, consisted of nine nobles⁴, and eleven members elected by the people as their representatives in the House and twelve ministers of the crown (elected by the king).

¹ see table 4.1.

² Estimates in the literature run from 140 to 200 islands, depending on the definition of the various authors consider to be large enough to be considered as island. The common figure is 150. The uninhabited islands are often used for agriculture (Tongan Government 1976:37)

³ The border of the Kingdom as it was defined in the Tonga Government Gazette 24 August 1887. It runs from 15° and 23° 30' S and 170° and 177° W.

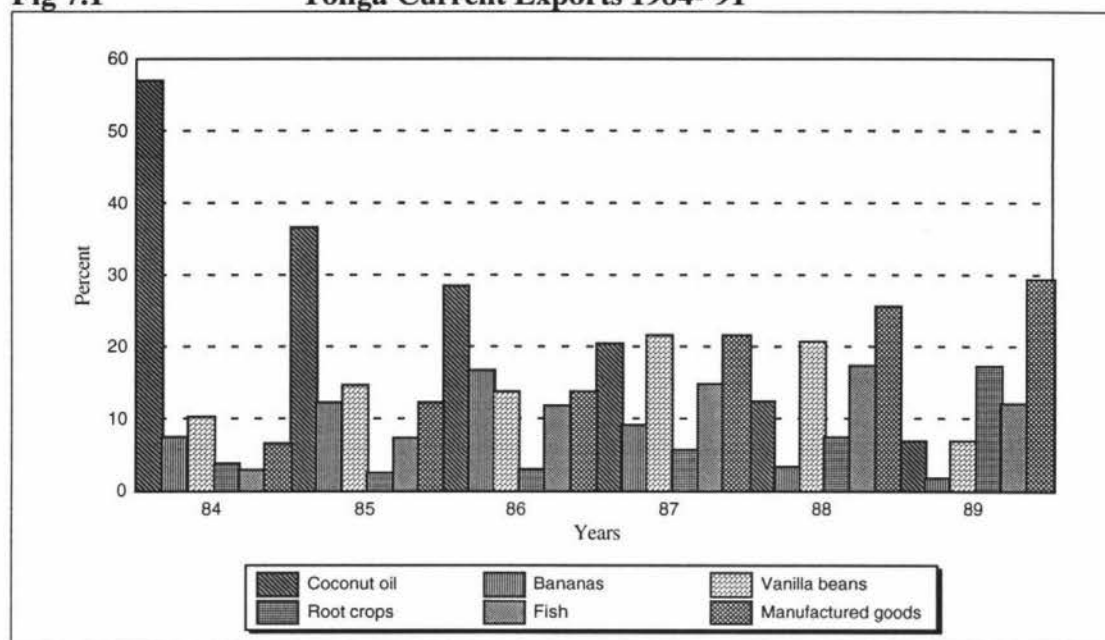
⁴ The 9 nobles are elect from 33 nobles in the Kingdom. Only those who have the noble title are allowed to vote for the nine nobles that are elect to the parliament. The public does not have anything to do with this vote.

While the constitution is based on the British model, the king exercises wide influence, and other members of the royal family hold key positions in the government.

7.2 The primary sector: from subsistence to exports

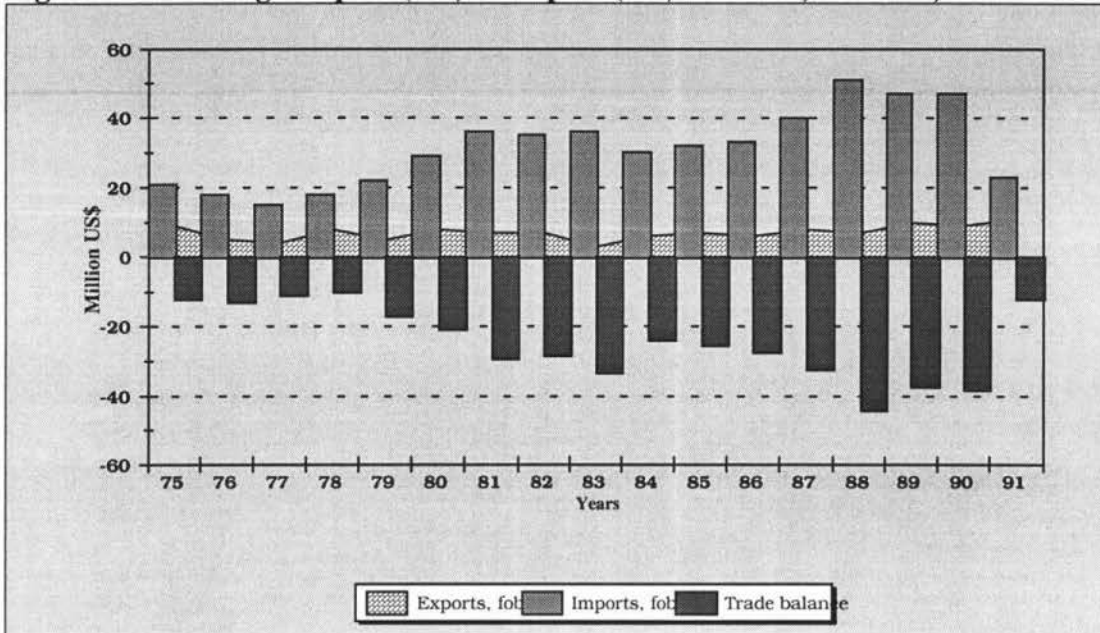
Subsistence agriculture in Tonga (including fishing and forestry) is the leading productive sector in the country, although its relative importance has declined over the years. This sector accounts for about 32 per cent of the GDP, earns about 70 per cent of total earnings and constitutes at least 40 per cent of the total formal employment sector. However such an estimation of the importance of agriculture in relation to GDP and employment may probably understate the role of agriculture in the economy. A major reason for this is a tendency to under-estimate the value of production from the mixed rural subsistence sub-sector due, for example, to valuation difficulties. The fact that a part of the agricultural output is processed and the resulting value added treated as part of manufacturing is also relevant. In the case of the employment, as much as 70 per cent of the population is believed to depend on agriculture for its livelihood to some degree (Fairbairn, 1991:19).

Agricultural activity predominantly is carried out by small holder producers and aimed primarily at domestic consumption. The leading export products are squash, vanilla, fish and to a lesser extent, coconut products. The government's experimental farms have been conducting experiments with coffee and pepper, because they believe that these are potential exports crops. Attempts were also made in the past with tomatoes, paprikas, french beans, carrots, lettuce, white cabbage, chinese cabbage and many other types of vegetable crop. The problem facing these attempts, is that every time the price drops, enthusiasm drops with it, and at the same time, Tongan growers cannot compete with greenhouses producers New Zealand (see Hau'ofa,1979; Rathey, 1984; Wiemer,1989).

Fig 7.1 **Tonga Current Exports 1984-'91**

(compiled from table 7.A1)

Agriculture stagnated in the eighties. It was reported by AIDAB (1991) that in the sub-period 1981/82-1989/90, agricultures' contribution to the GDP declined by annual average of about -0.3 per cent. According to the ANU (1991) this was due to a negative trend in the export production of coconut products (notably coconut oil and desiccated coconut), bananas, and to a lesser extent, water melons, all of which were declining sharply during this period (see fig 7.1). One of the main reason why the Tongan economy was not performing well in this period was because in 1987-1988 the country was hit by a drought. The impact of mother nature lead to a 60 per cent decline in the production of copra the first half of the financial year and it fell to almost zero during the latter six months. I understand that in April 1987, Tonga was forced to import copra in order to supply its coconut mill. The aftermath of 1987 saw imports rise from US\$ 47.9 million to US\$ 67.8 million in the following years. In terms of the sectors, annual growth agriculture, forestry and fishing sectors hit an all time low of -10.04 per cent

Fig 7.2 Tonga Import (fob) & Export (fob) balances, 1975-'91,

(compiled from table 7.A4)

At the same time the economy's annual GDP growth rate declined to -2.12 per cent (see table 7.A2 & A3, also fig 7.2). In 1990, Tonga's total imports increased moderately to reach T\$67 million, which widened the deficit gap in the trade account from T\$52 million to T\$55 million (see fig 7.2). While the focus above was on imports, exports have declined sharply between the period 1984-1989. A recent improvement in exports is largely accounted for by sharp increases in the production of vanilla and squash.

7.2.1 The rise of the squash industry

The export of this crop, started in 1987 with the help of a New Zealand company. The products were sold to the Japanese market. Two of the main producers for this luxury market are New Zealand and Mexico, but they can only cover demand from January to October, and Tonga bridges the gap between November and December. In 1987, only one Tongan cooperative grew pumpkins. In that year the group broke even; export expenses were covered by export profit. Two years later the group split and again

produced the same result out (this opportunity given to the group in the main island only). In 1991 Tonga made T\$4.5 million, that is about T\$ 2812.5 on average per grower (Van der Grijp, 1993). Today the pumpkin fever (as they called it) has reached the Ha'apai and Vava'u groups. It is unfortunate that the development in these two islands with regards to the growing of squash pumpkin will not be as successful as it is in the main island. The reason behind this is a transportation problem. The quotas that the islands need to fulfil are not enough to make it profitable to hire a boat to deliver the squash produced by Vavau and Ha'apai.

7.2.2 The most promising orchid of Tonga: Vanilla

Vanilla is the world's second most expensive spice by weight (after Saffron). It is a product of vanilla beans, grown mainly in the island of Vava'u, but processed and consumed almost totally within the developed world. The World supply of vanilla is dominated by a cartel (Univanille) of the major producers - Madagascar, Réunion and Comoros Islands. These three Indian Ocean nations supply approximately three quarter of the world's vanilla. The prices of the vanilla beans was about US\$ 56/kg (in 1980 prices) in 1987, that is equal to T\$110 per kilo (see table 7.1). Because of the general decline in the value of the Tongan Pa'anga relative to the US dollar, vanilla prices in the Tongan pa'anga have risen more dramatically than prices in the US since 1982. However any increase in the production of vanilla from Tonga alone, will not cause any measurable drop in the vanilla prices. In fact the total of dried vanilla beans exported from Tonga in 1987 was only 12 tonnes (see table 7.2).

7.2.3 Fisheries

The extent to which the fishing industry increased its production for domestic as well as export markets is quite considerable. Current fishing efforts-largely based on 'Artisinal Fishing' (Tongan Government 1984:46) and the exploitation of coastal fishing waters- account for the larger share of the country's total fishing consumption. In the mid '80s, the government started to develop the fishing industry through the development of the commercial fisheries project, with a particular focus on the exporting of tuna (albacore and skipjack). At the same time the ADB provided a loan of US\$ 3.2 million for this purpose, as well as technical assistance to strengthen a newly established fishing corporation.

Table 7.1 Vanilla beans: early March spot prices in New York.			
	US\$/kg (nominal)	US\$/kg (1980 prices)	Tongan Pa'anga/ kg^a
1970	12.2	25.9	10.9
1971	12.4	25.2	11
1972	12.4	24.2	10.4
1973	14.7	27.3	10.5
1974	15.1	25.2	10.5
1975	17.6	26.9	13.4
1976	20.3	29.4	16.6
1977	20.3	27.6	18.3
1978	22.9	28.9	20.1
1979	62.2	70.6	51.8
1980	132	132	115.8
1981	68.2	61.5	59.3
1982	61.6	52.5	60.4
1983	67.1	61.5	74.5
1984	68.7	54.5	78.1
1985	81.4	62.3	116.3
1986	78.1	58.6	116.5
1987	77.6	56.1	109.7
1988	77	N.a	N.a

Derived from previous column by converting at the nominal currency exchange rates prevailing in the particular year.

Source: USDA, U.S. *Spice Trade*, Washington, USDA foreign Agricultural Service, various years.

Most of the fish caught by the government fishing boat are exported to a fish processing plant in Levuka (Fiji). The fishing industry in Tonga seems set to serve a dual purpose: to meet the local demand for fish and to attract foreign currency to Tonga. It surprising that the government of Tonga still has not set up a fish processing

of its own, considering the vast ocean area that it has. FAO investigation revealed that the fishery potential of Tonga is still very much in the underdeveloped stage⁵.

Table 7.2 Vanilla export (dried beans)

Years	Tonnes
1975	1.2
1976	4.1
1977	10.8
1978	8.2
1979	1.9
1980	5
1981	4.8
1982	11.6
1983	8.8
1984	13.2
1985	4.1
1986	18
1987	11.6

Source: Tonga Department of statistic

The Tongan government agreed with the assessment (Tongan Government 1981:176) that 1600 tons or 80% of the commercial fishing haul are caught in the area between the reef and the surrounding sea, at depths between 55 to 100 meters. The total catch in the private sector is much higher; official statistics are based only on estimates, and make no claim to be accurate⁶. One of the fishery department's reports claimed that there was a slight shift in development emphasis toward the Artisanal fishery in 1983 (Tongan Government 1984:46). A project which perhaps should be mentioned here is the commercial cultivation of seaweed (*Eucheuma startium*) in Vava'u. This project is believed to be another success story for the development of the fishing industry in

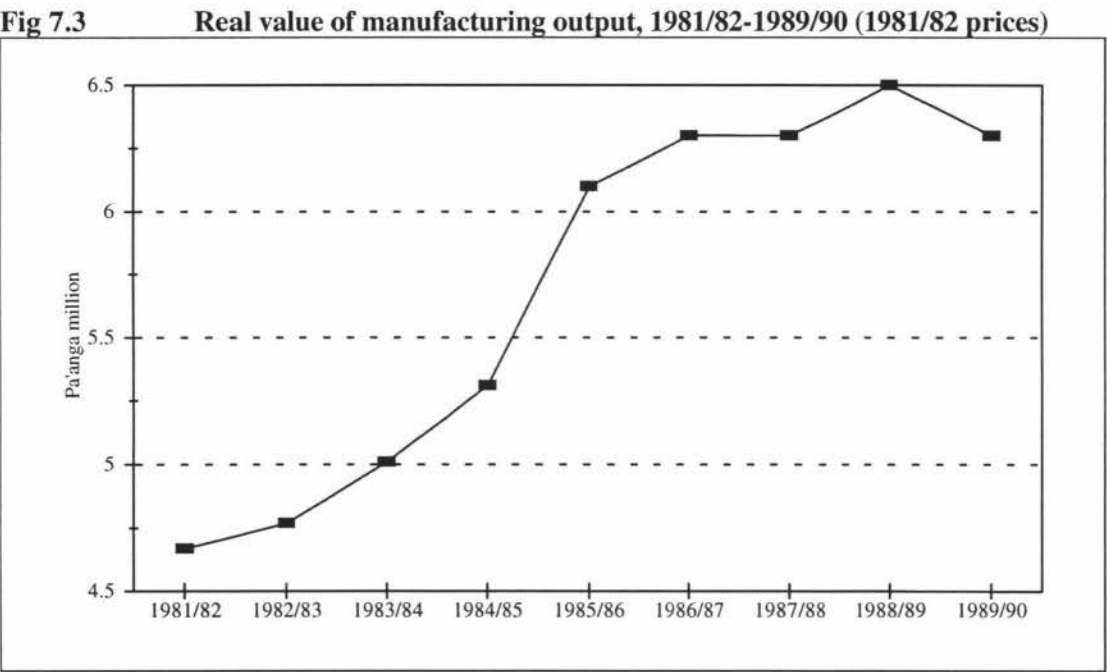
⁵ This is the FAO/UNDP marine Resources Report 1976-77, cited in SPC 1982:9.

⁶ It is unfortunate that the statistics on the volume and value of fish caught by the private sector are incomplete and vary in their coverage (Tongan Government 1981:179).

Tonga. The products (which is seaweed) is sold to a New Zealand fertiliser company and is claimed by the government to be a successful project.

7.3 Manufacturing

Manufacturers and small industries are pretty much in the infant stage in Tonga and are dominated by import substitute industries. However, there are several export-oriented businesses operated from Tonga, that are doing really well in the overseas market without any favour from the government.



(compiled from table 7. A2)

Nevertheless, a wide range of import substitute industries still operate in Tonga and among the products produced are: beer, wire nets, paint, toilet articles, furniture, cement and bricks, soft drink and meat products. The most prominent export industry operated from Tonga is, perhaps the *Tongan knitwear industry*. It is a joint venture project between a New Zealand businessman and a group of Australian investors. As is shown in fig 7.1 and fig 7.3, manufacturing contribution to the economy is quite

significant. Since the depletion of the desiccated coconut and coconut oil industry in Tonga much energy has been put into developing small, new, manufactured industries. In relation to GDP, manufacturing contribution is modest, totalling T\$6 million in 1989/90, or 8.6 per cent of GDP. It is estimated that the manufacturing industry employs about 2.5 per cent of total formal employment. Its contribution to exports totalled T\$3.4 million in 1989/90, or 29 per cent of total export earning. As is shown in fig 6 3 (also refer to table 7.A2 & 7.A3), after 1982 manufacturing grew steadily but declined slowly in 1989 and 1990. Like any other small country in the Pacific, Tonga's efforts to foster its manufacturing industry have been hampered by small *domestic market*, *high transport costs* and an increasingly tight labour situation, particularly with regard to skilled labour.

7.3.1 The successes of the South Pacific Manufacturing Company (SPMC)

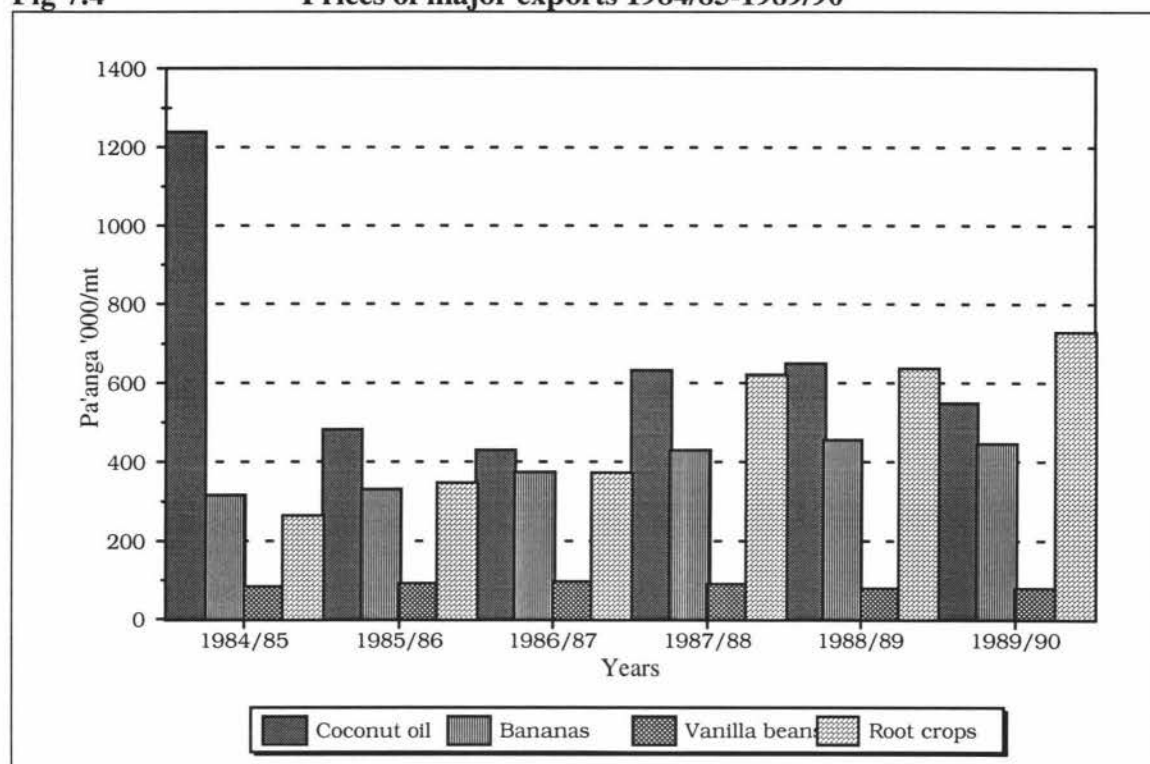
The SPMC was established in 1979 by a New Zealander, Louis Pogoni. His interest in the knitwear and garment industries leads him to set up his industry in Tonga. This coincided with the government's active promotion of light manufacturing, following the publication of the Third Development Plan in 1976. The economic contribution of the SPMC to the economy of Tonga is considerable, despite the raw material import content. According to the ANU, *Pacific Economic Bulletin* (1989; vol 1:18) the annual wage bill of the enterprise is currently around US\$ 0.5 million in an economy with an official gross domestic product (GDP) of less than US\$ 100 million, and annual gross foreign exchange earnings of the enterprise are estimated to be approximately US\$ 1.3 million. This has to be seen in the context of a small open economy in which imports exceed exports in the ratio of 4:1. The government offers many advantages which have contributed to the success of the small manufacturing industries. Among the benefits and advantages that manufacturers receive from being established in Tonga are its stable macro-economic environment, generous fiscal incentives, including a tax holiday of up to 15 years, special export incentives, access

to development finance at low interest rate and also the ability to access the Australian and New Zealand market through the SPARTECA agreement. The government also includes the exemption of withholding tax for non-resident shareholders or companies for the period of the tax holiday as well as low income tax for the employees, and custom duty exemptions.

7.4 The balance of payments and the exchange rate

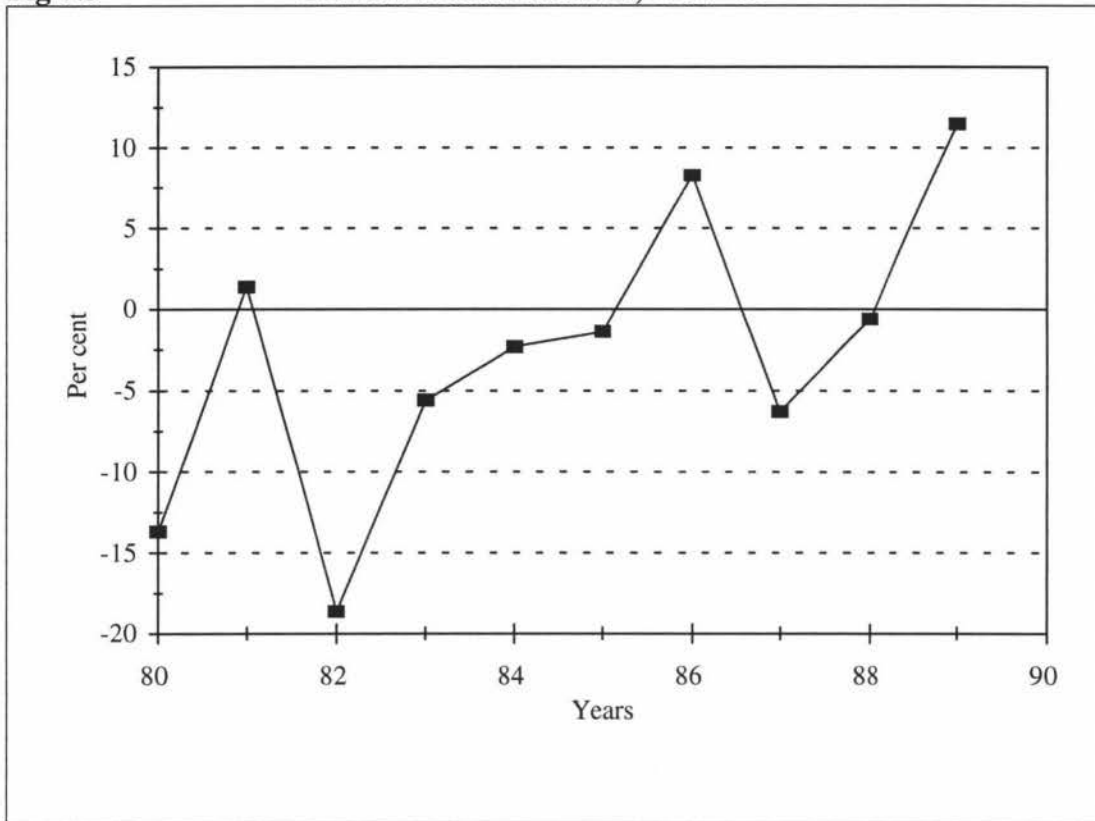
In 1990 the external account of the Kingdom of Tonga improved dramatically. In this period the country experienced an overall surplus of T\$ 6.8 million in its balance of payment account, compared with a deficit of T\$1.6 million in 1988/89 (table 7. A4). The constant fall in the price of coconut oil led to a decline in the level of coconut production in the country. However, a strong performance from the squash and vanilla industry in 1989 helped to improved the country's export performances. The country's export earning increased by T\$11.7 million i.e, a 23 per cent increase over 1989 (see fig 7.3, fig 7.1 and table 7. A1). One of the sectors that performed particularly well over this period was the service sector. The net receipts from the service sector rose dramatically (from T\$12 to T\$22 million) between the 1989 and 1990 sub-periods, and at the same time overseas remittances rose from T\$33 to T\$38 million. These two sources provided the main impetus for the improvement in the current account balance. Improvement in the current account saw Tonga's deficit of T\$1 million reduced to a surplus of T\$16 million in 1989/90, that is equal to 12 per cent of GDP (see fig 7.5). 1990 also saw a the decline in the net proceed from official transfers. However the capital account deteriorated in that year with a net outflow of T\$ 6.4 million against T\$4.3 million in 1989. Such a deterioration was believed to be attributable to a significant rise in portfolio investment outflow.

(AIDAB, 1991)

Fig 7.4 **Prices of major exports 1984/85-1989/90**

(compiled from table 6.A1)

According to the AIDAB (1991:17), the overall surplus in the balance of payments was reflected in Tonga's gross international reserves which rose to a record level of T\$41 million by the end of 1990. In comparison with the same period in 1989, gross reserves were about T\$31 million, which is equivalent to over six months of imports. It was also reported that the Tongan government had set up an overseas investment Trust fund of around T\$30 million, to provide a backup to Tonga's general international reserves (AIDAB, 1991:17). Between 1976 and early 1991, the Pa'anga was linked at par with the Australian dollar. Under this arrangement, the exchange rate pattern over recent period has been somewhat variable and at least in relation to the New Zealand and US dollar, the nominal value of the Pa'anga has fallen moderately (see fig 7.6). However the trend in the real effective exchange rate has been relatively unchanged.

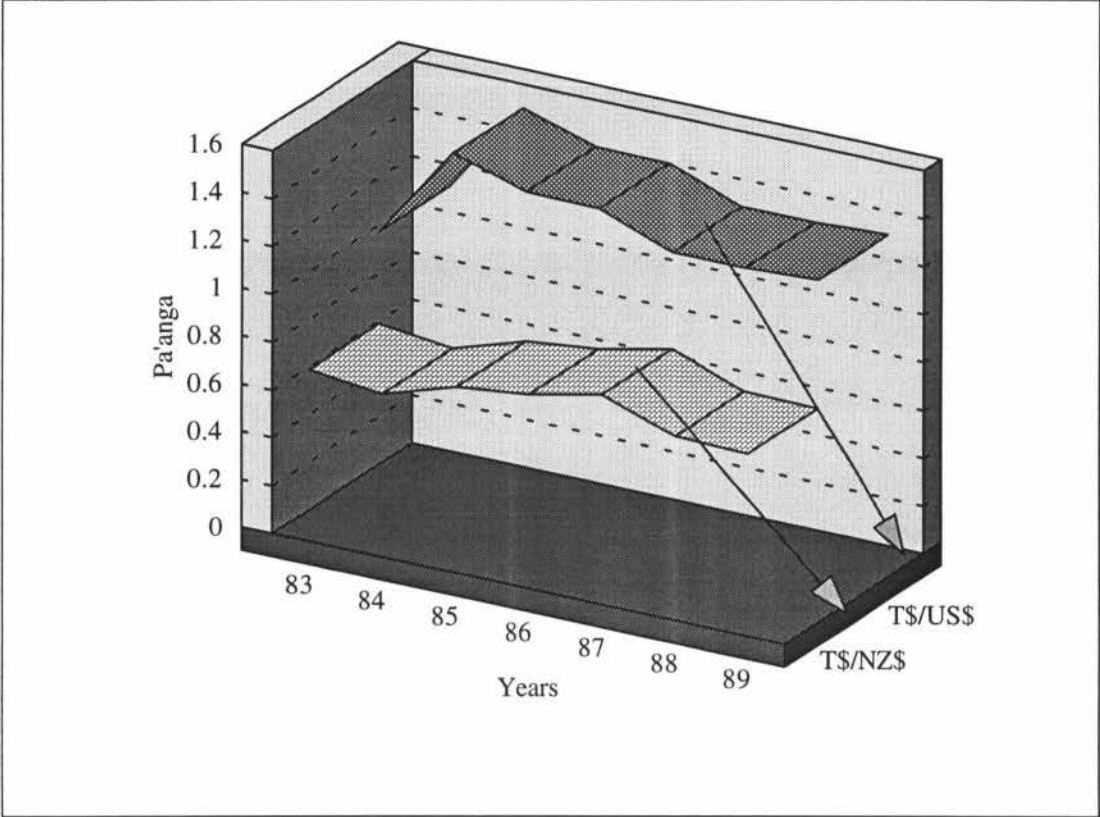
Fig 7.5 **Current account balance, 1980-'89**

(compiled from table 7.A6)

Currently the Tongan Pa'anga are pegged to a weighted basket of currencies of its major trading partners. I believe that this is an important development because it will reduce the fluctuation between the nominal and the effective exchange rates and hence it will provide a more stable environment for traders and investors. Interest rates have been fixed by law under the Contract Act. The lending rate ceiling of 10 per cent in 1989, was set sixty years ago. The savings deposit rate was fixed at 5 per cent, while terms deposit rates were set at levels varying between 5 to 6.5 per cent. With the inflation rate fluctuating between 2 to 28 per cent between 1986 and 1989, the real interest rates have been negative for the extended periods. The fixed interest rate regime has had a detrimental effect on desirable capital in-flows. The establishment of credit from multi-lateral lending agencies such as ADB and European Investment Bank (EIB), for on lending with acceptable margins by organisations such as the

Development Bank was frustrated by the domestic lending ceiling during periods of high overseas interest rates.

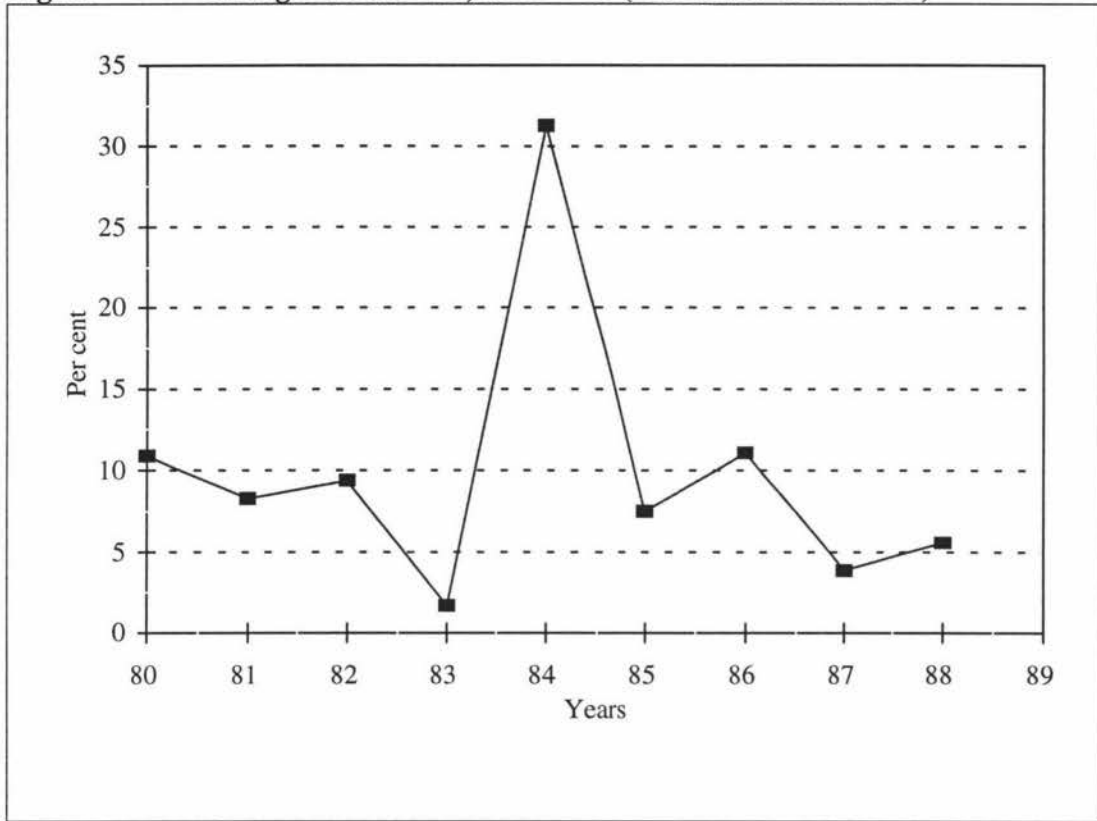
Fig 7.6 Exchange rate (nominal), 1983-'89



(compiled from table 7.A7)

7.5 Inflation in Tonga

Inflation in Tonga, measured by the Consumer Price Index (CPI), increased dramatically by the end of 1990 and was running at a rate of 15 per cent annually (see fig 7.7). While inflation peaked at 17.2 per cent in January 1991, the 1988 and 1989 inflation rate averaged around 5 per cent per annum. However there is no surprise here, because the drought that hit Tonga in this period was responsible for most of this effects.

Fig 7.7 Changes in the CPI, 1980 - '89 (December 1984 = 100)

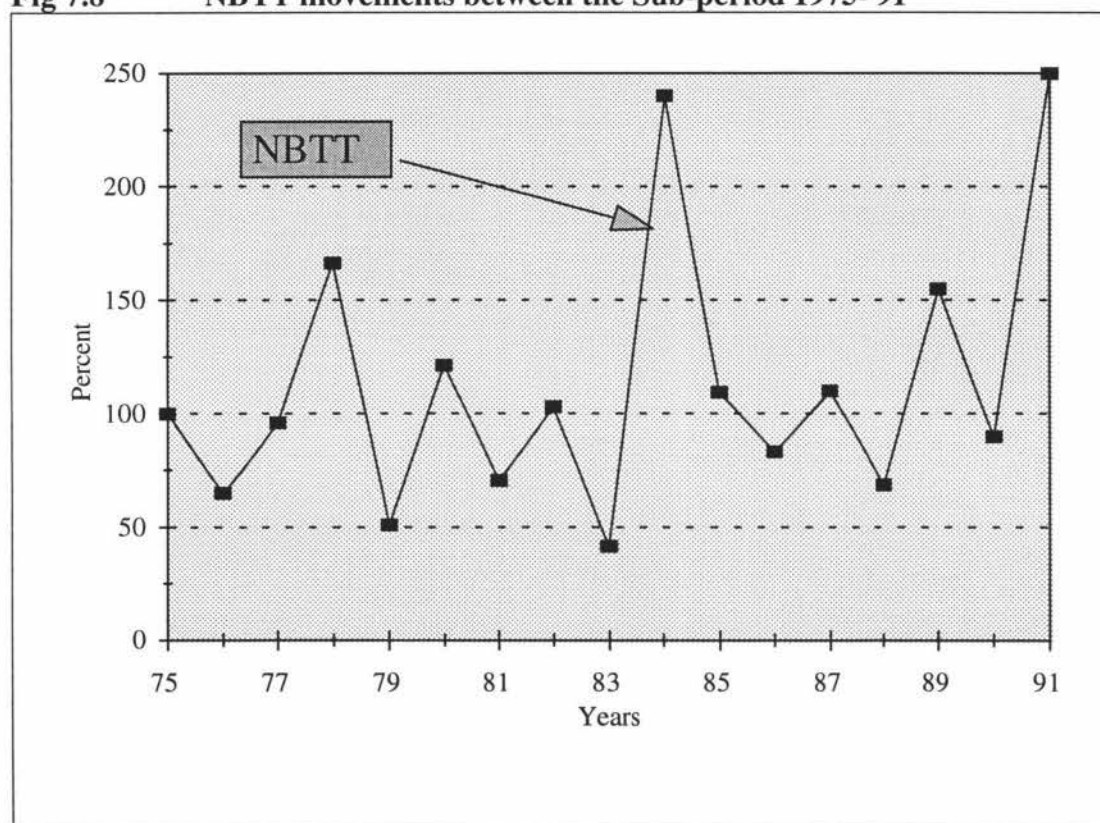
(compiled from table 7.A8)

Imported inflation - such as any inflationary effects of exchange rate movements - appears to be more responsible for the rising price in Tonga than domestic factors (imported goods carry a 55 per cent weight in the CPI). Among the external factors that are responsible for the increase in inflation in Tonga are the rising price of imported petroleum products and the imposition of higher custom duties on selected imported products (as a result of high custom duties the landed cost in Pa'anga will be increased, thus contributing to the increase in the inflation). Inflation, as it shown in fig 7.8, was slowly increasing but was still lower than 1986. However there are external factors responsible for this low inflation, such as the drop in oil prices, the increase in government charges on several services, and the relative decline in the rate of change of import prices (especially in Australia and New Zealand). Furthermore, any success of attempts to curb inflation will require an anti-inflationary thrust in government fiscal, monetary policies.

7.6 Tonga Net Barter Terms of Trade

The NBTT of the kingdom of Tonga has fluctuated somewhat over the seventeen year period selected for this study. There are occasional years where it registered an improvement and some years where a deterioration was registered. Using 1975 as a base year period, Tonga NBTT deteriorated between 1975 and 1976. The deterioration in the country's term of trade can partly be blame upon the decline in the price of primary commodities exported from Tonga.

Fig 7.8 NBTT movements between the Sub-period 1975-'91



Compiled from table 7.A4

According to the third development plan 1975-1980, put out by the Government, total revenue from commodity exports, including re-export was decline by 55.5 per cent, between the sub-period of 1975-1976 (see table 7.A4 & fig 7.8). The following years (between 1976-1978), Tonga's NBTT increased slowly, to peak at 167 percent. Such an increase can be put down to an increase in the price of copra and at the same time,

beginning of Tonga's export of fruit and vegetables. Also aiding the improvement in the country's NBTT was the devaluation of the Tongan Pa'anga by 12% against the Australian dollar (because the basic exchange rate was fixed in terms of the Australian dollar, the Tongan dollar fluctuated against all other currencies in line with their movements against the Australian currency). The devaluation made Tonga's exports cheaper in the overseas market, thus increasing the demand for its products and the Tongan currency. The improvement however was short lived because in 1979 the second oil shock hit the world and as a result the price of primary products deteriorated. This worsened the NBTT of those countries (including Tonga) who survive by the exporting of primary products, but to worsen that effect Tonga NBTT hit an all time low of 51 per cent. The Government move quickly to rectify that by imposing a very conservative guideline to maintain the ratio of domestic revenue to GDP. They increased the import duties on several consumer goods, notably tobacco, liquor and petroleum and the postal services rate. Even with this conservative approach adopted by the Government, the NBTT still deteriorated but not as low as in the 1976 period. The early 1980s saw the country's NBTT perform even worse than the late 1970s. From 1980 to 1983, the economy had a very bad experience, the deficit increase from US\$ 21 million to US\$ 33 million. As a result the NBTT plunged to its lowest of 42 per cent in 1983. However the deficit blow out may be partly blamed on the hurricane that hit the island in 1982. The mid 80's saw the economy recover as is shown by an increase in the NBTT (see fig 7.8). It is rather a moderate recovery, because part of that success can be attributed to the expansion in construction activity associated with repair of the cyclone damage, financed by official external aid and private insurance receipts. Having said that, we must also remember that during this period the price of primary commodities moved in favour of the countries who exports were based on primary products. This can be seen in increased of export from US\$ 6 million, in 1984 to US\$ 8 million in 1987 (in current price, see table 7.A4).

The late 80's saw the NBTT performance improve, but at a much slower pace, because most of the major trading partners of Tonga's had moved to free market operation. No more preferences were given to the products produced from island like Tonga. If the country can not be able to sell its products in its major trading partners' markets, because the country's products are more expensive or there are better substitute for them. However the five yearly changes in the NBTT (%) showed that the country's was performing really well (see table below). Even though the sub- period '85-89 showed that the NBTT was 105%.

Table 7.3 Five yearly changes in the NBTT and ITT (%)

Years	Net Barter terms of trade	Income terms of trade
1975 - '79	96	91
1980 - '84	115	139
1985 - '89	105	107
compiled from table 7.A4		

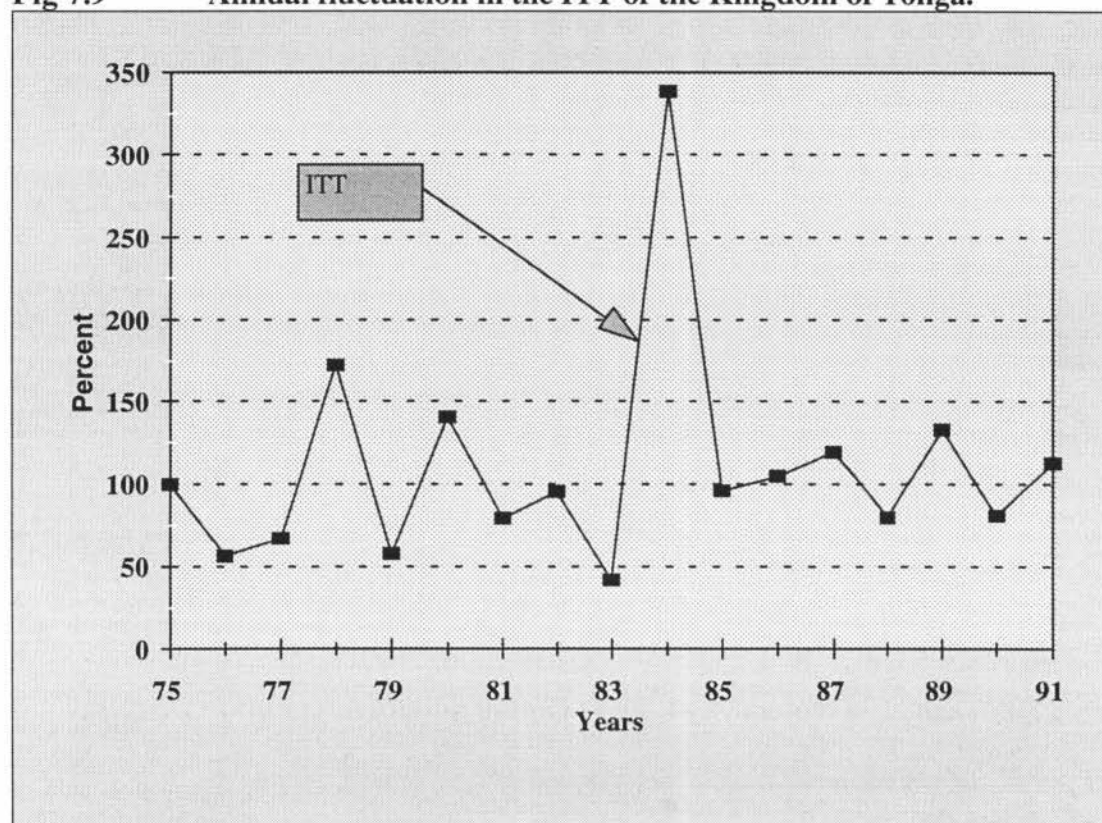
It is my belief that success in the performances of the NBTT over the years can be attributed to good performances from the squash pumpkin industry and consistent improvment in the Tongan light manufacture industry and one should never discredit the consistent contribution of the vanilla sector.

7.7 The income terms of trade (ITT)

The ITT performances of the kingdom of Tonga are nvery different from the way the NBTT fluctuated over the years. However, what influences the operation of the ITT is slightly different from what influnces the NBTT. For example the closer the ITT percent figure to 100, the stronger the import capacity of the country. To illustrate this, table 7.3 shows the five yearly changes in the ITT and NBTT. The ITT shows

that the capacity of Tonga to import over 1975 - '79 deteriorates. The reason behind this is, that the export price of primary products over this period was very low. As mentioned above, the oil shock and natural disasters during this period did not help to improve the capacity of the country to import.

Fig 7.9 Annual fluctuation in the ITT of the Kingdom of Tonga.



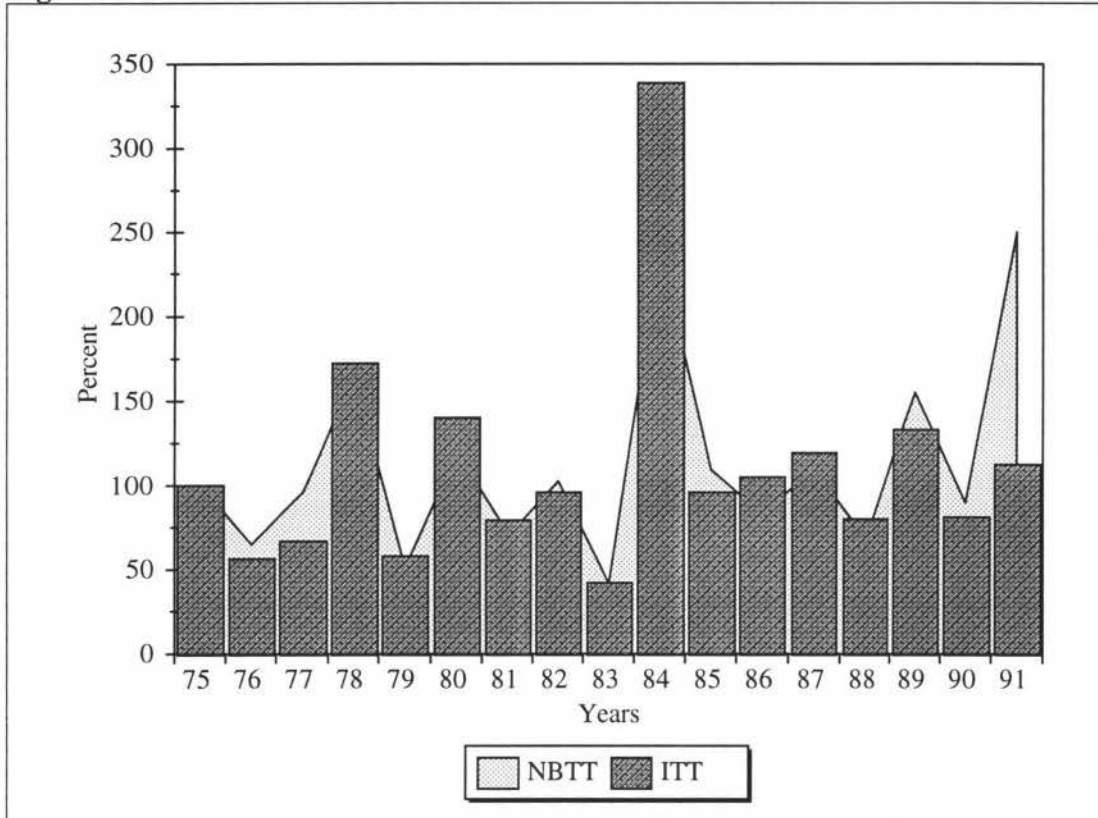
(compiled from table 7.A4)

In the early 80s, the ITT moved in favour of Tonga. This was due to an increase in demand for exports and a rise in the price of primary products in the overseas market. The increase in the value of exports also increased the GDP per capita of the country (the GDP per capita rose from US\$ 602 million to US\$ 659, which means that the country can now enjoy more foreign goods at a lower price or can export less to obtain the same value of foreign goods). Imports increased dramatically from 17% in 1980 to 26% by 1984 (see table 7.A4). Despite the rise in imports, the ITT of Tonga operated strongly in this period. It reached an all time high of 139%. The 1985 and 1989 sub-period saw the ITT deteriorate, but not as low as the 1975 and 1979 sub-

periods. The operation of free market policies, used by some of Tonga's major trading partners has slowed down the increase in the export of primary products from the Kingdom. As a result some factories in Tonga had to closed because the importer of those Tongan products found a cheaper supplier of the products or a better substitute for products that they imported from Tonga. In other words the importers of products from Tonga found that was no longer cost effective to import from Tonga. The annual fluctuation in the ITT can be clearly shows by fig 7.9. However the fluctuation in the ITT showed that between the sub-periods of 1983 and 1984 the ITT hit its highest peak (339 per cent) and then declined rapidly to hit a bottom low of 96 per cent. The overall annual performance of the ITT is seen to be consistent, because there is only one strong charge between 1983-1984 and then the rest of the period fluctuated moderately around the 100 per cent bench mark.

7.8 Comparison between the ITT and NBTT performances between 1975-1989.

The yearly data for Tonga's NBTT, given in table 7.A4, shows that during the late 1970s the NBTT performed really well. At the same time, the ITT followed the same pattern but not as strongly as the NBTT. One thing that seems clear from the annual fluctuation of the NBTT and the ITT is this: When the NBTT increased, the ITT also increased but not as high as the NBTT, and when the NBTT decreased, decreased lower than the ITT (see fig 10). The mid-and late-80s showed that both the NBTT and the ITT fluctuated, but the NBTT showed a more pronounced deterioration than the ITT. In the other word the improvement of the ITT is much faster than the NBTT. A probable explanation that I believe will explain this behaviour is that an improvement in exports competitiveness via a reduction in the domestic price of exports (keeping everything constant) would result in an improvement in the ITT and a deterioration in the NBTT.

Fig 10 NBTT and ITT trend between 1975-1991

(compiled from table 7.A4)

However the world does not behave in a constant way, so this explanation may not explain such behaviour. One thing that should be pointed out about the relationship between the NBTT and the ITT is that maybe a possibility that both terms of trade deteriorate or improve simultaneously as is shown at fig 10 and table 7.A4.

7.9 Chief finding on the terms of trade, with the OLS method

Models one and two are a result of a liner log model. Both models show that the coefficient for *NBTT* and the *Constant* variables are very high, but that is insignificant because the explanatory variable (NBTT) does not explain the variability of the dependent variable. What this means, is that the dependent variable (NBTT) has a negligible effect on the independent variable (GDP). As is shown in the table 7.4 (model 1), the probability of the *explanatory variable* explaining the movement of the

the dependent variable (GDP) is 0.2 per cent. Moreover, the adjusted R-square criteria shows that there is only 5 per cent increase in the GDP can be explained by the increase in the NBTT. Having said that, we can also say that 95 per cent of the increase in the GDP was unexplained, meaning that any increase in the GDP is attributable to the estimated disturbance terms (ϵ) (see footnote 8, chapter 6 for the model). Model two shows that the deviation of the explanatory variable around the *Mean* is quite wide spread (i.e., 62 per cent), and the probability of explaining such an occurrence is only 8 per cent. However the adjusted R-square criteria shows that 6 per cent of the increase in the GDP is due to a rise in the NBTT and 94 per cent is unexplained i.e. attributable to the estimated disturbance term (ϵ). One thing that we should point out here in our basic theory, we stated that the GDP will increase if NBTT increases, and vice versa.

Table 7.4. Testing the relationship between NBTT and GDP growth using the Linear log model, 1975-'91 *(Model 1)*

Linear log model, 1975-91					
OLS ESTIMATES USING THE 17 OBSERVATIONS 1975-1991					
Dependent variable - GDP					
VARIABLE	COEFFICIENT		STDERROR	T STAT	PROB t > |T|
0) constant	666.69116		329.73218	2.022	0.0614 *
6) l_NBTT	93.21202		69.02516	1.350	0.1969
Mean of dep. var.	229.82353		S.D. of dep. variable		269.58307
Error Sum of Sq (ESS)	1036758.46		Std Err of Resid. (sgmahat)		262.90156
Unadjusted R-squared	0.108		Adjusted R-squared		0.049
F-statistic (1, 15)	1.824		Prob. F >		1.83 is 0.20
Durbin-Watson Stat.	1.829		First-order auto corr coeff		0.227
MODEL SELECTION STATISTICS					
SGMASQ	69117.23	AIC	77164.15	FPE	77248.77
HQ	77919.71	SCHWARZ	85111.32	SHIBATA	75335.39
GCV	78332.86149	RICE	79750.65		

Note: * = significant with 95% confidence, ** = significant with 99% confidence, *** = significant with 99.9% confidence.

Table 7.5 Testing the relationship between NBTT and GDP per capita, using the linear log model, 1975-'91. (Model 2)

model, 1975-91.			(model 2)		
OLS ESTIMATES USING THE 17 OBSERVATIONS 1975-1991					
Dependent variable - GDP_c					
VARIABLE	COEFFICIENT	STDERROR	T STAT	PROB t > |T|	
0) constant	286.18807	295.55132	0.968	0.3482	
6) l_NBTT	16.82061	61.86984	0.272	0.7894	
Mean of dep. var	207.35294	S.D. of dep. variable		228.72717	
Error Sum of Sq (ESS)	832953.43	Std Err of Resid. (sgmahat)		235.65	
Unadjusted R-squared	0.005	Adjusted R-squared		0.061	
F-statistic (1, 15)	0.074	Prob. F >		0.074 is 0.789428	
Durbin-Watson Stat.	2.850	First-order auto corr coeff		0.456	
MODEL SELECTION STATISTICS					
SGMASQ	55530.23	AIC	61995.30	FPE	62063.20
HQ	62602.32	SCHWARZ	68380.22	SHIBATA	60526.03
GCV	62934.30	RICE	64073.34		

Note: * = significant with 95% confidence, ** = significant with 99% confidence, *** = significant with 99.9% confidence.

We noted that the sign of the estimated coefficient for model one and two agrees with our prior institution. Models three and four in table 7.6 and 7.7, are a result of using double log models to test for sensitivity in the independent and dependent variables. The result for both models are insignificant because the expalanatory power of NBTT is not strong enough to explain or to give a clear indication of why GDP or GDP per capita increased or decreased as NBTT fluctated. In terms of comparing the last two models (ignoring the fact that they are both insignificant), we can see that, Model 3 shows that the probabily of a change in GDP as a result of a change in NBTT is very low indeed, i.e. 7 per cent. So the chance of GDP varaibility must also be explain by some other factors. This is true because the adjusted R-square shows that only 6 per cent of the rise in GDP can be explained by an increase in NBTT and 94 per cent is unexplainable, due to the error term. This explanation can also be applied in Model 4 as they are both insignificant, and the power of the explanatory variable to explain the movement in the independent variable is very weak.

Table 7.6 Testing the NBTT and GDP per capita using the double log mode, 1975-'91 (Model 3)

OLS ESTIMATES USING THE 17 OBSERVATIONS 1975-1991					
Dependent variable - l_GDP_c					
VARIABLE	COEFFICIENT	STDERROR	T STAT	PROB t > |t|	
0) constant	4.45526	1.28793	3.459	0.0035 ***	
6) l_NBTT	0.08094	0.26961	0.300	0.7681	
Mean of dep. var.		4.83461	S.D. of dep. variable		0.99726
Error Sum of Sq (ESS)		15.81755	Std Err of Resid. (sgmahat)		1.02689
Unadjusted R-squared		0.006	Adjusted R-squared		0.060
F-statistic (1, 15)		0.090	Prob. F >		0.090 is 0.77
Durbin-Watson Stat		2.880	First-order auto corr coeff		0.453
MODEL SELECTION STATISTICS					
SGMASQ	1.054503	AIC	1.13	FPE	1.178563
HQ	1.1888	SCHWARZ	1.298521	SHIBATA	1.149372
GCV	1.195104	RICE	.216735		

Note: * = significant with 95% confidence, ** = significant with 99% confidence, *** = significant with 95% confidence

However one aspect of the result which conforms to the common sense is that the influence of NBTT is stronger on GDP than on GDP per capita. That is, one would expect the differential population growth rates to "dilute" the extent to which growth in GDP would translate into GDP per capita.

Table 7.7 Testing the NBTT and GDP using double log model, 1975-'91. (Model 4)

OLS ESTIMATES USING THE 17 OBSERVATIONS 1975-1991					
Dependent variable - l_GDP					
VARIABLE	COEFFICIENT	STDERROR	T STAT	PROB t > |T|	
0) constant	6.76144	1.26000	5.366	< 0.0001 ***	
6) l_NBTT	0.40318	0.26376	1.529	0.1472	
Mean of dep. var.	4.87180	S.D. of dep. variable		1.04574	
Error Sum of Sq (ESS)	15.13898	Std Err of Resid. (sgmahat)		1.00462	
Unadjusted R-squared	0.135	Adjusted R-squared		0.077	
F-statistic (1, 15)	2.336	Prob. F >		2.336 is 0.147185	
Durbin-Watson Stat.	1.934	First-order auto corr coeff		0.131	
MODEL SELECTION STATISTICS					
SGMASQ	1.009265	AIC	1.126768	FPE	1.128002
HQ	1.137801	SCHWARZ	1.242815	SHIBATA	1.100064
GCV	1.143834	RICE	1.164537		

Note: * = significant with 95% confidence, ** = significant with 99% confidence, *** = significant with 99.9% confidence.

Conclusion

The Tongan economy looks very promising for the future should, it continue the pace of economic growth that it has adopted today. The acceleration of the NBTT in the late 1980s and early 90s can be attributed to the diversification of the export base of the country. For example, there is a remarkable shift from the concentration of exports on traditional primary commodities to more commercial primary products, such as squash pumpkin. At the same time, the progress in developing light manufactured goods is a real success for the Tongan economy. The widening of the export base of the country has shown up in the dramatic increase of the NBTT in the late 80s to early 90s (see figs 7.8 and 7.9). However, the increase in the purchasing power of the country is not so impressive because the rise in the ITT was not as high as the NBTT.

However the slow increase in the ITT between late 1980s and early 1990s coincided with increase in the inflation rate. In order to slow down the increased inflation the Government devaluated the Pa'anga which in fact decreased its purchasing power, which is good for the exporters but not for the importers (this action may be working well in the short run but in the long run gain from exports will build up foreign reserves. In the end the ITT improved and with it inflation rate will increase again). Even though the upsurge in the ITT is not as impressive as it is in the NBTT the economy of Tonga is doing really well as a result of diversifying from a complete concentration on the exporting of primary products.

As pointed out earlier, countries whose export activities rely on primary commodities will face a deterioration in their NBTT unless they diversify their export base. The fact that Tonga diversified its export base improved their terms of trade as a result, and is a living proof of the need for all LDCs and small countries to widen their export base.

Chapter 8

Western Samoa

Background:

Western Samoa, has a land area of 2,930 square kilometres, consists of nine islands which are mainly volcanic in origin, and is blessed with a beautiful tropical climate. The whole population is predominantly Polynesian by origin and mainly resides along the coastline of the two main islands (Savaii and Upolu). According to Scott and Brown (1989:181), the life expectancy of the Samoan is 65 years, and health and education standards are above the regional norm. Despite a relatively high birth rate, population growth has averaged less than one per cent annually between 1970s and 1980s. The slow growth in output and employment problems have resulted in steady emigration, mainly to New Zealand but also to Australia and United States. While this emigration has forestalled serious unemployment and pressures on cultivated land, shortage of skill labour are evident throughout the country. Western Samoa gained its independence in 1962 (the first Pacific Island to do so) and its political structure is very much formulated after the New Zealand parliamentary system. Parliamentary elections are held every three years and the right to vote is restricted to about 20,000 village chiefs and about 2000 registered voters in Apia (Scott & Brown ,1989:181). The country has very small fishing area, in terms of EEZ, but this is complimented by relatively well endowed arable land. Like any other island in the Pacific its development option are very limited. Western Samoa is ecologically fragile, making it vulnerable to environmental degradation and, because of its location, it is subject to natural disasters¹.

¹ In so far as Cyclone Val, which struck in December 1991, is concerned, the total damage to basic infrastructure, housing and crops was estimated at \$713 million - this, equal to three times the country's GDP. (see ADB, *Economic Review and Bank Operation: Western Samoa*. (Manila 1991)

Although Western Samoa (hereafter, referred to as Samoa) has been classified by the United Nations as a least developed country (LDC), it still enjoys a higher living standard than that experienced by many other developing countries. The country's national income, in Tala, is currently around \$1700 per capita which is equal to about 42 % of that recorded for Fiji (\$4000) but well above the Solomon Islands (\$1300), Tokelau (\$1200) and other Asian countries like, Bangladesh (\$400) and India (\$700).² The corresponding figures for some of the more affluent Asia - Pacific countries are \$28,000 for Singapore, Hongkong \$26000 and for about \$5300 Malaysia. The income level has also been boosted by substantial inflows of external aid, and by personal remittances from larger number of Samoans working overseas (it is estimated that over 10,000 Samoans reside overseas)³.

Agriculture, fisheries and forestry are the backbone of the economic structure of Samoa (as with most Pacific Island countries) and are far more important than the GDP indicates. It is estimated that up to 70% of the country's current population is dependent to some degree on agriculture and fishing for their livelihood. Many of the activities engaged in by the agricultural sector are still at subsistence level and very much aim at meeting the society's immediate needs. One of the main factors that downplay the importance of subsistence production in Samoa (as well as many other Pacific Islands) is the measurement and valuation problems inherent in assessing the contribution made by this sector.

Just like any the other Pacific island economy, the Samoan economy is very much dependent on external aid and unilateral private transfers in the form of personal remittances. External official aid, including concessionary loans and offshore expenditure, total around an annual \$110 million, which is equal to 32% of GDP and \$650 per capita. The major donors are New Zealand, Australia, Japan and the

² Asian Development Bank, Asian Development Outlook (Hongkong, 1992),289.

³ See Journal of Pacific History, Vol 28. No 2, 1993.

European Community (EC). The flow of foreign aid to Samoa became a major source of foreign exchange, and the bulk of the funds helps support the public sector investment programs. Recent flows remittances total over \$90m per year or \$560 per capita. These remittances are sent by overseas Samoans and spent on the construction of houses, churches, villages schools and community projects. The magnitude of both of these flows shows that, to a large extent, the Samoan economy - like any other small Pacific island economy - is aid and remittance driven and a possible example of the so called MIRAB economies postulated by Bertram and Watters⁴.

(Fairbairn, T.1993)

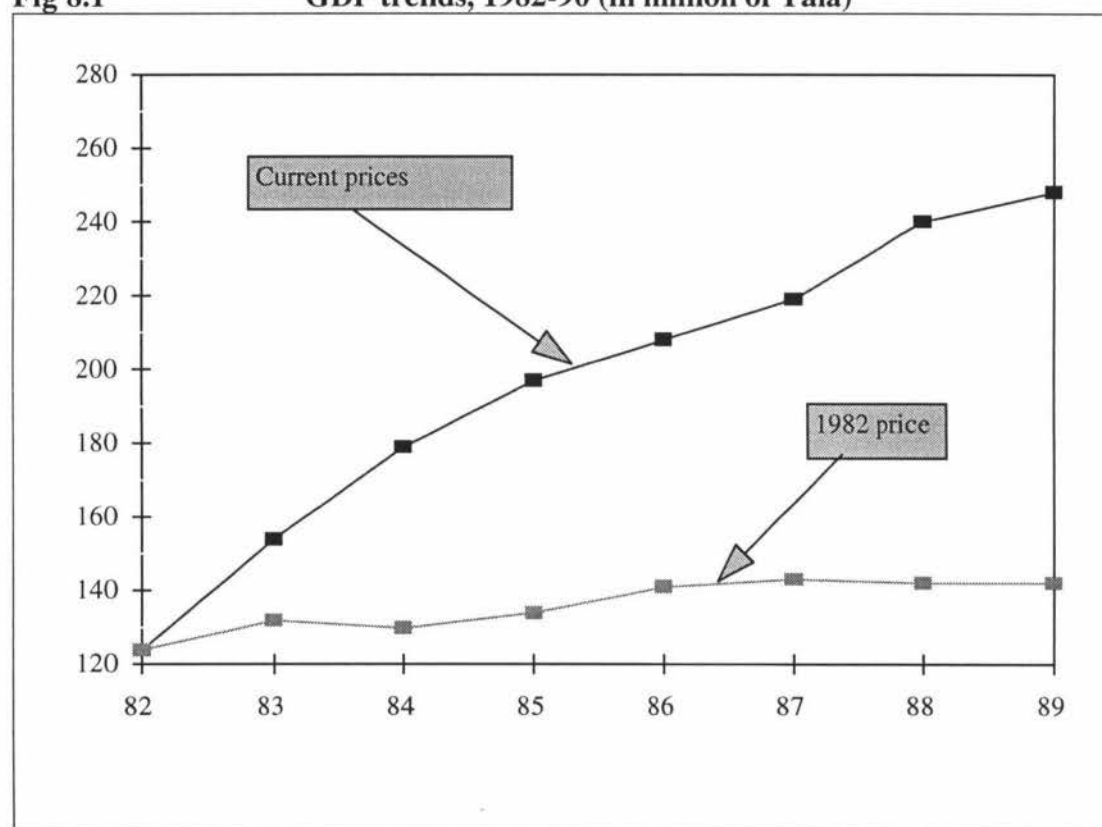
8.1 Western Samoa Economic growth.

Samoa's economy has been hammered by two macro economic imbalances, caused firstly by Cyclone Ofa and Cyclone Val, and secondly by persistently low prices for traditional exports products. The cyclones damaged the country's infrastructure and as a result a considerable amount of public sector and aid resources were redirected to rebuilding the nation. The impact of these imbalances saw the balance of payment widening and the current account deficit in 1992 reached a peak of 28% of the GDP. This level is unsustainable for it is far too high for a small economy like Samoa. Between 1986 and 1989, Samoa's GDP remained relatively stable at an average of WST\$ 142 million (see fig 1 and table 8.A1 for currency equivalents). After the cyclone, the GDP was estimated by the ADB to have fallen by 5 per cent in 1990 (this estimate does not appear to capture the full effect of the Cyclone). Over the sub-periods 1983-'89 the real GDP appears to have grown at 2 per cent annually (or by nearly 10 per cent in current prices). It is expected that the GDP will have grow by around 2 per cent in 1991.

⁴ Bertram, I and Waters, R (1985). The MIRAB economy in the South Pacific micro states, Pacific Viewpoint. Vol 26:3. pp 497-519.

Other than the effect of cyclones Ofa and Val, the main factors underlying the relatively poor performance of the Samoan economy arise from low commodity prices, especially for coconut oil and cocoa, and poor management in the agricultural sector, including the fall of the Western Samoa Trust Estates Corporation (WSTEC) plantations. However as shows in table 8.A1 and fig 8.2 below, nearly half the GDP are generated by agriculture and other primary sectors, followed by selected services - distribution, restaurant, hotels, transports and other services.

Fig 8.1 GDP trends, 1982-90 (in million of Tala)

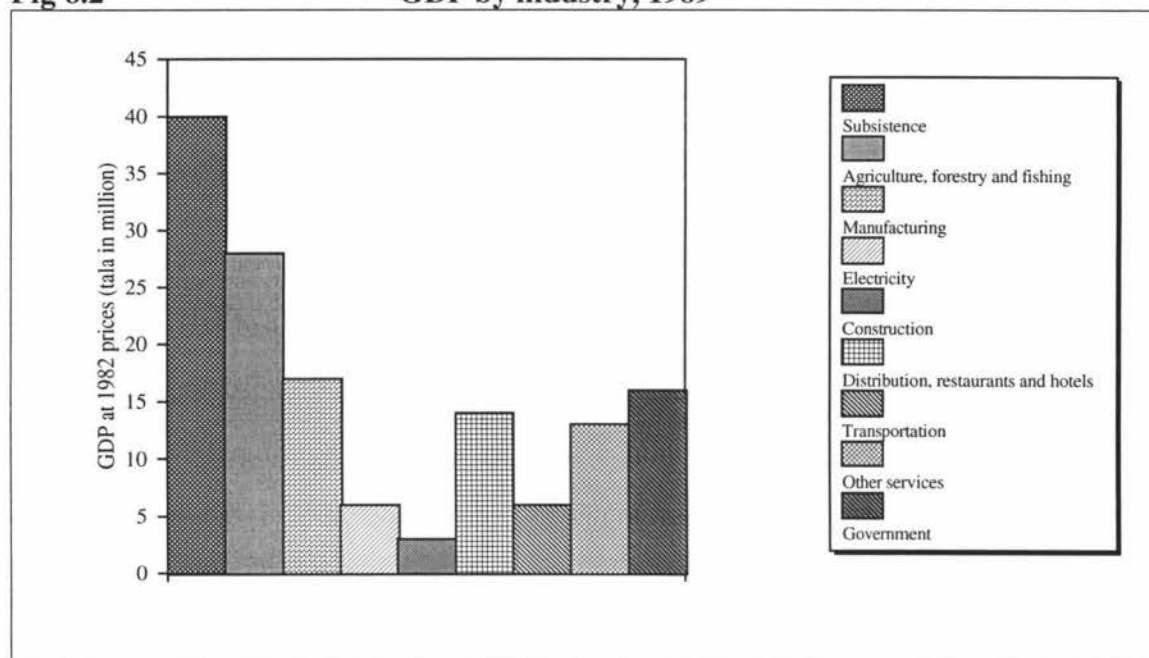


(compiled from table 8.A1)

It appears that the service components of the Samoan economy have expanded, largely at the expense of agriculture and other primary activities. From table 8.A1, we can see that the services sectors (including the government) accounted for 37 per cent of the GDP in 1982 and seven years later (1989), it was up to 41 per cent. While this happened, agriculture and related activities declined from 52 per cent of GDP to 47

per cent. The relative importance of the service sectors is likely to improve further in the future as a result of the continuing difficulties experienced by the agriculture sector. In fact these difficulties have already been experienced by Samoa with a ban on taro between March to September 1990. The continued difficulties that the agricultural sector faced was exacerbated by low rates of return as a result of poor prices, combined with high labour cost.

Fig 8.2 **GDP by industry, 1989**



(compiled from table 8.A1)

8.2 Balance of Payments

Over in the late 70s, the balance of payment was characterised by large foreign trade deficits. Exports fluctuated within the range of 10-15 percent of the GDP, with coconut products representing about half of the total; cocoa, taro and a range of agro-based manufactured items account for most of the other half. The largest export market is New Zealand, followed by Australia, the Federal Republic of Germany, and the USA. Imports are strongly influenced by materials and capital goods associated

with projects financed by external aid and by the demand for consumer goods supported largely by inflows of private remittances. Sources of imports are more diversified than the export market. New Zealand and Australia account for 61% of total imports; Japan and the UK make up 20 percent (see table 8.1). Between the mid- and late 80s, Samoa's balance of payments continued to show an overall surplus in its balance sheet. The surplus was achieved despite a 30 per cent drop the export earnings and an 8 per cent rise in imports. The rise in imports showed up in a widening of the trade deficit, which rose from T\$142 million in 1989 to T\$166 million in 1990. This is equal to 61 per cent of the GDP. The current account deficit rose from T\$10 million to T\$28 million over the same period (see fig 8.3, see also table 8.A3 & A4). An overall balance of payments surplus, totalling T\$ 48 million, was possible because of substantial inflows of funds in the form of personal transfers (T\$ 87 million in 1989 alone), external aid and soft terms loan. According to Fairbairn (1991), this surplus added to the country's international reserves which reached a record level of T\$ 161 million, equal to nine months of imports.

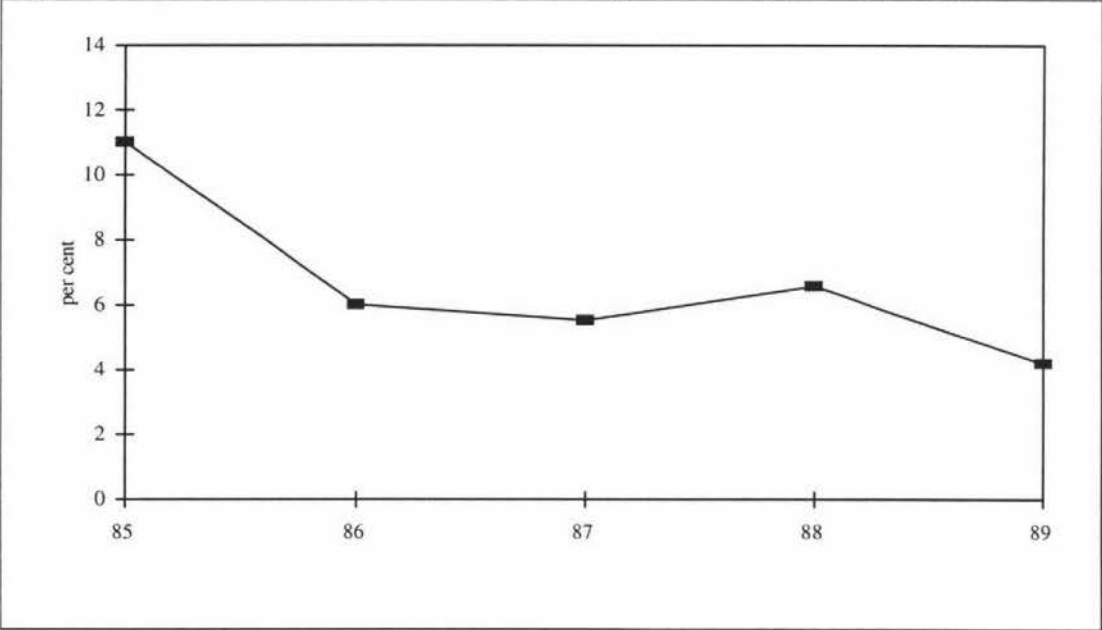
Table 8.1 **Western Samoa direction of trade (per cent) 1970 - '89**

	1970	1975	1980	1985	1986	1987	1988	1989
Total exports in %	100	100	100	100	100	100	100	100
New Zealand	49	37	26	30	40	37	32	36
Australia	8.58	4	19	17	21	25	20	21
USA	6.06	4	6	32	10	14	8	16
West Germany	12.12	20	11	9	22	15	29	23
UK	6.06	-	1	6	2	na	na	1
Japan	18.18	33	32	2	2	na	1	2
Singapore	-	2	5	4	3	na	2	1
Total imports (%)	100	100	100	100	100	100	100	100
New Zealand	37	30	32	33	36	41	-	-
Australia	22	22	20	26	26	20	-	-
USA	18	15	10	4	8	8	-	-
West Germany	3	5	6	2	9	5	-	-
UK	8	8	9	3	3	9	-	-
Japan	9	14	11	18	16	11	-	-
Singapore	3	5	2	4	2	6	-	-

(compiled from National Development Studies. Pacific Economic Bulletin. Vol 5 No2, December, 1990)

The increase in the current account deficit can be partly blamed on the decline in export earnings from coconut oil, copra, cocoa and taro. The coconut price has declined very badly from the late 1980s until now, and the price of the copra is still depressed. However all these problems did not help the case of Samoa at all when the cyclone hit the island, followed by a ban on the exports of taro.

Fig 8.3 **Current account deficit, 1985-'89 (per cent of GDP).**



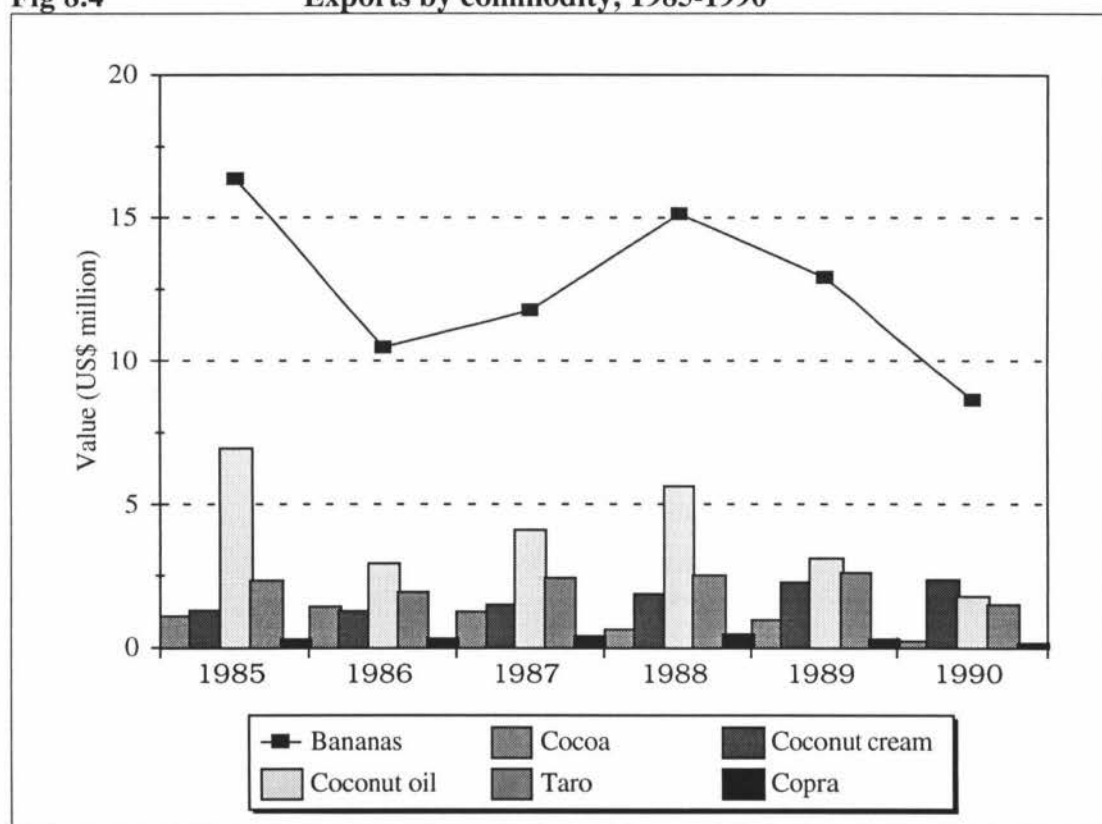
(compiled from table 8.A3 & A4)

In terms of the exchange rate, greater flexibility has been introduced over the years to promote international competitiveness and to maintain external balances. The Tala has been depreciated by 25% between 1983 and 1989 against the currencies of the country's main trading partners. One thing that is quite certain about the substantial imbalances in trade and the current accounts, is that the Tala is over valued, which among other things penalised exporters, thus making imported goods cheaper to buy than local products.

8.3 Current economic trends in Samoa

Agriculture⁵ (like any other island in the Pacific) is certainly the backbone of the Samoan economy. It accounts for over 50 per cent of the GDP, over 80 per cent of exports and 60 per cent of the labour force. Its provides support for 85 per cent of the population and also plays an important role in supporting directly and indirectly the manufacture industries.

Fig 8.4 Exports by commodity, 1985-1990



(compiled from table 8.A5)

Despite the fact that export earnings fell by 33 per cent in 1990, to T\$ 21 million (see table 8. A5), agriculture is still a very important sector in the development of the Samoan economy. The decline in export earnings was exasperated by the fall in both the price and volume of most traditional export commodities (i.e., coconut oil, copra, coconut meal, cocoa, and bananas). At the same time, non agricultural exports

⁵ Includes subsistence sector, forestry and fisheries.

increased in relative importance. As mentioned earlier, the reason for the decline in agricultural output can be attributed to cyclones Ofa and Val. This may be true but table 8.A5 and fig 8.4, shows that there has been a downward trend in the main agricultural export products over the past decade. This is particularly noticeable in the case of cocoa, bananas and copra. Two main reasons that can be put forward to explained such a constant decline are that the foreign price for these products declined dramatically, and, at same time, New Zealand, on whom Samoa depended for the export of bananas no longer imports bananas from Samoa.

8.4 Export production

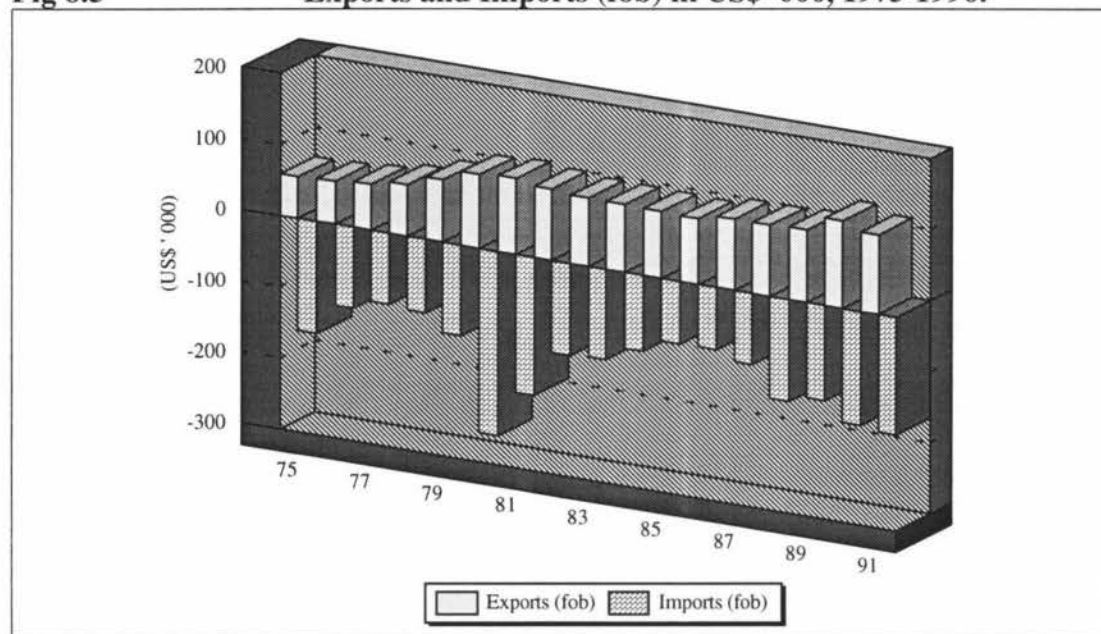
For a small open economy like Samoa, expanding export production, particularly if accompanied by favourable commodity prices, can provide a major momentum to growth and development. It is rather unfortunate that in the past decade exports have failed to provide this necessary momentum. In the early 1980s, the value of export earning from primary products, including a small amount of re-exports, consistently improved, to peak at US \$22 million in 1984. This came about because there was a commodities boom in that periods. Subsequently, the value of export earnings fell to a record low of US\$ 9 million in 1990⁶ (see table 8.A5).

However despite all that, the overall performance of the export sector was quite good (see graph below). The late 1970s was the worst period for the primary producers because of the oil shock. Yet Samoan exports consistently rose to peak at US\$ 106 million in 1980. This strong performance from the export sector was offset by the increase in imports, leaving the country's balance of payment account in a real mess. However the long period of economic decline was finally reversed during 1983-1985 through the firm implementation of comprehensive adjustment policies. The adjustment measures relied primarily on fiscal and monetary restraint, combined with active use of

⁶ This figure excludes the manufactured export products.

the exchange rate to improve the external position, as well as increases in interest rates to encourage financial savings. the pursuit of restrictive demand management policies consolidated these gains during 1986-1987 (see table 8.A7).

Fig 8.5 Exports and Imports (fob) in US\$ '000, 1975-1990.



(compiled from table 8.A7)

The latest development in the export sector has been an expansion in the export production of two main Samoan products - taro and coconut cream. This expansion has been a major factor in offsetting the decline in earning from traditional crops and in the case of taro, it is now the leading export item: 121,000 cases of taro were exported in 1982 compared with 212,000 cases in 1991. The export volume of coconut cream, on the other hand, was 923 metric tons in 1986 but reached 1557 metric tons in 1991. For both taro and coconut cream, the exports value amounted to \$7.4 in 1986 and \$12 m in 1991 - a substantial increase (refer table 8.2).

Table 8.2 Major products exports from Western Samoa, 1982-'91

Products	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Coconut oil										
value (mt)	8037	12207	10651	10926	12252	11527	10330	6292	5188	35
Value (WS\$m)	4.1	11.1	20.7	15.6	6.5	8.7	11.7	7	4.2	
Unit Value	510	909	1943	1427	521	757	1131	1113	803	629
Copra										
value (mt)	101536	4864	n.a	2796	3350	570	3282	5850	2400	-
Value (WS\$m)	2.6	1.3	n.a	1.0	1.1	0.1	1.9	3.2	1.1	-
Unit Value	246	267	n.a	357	328	175	578	547	458	-
Cocoa										
value (mt)	782	2175	662	590	898	852	474	605	220	2
Value (WS\$m)	1	4.2	2.4	2.4	3.2	2.6	1.2	2.1	.5	-
Unit Value	1388	1947	3625	4067	3563	3051	2531	3471	2272	-
Coconut cream										
value (mt)	n.a	n.a	589	924	923	1002	1166	1499	1576	1557
Value (WS\$m)	n.a	n.a	n.a	n.a	2.9	3.1	3.9	5.1	5.6	5.3
Unit Value	n.a	n.a	n.a	n.a	3057	3103	3323	3353	3538	3387
Taro										
value (mt)	121	110	137	220	188	224	191	264	128	212
Value (WS\$m)	2.2	2.7	2.7	5.1	4.3	5.1	5.2	5.8	3.5	8.9
Unit Value	18	24	20	23	23	22	27	22	27	32

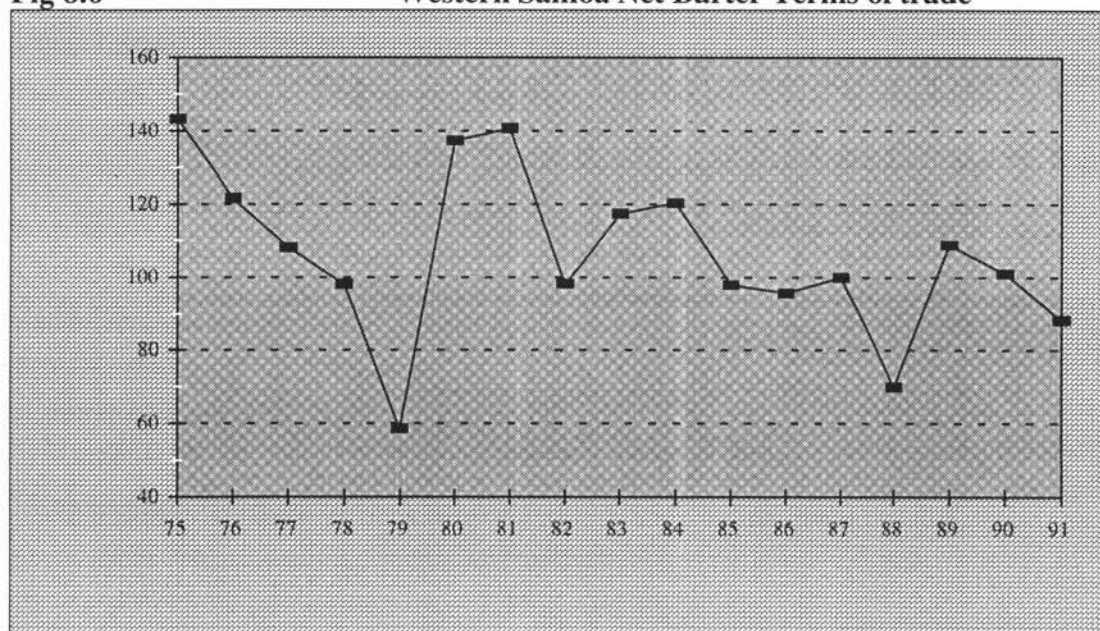
(source: National Planning Office and Central Bank of Samoa)

8.5 Samoan net barter terms of trade

Samoan NBTT deteriorated rapidly between 1975-1979. This sub-period suffered a major blow because the economy was claimed to be short of foreign exchange and at same time arrival of foreign aid was limited. Exports were also stagnant, reflecting the dependence on primary products for export, which suffered from inadequate investment. What make the NBTT deteriorate so much over this period, were the difficulties faced by the government in trying to balance the balance of payment account. Over this period the increase in public expenditure led to a larger budget deficit and rapid credit expansion. The deficit hits its highest point (i.e., US\$ 22 million, see also table 8.3 for BOP account, 1975-1979) in 1979 and at the same time the NBTT hits its lowest (i.e., 50%, see fig 8.6). The problem got worse when external pressures were compounded after the first round of oil price increases and the subsequent international recession. Import prices increased, exports price decreased and remittances from families living abroad decreased (the current figure for 1974

showed that private remittances were equal to US\$ 7 million, then decreased to US\$ 5 million in 1975, refer to table 8.3)

Fig 8.6 Western Samoa Net Barter Terms of trade



(compiled from table 8.A7)

Table 8.3 Balance of Payment for 1975 - '79 ('000 of current US dollars)

	75	76	77	78	79
Exports of goods and services	1522	12143	na	na	na
Merchandise, fob	7476	6998	14731	9737	18132
Non factor services	7693	5033	2417	3911	3631
Factor services	53	113	na	na	na
Imports of goods & services	39829	29347	42540	55912	78665
Merchandise, fob	33212	26809	37337	47655	67154
Non factor services	6219	2177	5089	6763	9889
Factor services	398	360	114	1494	1622
Long terms- Interest	500	500	1000	1200	1600
Private current transfers, net	5876	3080	5852	12141	13460
Workers' remittances	8256	5149	5852	12141	13460
Curr A/C bal before Off. Transf	-18731	-14123	-19540	-30122	-43442
Net Off Trans	6345	3891	9808	12019	21400
Curr A/C Bal after Off Trans	-12386	-10233	-9732	-18103	-22042
Change in Reserves	561	1829	-3692	5988	64

(compiled from World Bank (1994), *World Tables*)

A series of economic adjustment programs were adopted, supported by a fund stand-by arrangement, but they generally fell short of their objectives. The growth in foreign exchange earning was weak. Exports from the agricultural sector were depressed and

the price paid to small-time copra and cocoa producers followed those in the world market. The resulting instability in income and low average rates of return were not conducive to the increased production of primary products in Samoa. The monetary policy had very little capacity to help constrain demand for imports. The balance of payment pressures were fended off by tight exchange controls. Exchange rate adjustments contributed to the rising domestic price of imports, but were not supported adequately by demand management policies and were thus inadequate to strengthen the competitiveness of the Samoan producers.

The worse performance of the NBTT (as shown in fig 8.6) was in 1979, and the urges for immediate action came thick and fast. The government used fiscal restraint to promote public savings. The currency was depreciated by 19% on a trade weight basis to offset the appreciation in real terms that had occurred since 1976. The potential benefit of the exchange rate change was eroded by the reduction in imports duties and the compensatory wage increase in the public sector.

However, the performances of the NBTT over 80s fluctuated in the same way as it was in the late 70s. The inconsistent performance of the NBTT in the early '80s reflected lower copra prices and high import prices, the adverse effect of the weather exacerbated the deterioration in the NBTT. The impact of Mother Nature led to a poor harvest in the major primary export commodities. In the sub-period 1984-1988, Samoan economy experienced through an impressive degree of fiscal adjustment. Despite that effort, the NBTT deteriorated but not as low as during the 1979 experience. There are a few things that need to be mentioned about this sub-period: First of all, the price of primary products in the overseas market improved rapidly, secondly the private remittances increased dramatically (refer to table 8.4) and thirdly foreign aid together with the STABEX received over this period, was quite impressive. Having said that, one would expect the NBTT to perform outstandingly but the actual performance was rather disappointing. In my own opinion, I put it down to two things.

1. The increase in remittances from overseas, together with the flow of foreign aid and the STABEX grant, reduced the need for sustained activity in subsistence and commercial agriculture.
2. The rise in the urban wage and the decline in the number of rural workers (especially the able bodied engaged in farming activity) lead to a decline in subsistence farming and the overall effect of that was a decline in the volume of primary products produced by the economy as a whole.

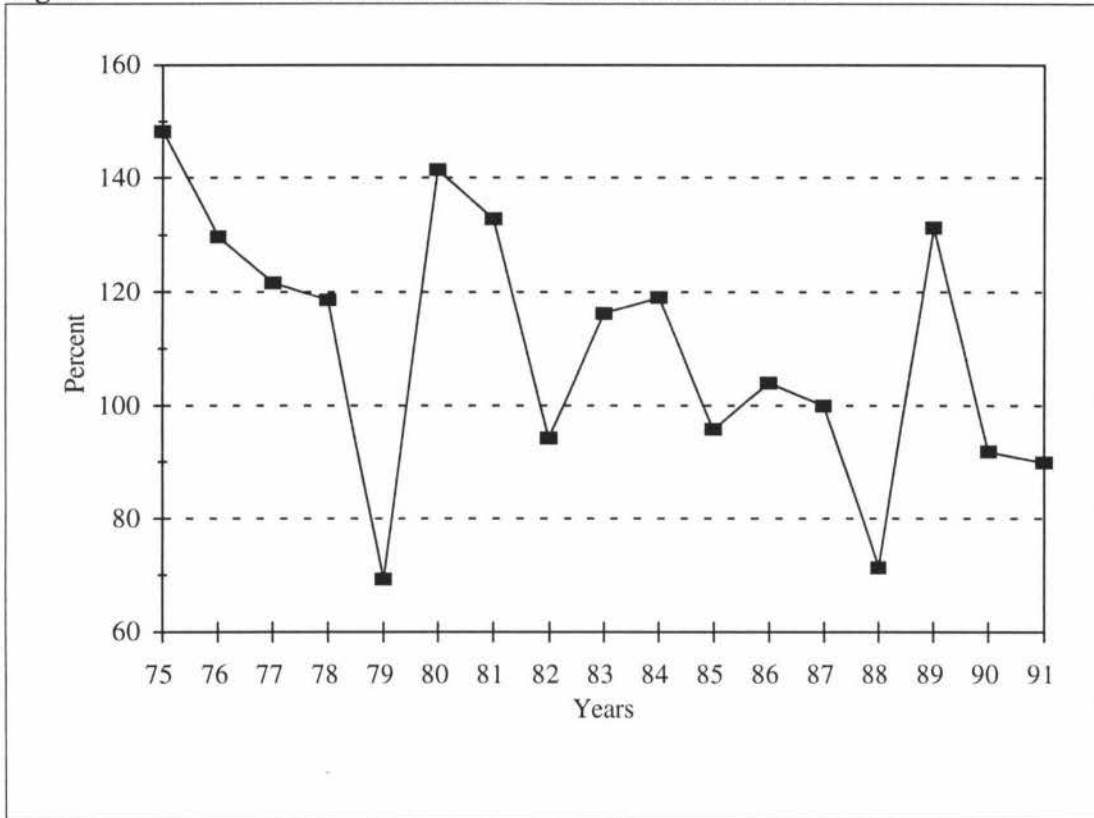
The last sub period that needs to mention here is 1989 and 1991. This period was marked by the destruction caused by cyclone Val and, later, cyclone Ofa in February, 1990. It was inevitable that the NBTT would decline and that is exactly what is shown in fig. 8.6. Despite this decline in the NBTT, the current account of Samoa showed a very positive result, which was due mainly to the dramatic rise in remittances and foreign aid for hurricane relief.

8.6 Samoan income terms of trade (ITT)

The ITT performances between 1975-1991 can be explained in almost the same way as the NBTT. However the two measures are used differently (see chapter three for the interpretation and how the two methods are used). Fig. 8.7 shows that the purchasing power of Samoan exports declined very badly between 1975-1979. Again this was due to rising prices in the overseas market, that the capacity of the country to import deteriorated. However in 1980 the ITT made an uncharacteristic improvement, despite the second oil shock and the recession that the world had gone through. The improvement in the purchasing power of the country's exports was short lived however again it decline until 1982. The decline in the purchasing power of Samoa does not shows up in the balance of payment account because private and official remittances continued to increase over this period (see table 8.4). The year 1989 looked very bright as the ITT improved rapidly after its low performance in the previous year. This

was mainly due to rise in the price of copra and cocoa in the overseas market. This positive move by the ITT was hit by the cyclone and continued to deteriorate between 1990 and 1991.

Fig 8.7 Western Samoa Income terms of trade



(compiled from table 8.A7)

8.7 Comparison between NBTT and ITT

The comparison between the annual figures for the NBTT and the ITT shows that there are occasional years when the ITT registered an improvement while the NBTT deteriorated, and vice versa. The question to be raised here is whether there is a positive relationship between the two indices, or whether one improved at the expense of the other. The graph depicted in fig. 8.8 shows that the operation of the two indices are almost identical. This is not quite the case however, because the decline was sharper in the NBTT between 1975-1979 than in the ITT. By comparing the two

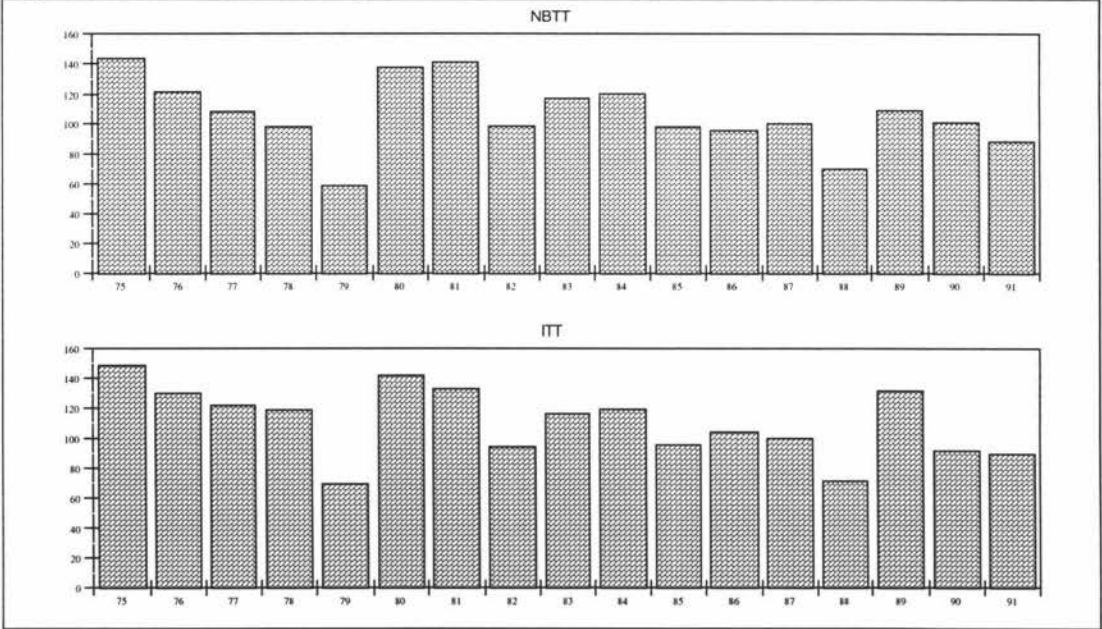
indices on a five-yearly basis (refer to table 8.4), we see that during the first sub-period (1975-1979) both improved, with the ITT registered a more pronounced performance than the NBTT. The second sub-period was different, with the NBTT having the edge over ITT. The last sub-period recorded a better performance from the ITT than the NBTT.

Table 8.4 Five yearly changes in the ITT & NBTT

<i>Sub-period</i>	<i>NBTT</i>	<i>ITT</i>
1975 - 1979	106	118
1980 - 1984	123	121
1985 - 1989	95	100

Compiled from Table 8.A7

Fig 8.8 Comparison between NBTT and ITT



(compiled from table 8.A7)

8.8 Chief findings of the terms of trade, with the OLS method

The basic theory that we are trying to test using the OLS method is whether there is a positive relationship between Net Barter terms of trade, GDP and GDP per capita. It is hypothesised that any rise in the NBTT will lead to an increase in the GDP and GDP per capita.

In models one and two the explanatory variable (NBTT) was put into logarithm form. The result was that the explanatory coefficient for both models was very high (i.e., model 1=53, and model 2=108), yet they are both insignificant, meaning that an increase or decrease in the GDP or GDP per capita have very little to do with any movement in the NBTT. Table 8.8 shows strongly that the probability of the NBTT explaining the increase or decrease in the GDP is about 50 per cent.

Table 8.5 Testing the relationship between the NBTT and GDP, using the linear log model, 1985-'91

Model 1					
OLS ESTIMATES USING THE 7 OBSERVATIONS 1985-1991					
Dependent variable - GDP					
VARIABLE	COEFFICIENT	STDERROR	T STAT	PROB t > |T|	
0) constant	442.62576	476.21875	0.929	0.3953	
6) l_NBTT	53.15367	91.40698	0.582	0.5861	
Mean of dep. var.	170.14	S.D. of dep. variable		211.98304	
Error Sum of Sq (ESS)	252541.53	Std Err of Resid. (sgmahat)		224.74	
Unadjusted R-squared	0.063	Adjusted R-squared		0.124	
F-statistic (1, 5)	0.338	Prob. F >		0.34 is 0.57	
Durbin-Watson Stat.	2.670	First-order auto corr coeff		0.394	
MODEL SELECTION STATISTICS					
SGMASQ	50508.306	AIC	63885.67	FPE	64939.25
HQ	52777.375	SCHWARZ	62905.89	SHIBATA	56692.997
GCV	70711.62955	RICE	84180.511369		

Note: * = significant with 95% confidence, ** = significant with 99% confidence, *** = significant with 99.9% confidence.

However, using the adjusted R-square statistical criteria to explain the relationship between the explanatory and dependent variables 88 per cent of the movement in the

GDP cannot be explained by the increase or decrease in the NBTT. That means, only 12 per cent of movement in the GDP can be accounted for by the movement of the NBTT.

Table 8.6 Testing the relationship between the NBTT and GDP per capita, using the linear log model, 1985-'91 (Model 2)

OLS ESTIMATES USING THE 7 OBSERVATIONS 1985-1991					
Dependent variable - GDP_c					
VARIABLE	COEFFICIENT		STDERROR	T STAT	PROB t > |T|
0) constant	816.83958		601.70693	1.358	0.2327
6) l_NBTT	108.65145		115.49359	0.941	0.3900
Mean of dep. var	259.85714		S.D. of dep. variable		281.22792
Error Sum of Sq (ESS)	403171.524		Std Err of Resid. (sgmahat)		283.96180
Unadjusted R-squared	0.150		Adjusted R-squared		0.020
F-statistic (1, 5)	0.885		Prob. F >		0.89 is 0.40
Durbin-Watson Stat.	1.859		First-order auto corr coeff		0.108
MODEL SELECTION STATISTICS					
SGMASQ	80634.304	AIC	1.0199	FPE	1.036727
HQ	84256.774	SCHWARZ	1.0042	SHIBATA	90507.89
GCV	1.1288	RICE	1.343905		

Note: * = significant with 95% confidence, ** = significant with 99% confidence, *** = significant with 99.9% confidence.

Model two is not any different from model one. Again this model is insignificant, the adjusted R-square indicated that only 2 per cent can be explained by an increase or decrease in the NBTT and 98 per cent is unexplained. This shows that the error term is accountable for the unexplained movement in the GDP. In models three and four, the explanatory and the independent variables were both put in logarithmic forms (double log). The result produced by the double log model is not significantly different from that offered by the linear log model. Again the results produced were statistically insignificant. Model 3 shows that the standard error of the coefficient for the explanatory variable is quite low (0.32), and the probability of explaining such an occurrences is about 50 per cent which is not strong enough to suggest that the fluctuation of the GDP is attributed to the inconsistency performance of the NBTT. However there are two things that we should understand. First that the coefficient of

Table 8.7 Testing the relationship between the NBTT and GDP, using the double log model, 1985-'91 (Model 3)

OLS ESTIMATES USING THE 7 OBSERVATIONS 1985-1991					
Dependent variable - l_GDP					
VARIABLE		COEFFICIENT	STDERROR	T STAT	PROB t > |T|
0) constant		5.95535	1.69000	3.524	0.0168 **
6) l_NBTT		0.23022	0.32438	0.710	0.5096
Mean of dep. var.		4.77518	S.D. of dep. variable		0.76386
Error Sum of Sq (ESS)		3.18049	Std Err of Resid. (sgmahat)		0.79756
Unadjusted R-squared		0.092	Adjusted R-squared		0.090
F-statistic (1, 5)		0.504	Prob. F >		0.504 is 0.51
Durbin-Watson Stat		2.754	First-order auto corr coef		0.427
MODEL SELECTION STATISTICS					
SGMASQ	0.636099	AIC	0.804572	FPE	0.817841
HQ	0.664675	SCHWARZ	0.792233	SHIBATA	0.713989
GCV	0.890538	RICE	1.060165		

Note: * = significant with 95% confidence, ** = significant with 99% confidence, *** = significant with 99.9% confidence.

Table 8.8 Testing the relationship between the NBTT and GDP per capita, using the double log model, 1985-'91 (Model 4)

OLS ESTIMATES USING THE 7 OBSERVATIONS 1985-1991					
Dependent variable - l_GDP_c					
VARIABLE	COEFFICIENT	STDERROR	T STAT	PROB t > |T|	
0) constant	7.22718	1.99444	3.624	0.0152 **	
6) l_NBTT	0.41203	0.38282	1.076	0.3310	
Mean of dep. var.	5.11497	S.D. of dep. variable		0.95358	
Error Sum of Sq (ESS)	4.42957	Std Err of Resid. (sgmahat)		0.94123	
Unadjusted R-squared	0.188	Adjusted R-squared		0.026	
F-statistic (1, 5)	1.158	Prob. F >		1.16 is 0.33	
Durbin-Watson Stat.	1.808	First-order auto corr coeff		0.087	
MODEL SELECTION STATISTICS					
SGMASQ	0.885914	AIC	1.120551	FPE	1.139032
HQ	0.925713	SCHWARZ	1.103367	SHIBATA	0.994393
GCV	1.240279	RICE	1.476523		

Note: * = significant with 95% confidence, ** = significant with 99% confidence, *** = significant with 99.9% confidence.

the explanatory variable in all the model agreed with our prior intuition. This result is not statistically significant, because the probability of that happening is very low (p-

value lies between 0.3 and 0.8 for all four models). Second, the poor results produced in this section should not be ignored, even though there were only seven observations used. It is rather unfortunate that data earlier than 1985 on the GDP and the GDP per capita were not available. However the outcome produced here, as a result of using OLS, is not very different from that produced in Chapter 6 and 7, even though those two chapters were using 17 observations.

8.9 Conclusion

Samoa had been struggling to lower its deficit in the late 1970's. The attempts was not a very successful one, because other economic externalities deterred the policies which were set in place to solve the country's deficit problems. For example, the second oil shock in 1979 pushed the Samoan economy even further in to huge deficit. As a result, the country's NBTT deteriorated so much that it hit an all time low of 50 per cent in the last 17 years.

One thing that stands out about this period is that it was heavily reliant on the exporting of local primary products, such as copra, cocoa, taro and bananas. As was pointed out in the earlier chapters, countries whose main exports rely so much on primary commodities will face a decline in their terms of trade in the future. The fluctuation in the price of primary products makes it very hard for any country to make a dramatic reduction in its balance of payment account. However place like Samoa, that need to make an effort to reduce their deficits, should look to widening their export bases. This means their economies need to diversify their export bases from concentrating in traditional products.

The need for diversification is strongly pointed out here because we have seen the problems faced by countries whose export base got shaken. For example, after cyclones Ofa and Val hit Samoa, basically the whole primary industry was badly hit.

The taro industry got the virus, cocoa and coconuts were blown down, and the harvesting for that period were very much aimed at meeting the domestic market demand. The country sank into more trouble because there was little that could be done to keep the exports industry moving forward. However Samoa could benefit more from creating a strong and wider export base and expanding in area from light manufacturing to the development of new overseas markets for other tropical products, as well as using its marine resources better and more fully.

Chapter 9

"..... although it was easy enough to reduce imports of the goods immediately affected it was not always realised that the process would lead to increased imports of different type of imports - of inputs for the newly stimulated home industries. And to the extent that the policy was successful in creating higher incomes, more imports were also induced ".

(Healey, 1972:761)

Conclusion

In their contribution, Prebisch and Singer show that countries whose exports rely on the exporting of primary commodities will face problems with their terms of trade. The problem is not the primary products, but the characteristics inherent in producing those products. Such characteristics, like primary products' are subject to lower price elasticities. The demand for primary products expands less than the demand for manufactured products. The price of manufactured products rises faster than the price of primary products because it embodies a schumpeterian rent element and an element for monopolistic profit. However, the main findings in this research confirmed what has been stated above and is certainly true in the case of the Solomon Islands, Tonga and Western Samoa. The evidence provided above, concerning the deterioration in the NBTT and the ITT of the three countries, certainly does not lack proof that in the 1975-1991 sub period these countries all faced deterioration in their terms of trade. There is always a question regarding the selection of a relevant period for this type of study (in fact it was also raised in the study carried out by Prebisch). For example, periods where there were cyclones or an oil shock, will exacerbate the deterioration in the NBTT even further. The question is, are we to say that the export industry did not do well in this period because the NBTT deteriorated very badly when compared to the period before. The argument is valid, but such consequences have a very small effect on the result produced. For example, when the price of primary products did not favour primary product producers in the early 80s, the NBTT of the Solomon Islands improved dramatically even when the second oil shock hit the world. the NBTT and

ITT deteriorated but not to the extent that many well developed countries experienced. So the suggestion that periods which are affected by natural consequences and externalities, like oil shocks should be interpreted differently is not well supported here while the results produced by this study show that fluctuations in the NBTT and the ITT are not excessively influenced by such events, such an interpretation should not apply across the board. This interpretation suit the results produced for this study.

This study shows that the NBTT of Solomon Islands, Tonga and Western Samoa respectively, deteriorated between 1975-1991. While there was a deterioration in the NBTT, the ITT seemed to increase, and the earlier studies produced by Briguglio (1993), Gani, (1994) pointed out that there may be trade off between the two. However, I would like to point out that there was no-trade off, in the case of the three islands selected for this study. The increase in NBTT and the decrease in the ITT and vice versa, were due to the type of policy used by a specific country to control its imports and promote its exports at the overseas market. For instance, when the export price of primary products in the overseas market declines, exporters of primary products need to sell more products at that price, in order to encourage more foreigners to keep buying their primary products. The country concerned will eventually devalue its own currency, making its products cheaper in the overseas market. At the same time imported goods will become expensive. What is happening here is that the purchasing power of the currency is declining and with it the ITT decreases. Thus the devaluation of a country's currency will help improve its NBTT position while the ITT deteriorates. This is what is going to happen in the short term, but in the long run as NBTT increases as a result of increases in exports, more and more incomes earned from the increase in exports and the purchasing power of the currency will also rise. As a result the ITT will end up increase at the same time.

One thing that is strongly argued here is that even if policies were put in place in order to counteract deterioration in the NBTT and ITT, the terms of trade of the Solomon

Islands, Tonga and Western Samoa will still deteriorate because the type of products they are exporting are subject to price fluctuation, and with this the NBTT will continue to perform inconsistently. One of the interesting results that came from this research is that the increased, in the purchasing power of the local currency even when there was no devaluation of local currency was involved. In order to explain this peculiar result, we need to look at what has happened in that particular period. For instance, during the second oil shock, the price for primary products deteriorated and with it, the NBTT. One would expect the ITT to decrease as well but in the case of the three islands selected for this study, the ITT seemed to rise in each occasion. What had happened in the three islands economies at this period was that there was an increase in the money supply as a result of increased foreign aid and STABEX grant for the deterioration the price of primary products. Thus the decrease in the export price of primary products has instead benefited the three economies. So it may be a good idea for the three island economies to continue with their current level of exports because it certainly benefited them when the price of primary products deteriorated. Having said that, it seems that this interpretation contradicts the main finding of this research. As stated earlier, countries whose exports rely on primary products will continue to face many problems with their terms of trade. The fact is, benefits gained from price stabilisation scheme (such as STABEX) and other official transfer will not continue to flow at the rate that those counties use to experience in the past. As pointed out by the 1990 United Nations Report, foreign aid and formal transfer to the LDCs from more developing countries will continue to decline in the future as MDCs continue to reshape their own economies. With this in mind it seem there is no hope in continuing to export the same traditional products because price stabilisation schemes and foreign aid will continue to decline in the future. What has been explained above was by focusing primarily on the movement of the NBTT and the ITT, and using that movement to explain why countries like the Solomon Islands, Tonga and Western Samoa should move away from concentrating on the exporting of primary products. The movement in the NBTT also has an impact on the country's income (GDP), that is

if the NBTT increases the GDP will also increase. At least that is what the theory states. The result produced by using OLS to test this theory suggested that the result is statistically insignificant, because the rise in income (GDP) can be hardly explained by an increase in the NBTT. This is true in the case of the three island economies studied because we have just seen how the purchasing power of a country increased while the NBTT declined, as a result of foreign aid and STABEX grant. The same explanation that can be given to the "*unexplainable*" increase or decrease in GDP. To illustrate this point, table 7.4 showed that 5 per cent of the increase or decrease in the GDP can be explained by the increase or decrease of the NBTT. So 95 per cent is *unexplainable*. The only logical explanation that can be given to account for an increase in a country's income without anything to do with NBTT is that the income rose as a result of receiving foreign aid and overseas grants.

Some policy recommendations:

Having argued that the Solomon Islands, Tonga and Western Samoa need to move away from concentrating their export activities on producing primary products if they wish to improve their terms of trade, the question is what can they do? Here is a list of suggestions which I believe to be crucial to the South Pacific countries as a whole as well as the three island economies selected for this study.

Amendment to the SPARTECA agreement

I wish to point out one example of the problem associated with the SPARTECA and the reason it needs to be amended. In article 5, the rule of origin states that manufactured goods must contain at least 50 per cent Forum island or Australian content in order to be admitted to Australia, while the rule regarding New Zealand, states that 50 per cent of the factory cost come from New Zealand.

This is a real discouragement for overseas investors because they cannot shop around for cheaper material if they are to export to Australia or New Zealand. A clear example of this is when Fiji want to export very high quality shirts to Australia. The problem was 50 per cent of the content was not Australian, therefore the Fiji could not export shirt to the Australian market.

Strengthening regional trading relationship.

Chapter 5 shows that the intra trade between the island nations is at a very early stage, and at the same time the bargaining power of the Pacific in the international arena is very weak. We know that the Pacific has a total population of over 5 million people, and that is a very big market in comparison to New Zealand. However if the nations of the region do not pool their resources together by trading with one another and reinforcing one another economically, they will never be able to control their markets, and their bargaining power concerning international relations will continue to be weak. Everything will continue to be dictated by those who are economically powerful.

Guaranteed price agreement.

As proposed by the United Nations General assembly resolution 3083 (XXXVIII), there is a need to provide ways and means whereby the unit prices of manufactured imports from developed countries and the unit price forms of exports from developing countries could be automatically linked. There is a logical argument for this because, as inflation continues to raise the prices of manufactured goods in international trade, places like the Solomon Islands, Tonga and Western Samoa, which are dependent on the export of primary products, should be protected against a deterioration of their NBTT.

Diversification of the export base

As argued in some of the earlier chapters, the Solomon Islands, Tonga and Western Samoa definitely need to diversify their export bases. We have seen the reality or the disadvantages of a country whose export base is so narrow. A clear example of this is what has happened to Samoa after the two cyclones. The economy recovered very slowly and with it went the slow increase in the production of traditional primary products.

In order for the Solomon Islands, Tonga and Western Samoa to improve their terms of trade policy formation should be enhanced by diversifying the countries, export bases and at the same time increasing regional trading activities, so that they can form some sort of bargaining power against the more economic powerful countries.

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APPENDIX A

Table 5. A1

Coconut Production 1980-90*
(000 Metric Tons)

Countries							Coconut Production 1980-90* in percentage form					
	80	82	84	86	88	90	80	82	84	86	88	90
Cook island	12	13	14	6	10	10	0.0	0.0	0.0	0.0	0.0	0.0
Fiji	65	80	99	50	107	65	0.2	0.2	0.3	0.1	0.3	0.2
Tng	100	60	47	68	40	40	0.3	0.2	0.1	0.2	0.1	0.1
PNG	215	194	203	209	209	210	0.6	0.5	0.6	0.5	0.5	0.5
Simn	220	242	132	210	166	165	0.6	0.7	0.4	0.5	0.4	0.4
Vant	225	217	234	226	152	170	0.7	0.6	0.7	0.6	0.4	0.4
Kiribati	240	294	372	343	304	370	0.7	0.8	1.1	0.8	0.8	0.9
WS	805	812	890	910	918	900	2.4	2.2	2.6	2.2	2.3	2.1
Others	32073	34410	32036	38752	37344	40288	94	95	94	95	95	95
World Production	33955	36322	34027	40774	39250	42218	100	100	100	100	100	100
Total S. Pacific Prod	1882	1912	1991	2022	1906	1930	6	5	6	5	5	5

Sources: For 1980, FAO, PY 1982, and 1982-1990, Basic data unit, 13 Jan 1992 and past communication

* Coconut production is expressed in terms of weight of the whole nut, excluding only the fibroud outer husk.

Table 5. A2 New Zealand - Solomon Islands Trade Pattern

New Zealand Exports to Solomon Islands

	1992	1993
Meat	72981	114006
Dairy products	464150	556760
Sugars	1606010	1535379
Beverages	273277	124137
Salt, Cement etc	748548	930566
Pharmaceutical products	110685	47617
Tanning and Dyeing products	207937	95904
Plastic products	805124	880822
Wood products	327553	493301
Paper and Paper products	1394228	487357
Iron and Steel items	2292361	2961453
Aluminium items	398326	534103
Other metal products	296976	160504
Mechanical products	786221	786504
Electrical products	777724	1253248
Furniture, etc	118592	210968
Others	1890280	3857981
Total	12570973	15030610
Re-exports	2656342	3141424

Source: MFAT, (1993). South Pacific Trade and Economic Prosepects,
New Zealand Trade Development Board. Weelington

Table 5. A3

Patterns of trade between selected Pacific Islands and selected major trading Partners													
Total Exports & Imports (inc. Re-export), 1985 - (%)							Export From						
							Fiji	PNG	Solom	Tonga	W.S	Total Import	
							Aust	17.26	25.76	3.26	33.65	29.76	
							NZ	8.16	2.13	1.17	46.80	50.51	
Import from							UK	39.22	17.99	19.82	0.01	0.00	
							JAP	3.01	50.86	72.84	0.15	2.55	
							SPR	21.80	1.91	2.47	12.34	16.84	55.35
Fiji	Aust	NZ	UK	JAP				0.00	0.26	0.21	6.35	0.34	100.00
PNG	60.36	8.36	4.53	26.11	0.32			0.93	0.00	0.24	0.07	0.00	100.00
Solom	45.51	11.06	4.88	23.99	4.13			0.93	1.09	0.00	0.01	0.00	100.00
Tonga	24.92	39.60	1.84	7.90	6.41			4.49	0.00	0.00	0.00	0.00	100.00
W.S	0.00	0.00	0.00	0.00	0.00			4.20	0.00	0.00	0.56	0.00	4.75
Total Export (%)							11.91	100	100	100	100		
Total Exports & Imports (inc. Re-export), 1986 - (%)							Export From						
							Fiji	PNG	Solom	Tonga	W.S	Total Import (%)	
							Aust	22.95	30.57	6.21	34.30	31.65	
							NZ	9.00	1.97	1.82	50.04	45.02	
Import from							UK	46.75	9.83	13.21	2.05	0.74	
							JAP	2.33	56.44	57.33	0.22	0.00	
							SPR	16.33	1.10	11.13	12.55	22.14	63.25
Fiji	Aust	NZ	UK	JAP				0.00	0.02	1.20	0.00	0.01	100.00
PNG	60.93	6.74	5.13	26.73	0.16			0.17	0.00	0.14	0.00	0.00	100.00
Solom	54.66	10.53	5.62	23.09	3.80			1.50	0.79	0.00	0.02	0.00	100.00
Tonga	30.67	41.61	3.29	12.33	7.58			4.51	0.00	0.00	0.00	0.00	100.00
W.S	22.98	35.62	2.18	17.24	17.24			4.67	0.00	0.00	0.07	0.00	100.00
Total Export (%)							30.47	97.36	99.91	89.69	99.15		
Total Exports & Imports (inc. Re-export), 1987 - (%)							Export From						
							Fiji	PNG	Solom	Tonga	W.S	Total Import (%)	
							Aust	0.01	18.91	5.63	32.93	27.14	
							NZ	0.00	1.07	2.25	50.43	51.50	
Import from							UK	0.01	10.93	21.25	0.01	0.00	
							JAP	99.98	67.44	54.69	2.05	0.14	
							SPR	0.00	0.93	10.98	13.36	21.16	46.43
Fiji	Aust	NZ	UK	JAP				0.00	0.03	4.11	0.62	0.06	100
PNG	19.26	9.20	9.34	61.25	0.43			0.00	0.00	1.09	0.03	0.00	100
Solom	28.14	36.35	4.79	20.88	3.00			0.00	0.68	0.00	0.20	0.00	100
Tonga	21.15	69.53	0.93	1.92	2.08			0.00	0.00	0.00	0.00	0.00	100
W.S	14.29	5.25	18.38	39.87	0.00			0.00	0.01	0.00	0.38	0.00	100
Total Export (%)							6.05	100.00	100.00	100.00	100.00		
Total Exports & Imports (inc. Re-export), 1988 - (%)							Export From						
							Fiji	PNG	Solom	Tonga	W.S	Total Import (%)	
							Aust	28.82	12.32	7.11	25.76	25.12	
							NZ	9.37	0.60	1.01	46.58	41.85	
Import from							UK	37.93	9.44	21.85	0.45	0.00	
							JAP	6.55	77.11	51.99	6.24	0.61	
							SPR	14.72	0.50	18.04	19.93	29.53	82.71
Fiji	Aust	NZ	UK	JAP				0	0.06	0	0	0.10	100
PNG	196.89	15.52	12.38	79.34	0.41			0.09	0	0	0	0	100
Solom	7.60	1.39	0.88	2.70	0.51			0.16	0	0	0	0	100
Tonga	1.35	1.43	0.05	0.36	0.51			0.29	0	0	0	0	100
W.S	0	0	0	0	0			0.12	0	0	0	0	100
Total Export (%)							3.38	100	100	100	100		
Total Exports & Imports (inc. Re-export), 1989 - (%)							Export From						
							Fiji	PNG	Solom	Tonga	W.S	Total Import (%)	
							Aust	27.58	19.71	14.11	17.53	8.12	
							NZ	19.63	0.77	1.34	25.49	45.81	
Import from							UK	30.32	8.84	33.16	0.02	26.15	
							JAP	8.33	70.15	31.58	13.14	1.47	
							SPR	14.01	0.38	18.15	5.26	0.54	38.34
Fiji	Aust	NZ	UK	JAP				0.00	0.16	0.22	0.98	0.67	100
PNG	64.96	5.15	4.66	24.78	0.42			0.01	0.00	0.02	0.00	0.00	100
Solom	49.75	10.28	4.09	31.22	4.64			0.00	0.00	0.00	0.00	0.01	100
Tonga	31.32	42.99	1.97	10.07	13.49			0.16	0.00	0.00	0.00	0.00	100
W.S	23.00	52.64	7.54	16.35	0.00			0.38	0.00	0.00	0.09	0.00	100
Total Export (%)							19.77	100	100	100	100		
Total Exports & Imports (inc. Re-export), 1990 - (%)							Export From						
							Fiji	PNG	Solom	Tonga	W.S	Total Import (%)	
							Aust	24.96	21.98	39.04	20.50	25.00	
							NZ	11.82	0.38	0.94	26.90	39.77	
Import from							UK	49.57	37.08	19.78	2.26	28.41	
							JAP	9.53	40.33	36.43	49.27	1.14	
							SPR	0.00	0.00	0.00	0.00	3.41	3.41
Fiji	Aust	NZ	UK	JAP				0	0.00	0.03	3.19	1.07	100
PNG	53.32	4.48	23.83	18.15	0			0.62	0.00	0.63	0.00	0.00	100
Solom	46.32	10.91	9.35	28.95	0			0.40	0.20	0.00	0.00	0.00	100
Tonga	29.38	44.03	2.24	8.85	0			3.12	0.00	0.00	0.00	0.00	100
W.S	0.66	1.91	0.57	0.54	0			2.12	0.00	0.00	0.04	0.00	5.84
Total Export (%)							100.00	100.00	100.00	100.00	100.00		

Compiled from various sources: South Pacific Commission, External Trade, Noumea, New Caledonia.

Table 5.A4

Total Export, Imports and trade balance of selected Pacific Island countries 1988 - 1991, (A\$'000)												
	Exports				Imports				Trade balance			
	1988	1989	1990	1991	1988	1989	1990	1991	1988	1989	1990	1991
<i>A. Samoa</i>	465130	384371	382529	272880	423344	472396	450375	479114	41786	-88025	-67846	-479114
<i>Cook Island</i>	5523	3535	6287	.....	53772	55362	64137	.....	-48249	-51827	-57850	.....
<i>Fiji</i>	465491	562921	636404	577912	588233	735414	953883	836319	-122742	-172493	-317479	-836319
<i>Kiribati</i>	6670	6435	3681	4162	28185	28596	34446	33237	-21515	-22161	-30765	-29075
<i>PNG</i>	1809030	1773434	1993628	1762302	1643030	1853129	1903203	.....	166000	-79695	90425	.....
<i>Solomon Is</i>	104648	96319	97862	110980	124718	145768	126942	.....	-20070	-49449	-29080	.....
<i>Tonga</i>	10555	12183	15299	21465	70689	68334	78989	76817	-60134	-56151	-63690	-55352
<i>Vanuatu</i>	26152	28764	25023	24518	93117	93820	128273	111036	-66965	-65056	-103250	-86518
<i>W. Samoa</i>	19262	16136	11985	10013	97620	96487	113110	129637	-78358	-80351	-101125	-119624

Table 5.A5

Export of principal products from selected South Pacific countries								
1989 - 1991, (%)								
		<i>A.Samoa</i>	<i>Fiji</i>	<i>PNG</i>	<i>Solomon</i>	<i>Tonga</i>	<i>W.Samoa</i>	
<i>Fish & Meat</i>		--		0.08	0.005	--	--	--
<i>Fish & Sea food</i>		96.32		6.85	0.79	40.44	9.38	--
<i>Cereals</i>		--		0.45	--	--	0.04	--
<i>Fruits & Veges</i>		--		0.83	0.02	--	49.71	33.5
<i>Sugar</i>		--		36.02	0.21	--	--	--
<i>Coffee tea, Cocoa</i>		--		0.25	11.81	5.62	15.72	3.88
<i>Animal feed</i>		3.64		0.12	0.13	--	0.05	1.52
<i>Hides & Skin</i>		--		0.006	0.08	0.04	--	--
<i>Copra</i>		--	--		0.8	7.5	0.03	22.68
<i>Coconut oil</i>		--		0.6	1.4	--	2.55	6.39
<i>Palm oil</i>		--	--		2.85	10.02	--	--
<i>Wood & by prod</i>		--		2.89	7.4	27.42	0.23	0.23
<i>Copper</i>		--	--		47.14	--	--	--
<i>Shells & Coral</i>		--		0.55	0.24	2.72	--	--
<i>Gold</i>		--		9.66	19.72	0.69	--	--
<i>Clothing f/ wear</i>		--		16.16	0.03	--	3.34	--
<i>Other Primaries prod</i>		0.009		5.27	7.56	2.32	7.9	31.8
<i>Domestic export %</i>		100		79.74	100	96.77	88.95	100
<i>Total Manuf prod</i>		--		20.26	--	3.23	11.05	--
<i>Total export %</i>		100		100		100	100	100

APPENDIX B

Table 6.A1

Merchandise exports, 1980-90

Type of Merchandise exported	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Value (US\$ million)	73.8	66.1	58.4	62.1	92.5	68	65.2	62.9	80.4	73.3	70.5
Copra	12.6	9.2	8.3	7.3	25.3	15.9	3.4	4.2	7.5	8.9	4.3
Palm oil	8.1	8.1	7.1	6.7	12	8.4	3.2	3.4	5.9	7.8	7.1
Fish (frozen and smoked)	23.8	21.9	10.2	21.2	19.7	18.7	26.9	22.4	31.9	24.1	13.8
Fish (canned)	3.1	2.9	3	3.1	2.4	2.4	2.8	3.6	4.3	3.9	7.3
Logs	18	17	22	16.4	22.6	16	19.5	17.5	18.1	16.6	22.4
Sawn timber	1.3	1.5	1.5	1.1	1	0.7	1	1.1	1	1.1	1.7
Cocoa	0.8	1.1	1.9	1.9	2.6	3.4	3.7	4.6	3.6	3.4	4.4
Other	6.1	4.4	5.4	4.4	6.9	2.5	4.7	6.1	8.1	7.5	9.6
Volume (000 metric tons)											
Copra	31.7	31.8	33.9	25.5	42	43.6	32.4	27.9	27.1	32.9	31.9
Palm oil	15.6	16.9	18.6	20	21.5	18.6	14.5	11.6	13.6	20.8	23.7
Fish (frozen and smoked)	21.6	23.7	15.3	30.8	33.3	27.4	39.7	26.9	35.3	28.3	17.8
Fish (canned)	0.8	0.8	0.9	1.1	0.7	0.9	1	1.2	1.2	1.3	2.8
Logs (000 cubic metres)	258	315	333	337	392	330	434	281	261	260	392
Sawn timber (000 cubic metres)	7	7	7	6	6	4	6	6	5	5	6
Cocoa	0.3	0.6	0.6	1.2	1.4	1.8	2	2.7	2.7	3.3	3.5
Unit Value (US\$/metric ton)											
Copra	398.3	289.2	244.2	285.1	601.3	363.9	105.4	149	277	278.3	135.6
Palm oil	517.3	481.4	379.9	336.7	560.9	448.7	222.4	298	436.1	375	299.3
Fish (frozen and smoked)	1102.7	925.4	663.8	687.2	592.8	685.7	680.5	843	912.2	805.8	773
Fish (canned)	3904.6	3684.9	3312	2818.3	3269	2570.1	2653	2959.3	3576.9	3075.3	2599.9
Logs (US\$/cubic metres)	69.6	53.9	66	48.5	57.6	48.5	44.9	62.3	69.2	65	57
Sawn timber (US\$/cubic metres)	185.9	219	220.8	178.2	172.2	174.4	169.8	175.2	209.6	221.4	282.5
Cocoa	2603	1768.7	1472	1603.5	1875.6	1929.6	1824.4	1703.1	1364.5	1071.4	1249

Sources: Central Bank of Solomon Islands, Annual Report 1990, Honiara
World Bank, (1991) Toward Higher Growth in Pacific Island Economies: Lessons from the 1980s, Vol. 2, Country Surveys, Washington D.C
AIDAB, (1991) The Solomon Island Economy: Prospects for stabilisation and sustainable growth, PDP Australia LTD.

Table 6. A2

GDP: sectoral composition and growth rates, 1980-90

Sector (per cent of GDP)	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Agriculture	34.7	36	35.9	36.7	38.3	36.3	34.1	28.9	30.2	32.1	32.1
Mining/manufacturing	4.3	3.6	3.7	3.5	2.9	2.7	2.3	2.9	3.7	3.5	3.2
Services	43.2	43	42.3	41.8	42	44.3	46.7	50.7	49	47.8	48.5
Food (subsistence)	17.8	17.4	18	17.9	16.8	16.7	16.8	17.5	17.1	16.6	16.2
Total	100	100	100	100	100	100	100	100	100	100	100
Growth rates (per cent p.a)											
Monetized sector		7.7	-2.3	4.9	8.7	3	-1.3	1.8	5.9	7.6	6.1
Agriculture		16.3	1.7	-0.8	17.8	0.9	-23.8	-4.8	13.1	23.3	1.3
Forestry and sawmilling		2.5	11	2.5	-0.7	-2.9	15.8	-24.7	-7.9	6.5	36.6
Fishing		3.2	-17.5	54.6	6.3	-15.2	39.8	-21.4	19.4	-8.6	-5.7
Mining & expolration		n.a	n.a	27.5	241.5	209.5	78.8	13.4	-73.5	9.6	-11
Manufacturing		-9.9	3.2	-0.3	-8.2	12.6	5	21.7	0.5	1.3	-4.2
Electricity & water		7.7	5	8.9	5.4	11.6	6.5	2.1	7.1	19.4	13.1
Construction		37.5	-40	23	-14.3	44.3	4.8	-11.5	-1.1	9.3	3.8
Reatil & wholesale trade		7.6	3.2	-7.6	19.3	4.8	-2.5	4	-9.8	16	-5.4
Transport & Communication		3.6	4.8	5.2	18.5	4.9	4.8	-9.8	3.8	16.8	32.5
Finance & services		1.9	1.4	6.2	3.5	7.2	7.3	24.6	5.7	-2.4	7
Non monetized sector		4.7	2.1	4	0.6	2.2	1.4	4.7	3.1	3.5	3.5
Food (subsistence)		4.7	2.1	4.1	0.4	2.1	0.1	6.2	3.2	3.5	3.5
Construction		4.2	2.1	3.1	3.1	3.1	17.4	-10.7	2.7	3.5	3.5
GDP		7.1	-1.4	4.7	7.1	2.8	-0.8	2.4	5.4	6.8	5.6

Sources: The Autsralian National University, Pacific Economic Bulletin, Various issues- from 1980 to 1991.
AIDAB, (1991) The Solomon Island Economy: Prospects for stabilisation and sustainable growth, PDP Australia LTD.

Table 6. A3

Economic Indicators

	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91
Merchandise: Exports (millions of US\$, fob)	15.45	24.32	32.82	35.03	68.48	73.27	66.19	58.28	61.99	93.11	70.98	63.85	63.2	81.92	74.7	70.43	83.43
Merchandise: Imports (millions of US\$)	-28.54	-25.79	-28.61	-35.37	-58.43	-74.11	-75.85	-59.11	-61.47	-67.6	-71.85	-67.53	-69.39	-105.11	-97.55	-77.19	-91.72
<i>Trade index (1982=100)</i>																	
Exports	54.3	60.8	62.3	73.1	93.2	96.1	104.9	100	125	137	126.7	199.3	187.7	206	169.4	207	481.3
Imports	58.4	66.7	72.6	79.4	100.5	89.4	83.3	100	108.2	174	175	158.9	158.4	201.7	193	135.7	156
<i>Deflated merchandise:</i>																	
Exports	28.45	40.00	52.68	47.92	73.48	76.24	63.10	58.28	49.59	67.96	56.02	32.04	33.67	39.77	44.10	34.02	17.33
Imports	-48.87	-38.67	-39.41	-44.55	-58.14	-82.90	-91.06	-59.11	-56.81	-38.85	-41.06	-42.50	-43.81	-52.11	-50.54	-56.88	-58.79
<i>Trade [surplus (+), deficit (-)]</i>	-13.09	-1.47	4.21	-0.34	10.05	-0.84	-9.66	-0.83	0.52	25.51	-0.87	-3.68	-6.19	-23.19	-22.85	-6.76	-8.29
<i>Net Barter terms of trade</i>		178	129	80	117	73	75	142	89	200	78	55	102	99	114	69	49
<i>Income terms of trade</i>		126	98	88	77	70	91	154	146	95	97	97	84	103	89	97	97
<i>Population (millions: midyear estimates)</i>	192	200	207	214	218	225	235	244	252	261	272	282	292	304	314	324	332
<i>Gross Domestic Products (GDP)</i>	45	58	60	66	83	163.4	176.2	174.9	183	196.1	201.6	200.1	200.6	216.5	229.8	234	243
<i>GDP per Capita</i>	234.375	290	290	308	381	726	750	717	726	751	741	710	687	712	732	722	732

Sources: Central Bank of Solomon Islands, Annual Report 1990, Honiara
World Bank, (1991) Toward Higher Growth in Pacific Island Economies: Lessons from the 1980s, Vol. 2, Country Surveys, Washington D.C
AIDAB, (1991) The Solomon Island Economy: Prospects for stabilisation and sustainable growth, PDP Australia LTD.

Table 6. A4

GDP by industrial origin, 1980-90 (SI\$ million 1984 prices)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Monetized sector	133.7	144	140.8	147.6	160.4	165.2	163.1	166.1	175.9	189.3	200.8
Agriculture	36.1	42	41.3	41	48.2	48.7	37.1	35.3	39.9	49.2	49.8
Forestry and sawmilling	12	12.3	13.7	14	13.9	13.5	15.6	11.8	10.8	11.6	15.8
Fishing	9.3	9.6	7.9	12.2	13	11	15.4	12.1	14.5	13.3	12.5
Mining and expolaratio	n.a	n.a	-0.1	-0.1	-0.4	-1.4	-2.5	-2.8	-0.7	-0.8	-0.7
Manufacturing	7.1	6.4	6.6	6.6	6	6.8	7.2	8.7	8.7	8.9	8.5
Electricity and water	1.3	1.4	1.5	1.6	1.7	1.9	2	2	2.2	2.6	3
Construction	5.6	7.7	4.6	5.7	4.9	7	7.4	6.5	6.4	7	7.3
Retail and wholesale tr	17.2	18.5	19.1	17.6	21.1	22.1	21.5	22.4	20.2	23.4	22.2
Transport & communic	8.4	8.7	8.3	8.7	10.3	10.8	11.3	10.2	10.6	12.4	16.4
Finance and services	36.7	37.4	37.9	40.3	41.7	44.7	48	59.8	63.2	61.7	66.1
Non monetized sector	31.9	33.4	34.1	35.5	35.7	36.5	37	38.7	39.9	41.3	42.8
Food (subsistence)	29.5	30.9	31.5	32.8	33	33.7	33.7	35.8	36.9	38.2	39.5
Construction	2.4	2.5	2.6	2.6	2.7	2.8	3.3	2.9	3	3.1	3.2
GDP	165.6	177.4	174.9	183.1	196.1	201.6	200.1	204.8	215.9	230.6	243.6

Source: World Bank, Toward Higher Growth in Pacific Island economies: Lessons from the 1980s, vol 2, Country Surveys, Washington D.C, 1991

Table 6. A 5 GDP by expenditure at current prices, 1984-1989 (SI\$ million)

	1984	1985	1986	1987	1988	1989
GDP at factor cost	197.8	207.8	217.6	260	306.8	328
Net indirect taxes	25.8	26.9	31.4	40	49.6	56.4
GDP at market prices	223.6	234.7	249	300	356.4	384.4
Imports	129.3	173.3	214.4	256.7	363.3	406.6
Exports	127.5	125.7	146.6	178.4	232.6	249
Expenditure	223.5	283.7	320.8	389.1	509.5	541.3
Consumption	172.6	221.5	254.8	321.6	377.4	433.4
Government	52.1	66.6	84.1	106.3	123.8	133.4
Private sector	120.5	154.9	170.7	215.3	253.6	300
Gross investment	50.9	62.2	66	67.5	132.1	107.9
Government	12.2	14.3	29.6	32.2	72.4	19.2
Private sector *	38.7	47.9	36.4	35.3	59.7	88.7
Domestic savings	49.1	14.6	-1.8	-10.8	1.4	-49.7
Net factor income	-7.1	-9.3	-15	-6.7	-1.1	-1.7
Current Transfer	-3.2	-4	0.6	-0.3	-3	-3
National savings	38.8	18.5	9.8	-15.2	-22.9	-50.3
GNP	214.6	244	264	306.7	357.5	386.1
GNY	211.4	240	264.6	306.4	354.5	383.1

* Includes changes in stock

National Center for Development Studies, Pacific Economic Bulletin, 6 (1), June 1991

Table 6. A 6 Balance of Payment, 1986-90 (SI\$ million)

	1986	1987	1988	1989	1990
Merchandise exports (fob)	111.2	126.6	170.6	171.3	178.1
Merchandise imports (cif)	141.5	169.8	251.8	262.4	240.8
Trade balance	-30.3	-43.2	-81.2	-91.1	-62.7
Services	-37.5	-35.1	-49.5	-73.1	-90.1
Receipts	35.4	51.8	62	77.7	77.7
Passenger services	n.a	1.5	1.2	1.8	2.8
Travel	n.a	10.1	11.6	14.9	17.9
Port services	n.a	2.2	2	2.5	3.5
Interest	n.a	6.5	7.4	8.9	5.9
Foreign official	n.a	15.2	21.2	25.8	27.7
Other	n.a	16.3	18.6	23.8	19.9
Payments	72.9	86.9	111.5	150.8	167.8
Passenger services	n.a	7.3	9.9	11.8	13.8
Travel	n.a	12.5	18.8	20	29
Port services	n.a	..	..	..	1.5
Interest	n.a	9.5	10.8	10.6	14.9
Foreign official	n.a	..	..	..	..
Other *	n.a	57.6	72	108.4	108.6
Transfers (net)	67.9	63.6	93	88.3	88.2
Private (net)	0.6	-0.3	-3	2.8	0.5
Official (net) **	67.3	63.9	96	85.5	87.7
Current account balance	0.1	-14.7	-37.7	-75.9	-64.6
Capital account (net)	14.2	29.2	83.2	44	67.3
Private (net)	3.2	13.1	31.6	46.3	67.9
Official (net)	11	16.1	51.6	-2.3	-0.6

* Includes technical assistance

** The inclusion of official transfers in the current account conforms with reporting with Central Bank.

Source: Central Bank of Solomon Island and South Pacific Economic Database

Table 6. A 7 Direction of trade between the Solomon Island and Major trading partners US\$ million 1975-'89.

Years	AUST		NZ		UK		JAP		SPR		Total	Total
	EXP	IMP	EXP	IMP	EXP	IMP	EXP	IMP	EXP	IMP	Export	Import
75	0.7	11.1	1.1	0.8	1.7	4.5	4.5	4.2	926	691	11822	21803
76	0.7	10.7	0.6	1.4	3.1	2.7	8.3	3.7	3773	932	19948	21088
77	0.6	10	1	1.5	4.8	4.3	8.2	3.9	5275	734	29614	25753
78	1.1	13	1.4	2.5	7.7	3.9	7.9	5.1	4773	1189	30594	30879
79	1.1	19.3	2.4	4.1	11.2	8.8	16.5	11.6	9584	1909	60184	50574
80	1.7	25.4	4.2	5.8	9.3	7	19.3	16	5995	3657	60799	61545
81	2	26.7	3.3	8.5	7.9	6	24.6	12.8	1750	3068	57555	65970
82	1.6	21.5	1	5.3	8.3	2.8	33.5	8.9	1747	2385	56560	57432
83	1.2	22.1	2.6	4.6	7	2	26.5	12.9	4072	2095	71224	70632
84	2.1	26.2	4.6	5.9	11.7	2.4	28.4	10.9	3129	3129	118563	83838
85	1.6	28.1	1.1	6.9	9.9	3.1	36.4	15.1	1872	3468	103806	102664
86	2.6	26.4	2.1	5.1	5.7	2.7	24.2	11.3	8246	2906	104444	94843
87	2.4	30.8	2.7	5.9	8.9	3.3	22.9	14.2	9173	3707	95036	100117
88	3.9	48.9	2.4	8.9	11.9	5.7	28.3	17.4	20408	6261	170576	203291
89	3.5	45.9	2.2	9.5	10.9	3.8	25.8	30.3	15931	8933	96319	145768
90	3.3	33.6	3.1	7.7	8.7	1.4	31.2	20.7				
91	1.2	38.3	3.2	8.6	11	2.3	36.8	25.4				

Sources: Central Bank of Solomon Islands, Annual Report 1990, Honiara

World Bank, (1991) Toward Higher Growth in Pacific Island Economies: Lessons from the 1980s, Vol. 2, Country Surveys, Washington D.C

AIDAB, (1991) The Solomon Island Economy: Prospects for stabilisation and sustainable growth. PDP Australia LTD.

APPENDIX C

Table 7. A1 Merchandise exports, 1984/85 - 1989/90*

	84	85	86	87	88	89
Coconut products						
Total	6.1	3	2.9	1.8	1.5	0.8
Coconut oil						
value	5.3	2.1	1.9	1.3	1	0.7
volume	4263	4339	4342	2084	1533	1230
unit value	1239	483	431	632	650	549
Desiccated coconut						
value	0.7	0.6	0.7	0.4	0.3	n.a
volume	499	5.2	875	414	303	n.a
unit	1359	1172	797	1031	1083	n.a
Bananas						
value	0.8	1	1.7	0.8	0.4	0.2
volume	2381	3149	4974	1795	971	325
unit	316	331	374	431	457	447
Vanilla beans						
value	1.1	1.2	1.4	1.9	2.5	0.8
volume	13	13	15	13	31.7	10.5
unit	84.5	92.7	97.2	89.5	79	79.1
Root crops**						
value	0.4	0.2	0.3	0.5	0.9	2
volume	1550	692	720	855	1437	2.7
unit	265	347	373	621	637	729
Watermelons						
value	0.4	0.2	0	0	0	0
Fish						
value	0.3	0.6	1.2	1.3	2.1	1.4
Manufactured goods	0.7	1	1.4	1.9	3.1	3.4
Other exports***	0.9	0.9	1.2	0.6	1.6	2.9
Total exports****	10.7	8.2	10.2	8.8	12.1	11.6

Note: Value is in million of Pa'anga, volumes in metric tons, and unit value in pa'anga per metric ton, unless otherwise indicated.

* The components may not add up to total because of rounding error.

** compromised of taro, yams, and cassava.

*** includes squash and reexports

**** includes re-exports

Sources: National reserves Bank of Tonga, Quarterly Bulletin 1(4), December 1990, Nuku'alofa.

World Bank, Toward higher Growth in Pacific island economies: lessons from the 1980s, vol2 country surveys, Washington D.C., 1991

Table 7. A2 Gross Domestic Products, 1981/1982-1989/1990 (constant 1981/82 prices, Pa'anga millions)

	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90
Agriculture, forestry and fishing	24.28	21.8	22.21	24.24	25	25.9	23.3	24.2	23.8
Mining and quarrying	0.41	0.39	0.4	0.36	0.4	0.4	0.5	0.6	0.6
Manufacturing	4.67	4.77	5.01	5.31	6.1	6.3	6.3	6.5	6.3
Electricity and Water	0.35	0.37	0.44	0.47	0.6	0.6	0.7	0.8	0.9
Construction	2.26	3.54	4.11	4.39	3.3	3.4	3.7	4	3.8
Wholesale and retail trade	5.74	5.68	5.66	6.33	6.7	6.9	6.9	6.9	7.2
Transport, storage & communication	3.47	3.5	3.35	3.38	3.5	3.6	4	4.4	4.6
Finance and real estate	2.24	2.44	2.06	2.6	2.6	2.7	2.8	2.9	3.1
Community social & personal services	8.87	9.87	10.72	10.79	11.6	12	12.4	12.5	14
GDP at factor cost	52.29	52.36	53.96	57.87	59.8	61.8	60.6	62.8	64.3
Indirect taxes (less subsidies)	8.4	9	8.9	8.49	8.7	9	8.7	9	9.4
GDP at market prices	60.69	61.36	62.86	66.36	68.5	70.8	69.3	71.8	73.7
Annual GDP growth rate*		1.10	2.44	5.57	3.22	3.36	-2.12	3.61	2.65

Sources: Key indicators of developing Asian and Pacific counties, (1993 & 1994)

Table 7. A3 GDP growth rates by sector, 1981/82-1989/90 (growth rate per annum)

	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89
	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90
Agriculture, forestry and fishing	-10.21	1.88	9.14	3.14	3.60	-10.04	3.86	-1.65
Mining and quarrying	-4.88	2.56	-10.00	11.11	0.00	25.00	20.00	0.00
Manufacturing Electricity and Water	2.14	5.03	5.99	14.88	3.28	0.00	3.17	-3.08
Construction	5.71	18.92	6.82	27.66	0.00	16.67	14.29	12.50
Wholesale and retail trade	56.64	16.10	6.81	-24.83	3.03	8.82	8.11	-5.00
Transport, storage & communication	-1.05	-0.35	11.84	5.85	2.99	0.00	0.00	4.35
Finance and real estate	0.86	-4.29	0.90	3.55	2.86	11.11	10.00	4.55
Community social & personal services	8.93	-15.57	26.21	0.00	3.85	3.70	3.57	6.90
GDP at factor cost	11.27	8.61	0.65	7.51	3.45	3.33	0.81	12.00
Indirect taxes (less subsidies)	0.13	3.06	7.25	3.34	3.34	-1.94	3.63	2.39
GDP at market prices	7.14	-1.11	-4.61	2.47	3.45	-3.33	3.45	4.44
Annual GDP growth rate*	1.10	2.44	5.57	3.22	3.36	-2.12	3.61	2.65

Source: calculated from table 7.A2

Table 7. A4

A summary of Economic Indicators: Fiscal year ending 30 June.

	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91
Merchandise (million US dollars)	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91
Exports, fob	9	5	4	8	5	8	7	7	3	6	7	6	8	7	10	9	11
Imports, fob	21	18	15	18	22	29	36	35	36	30	32	33	40	51	47	47	23
Trade balance	-12	-13	-11	-10	-17	-21	-29	-28	-33	-24	-25	-27	-32	-44	-37	-38	-12
GDP deflator, 1975=100	100	98.4	117.4	136.1	146.8	167.7	185.2	193.6	197.7	116.8	142.1	116.1	129.8	141.8	152.5	169.3	184
Deflated merchandise (%):																	
Exports	9	5	3	6	3	5	4	4	2	5	5	5	6	5	7	5	6
Imports	21	18	13	13	15	17	19	18	18	26	23	28	31	36	31	28	13
Net Barter terms of trade (NBTT)	100	65	96	167	51	121	70	103	42	240	109	83	110	69	155	90	250
Income terms of trade (ITT)	100	56	67	173	58	140	79	96	42	339	96	105	119	80	133	81	112
Population (' 000)	89	90	91	91	91	92	92	93	92	94	94	95	95	96	96	96	97
GDP, constant price (1975=100)	25	25	31	36	40	47	54	60	67	75	80	99	117	122	128	140	161
GDP per capita	279	273	340	399	438	510	580	646	722	796	850	1047	1232	1277	1333	1452	1662
GDP per capita in US\$ million	351	297	388	459	484	602	654	634	652	659	579	696	890	1092	1059	1121	1248

Sources: Key indicators of Developing Asian and Pacific Countries, (1993)
Australian National University, various issue.

Table 7. A5

Direction of trade in million US dollars; calendar year

	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91
Total Exports, (current prices), [fob]	..	5	8.8	6.3	7.8	8.2	8.6	4.4	5.3	8.8	5	5.8	6.7	10	9.7	12.6	15.9
Australia	0	0.1	0	0	2.8	2.8	2.8	1.8	2	1.8	1.7	1.7	1.8	1.8	2	1.9	1.4
Fiji	0.1	0	0.2	0.1	1	0.2	0.6	0.2	0.1	0	0.3	0	0	0.5	0.2	0.2	0.2
Japan	0	0	0	0	0.4	0	0	0	0				0.1	0.5	1.6	4.6	9.5
New Zealand	71.1	1.4	2.8	1.8	2.7	2.4	2.5	1.7	2.4	5.2	2.4	2.3	2.7	3.3	3.2	2.5	1.2
United Kingdom		1.7	2.3	0.9	0												
Others		1.8	3.5	3.5	0.9	2.8	2.7	0.7	0.8	1.8	0.6	1.8	2.1	3.9	2.7	3.4	3.6
Total Import (current prices), [cif]	15.3	15.6	19.3	27.3	29.3	34.3	40.3	41.8	37.3	40.9	41.2	39.3	47.9	67.8	54	61.8	59.3
Australia	3.7	3.4	3.3	5.9	8	10.8	16.5	9.8	10.1	9.8	10.1	11.3	12.3	19.5	12.1	13.4	15.1
Fiji	3	3.5	5.5	5.9	1.5	1.7	1.9	3	2.2	2	2.2	2.6	4.2	6.9	5.5	7.1	9.2
Japan	0	0.4	0.3	3.3	2.4	2.1	2.2	2.6	3.5	4.7	3.2	4.6	4.2	5.2	3.9	4	5.4
New Zealand	6.2	6.3	8.2	9.8	10	13	14.4	15.6	13.1	15.4	16	15.4	17.2	20.3	16.5	20.1	17.5
United Kingdom	1.3	1.4	0.8	1.5	2.6	1.2	0.8	0.6	0.8	0.6	0.8	1.1	0	0.7	0.8	0.7	0.6
Others	1.1	0.6	1.2	0.9	4.8	5.5	4.5	10.2	7.6	8.4	8.9	4.3	10	15.2	15.2	16.5	11.5

Sources: National Reserve Bank of Tonga, Quaterley Bulletin 1 (4), Dec 1990.

Statistics Department, Statistical Abstract, 1987, Nuku'alofa.

Table 7. A5. 1 Per cent of trade between Tonga and its major selected trading partners

	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91
Total Exports, (current prices), [fob]		100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Australia		2	0	36	36	34	33	41	38	20	34	29	27	18	21	15	9
Fiji		0	2	13	13	2	7	5	2	0	6	0	0	5	2	2	1
Japan		0	0	5	5	0	0	0	0	0	0	0	1	5	16	37	60
New Zealand		28	32	35	35	29	29	39	45	59	48	40	40	33	33	20	8
United Kingdom		34	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Others		36	40	12	12	34	31	16	15	20	12	31	31	39	28	27	23
Total Import (current prices), [cif]	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Australia	24	22	17	22	27	31	41	23	27	24	25	29	26	29	22	22	25
Fiji	20	22	28	22	5	5	5	7	6	5	5	7	9	10	10	11	16
Japan	0	3	2	12	8	6	5	6	9	11	8	12	9	8	7	6	9
New Zealand	41	40	42	36	34	38	36	37	35	38	39	39	36	30	31	33	30
United Kingdom	8	9	4	5	9	3	2	1	2	1	2	3	0	1	1	1	1
Others	7	4	6	3	16	16	11	24	20	21	22	11	21	22	28	27	19

Source: Table 7. A5

Table 7. A6

Balance of Payment, 1980/81 - 1989/90* (pa'anga million)

	80	81	82	83	84	85	86	87	88	89
Balance of trade	-25.4	-27.7	-40.6	-33.5	-37	-40.9	-44	-51.6	-47	-58.1
Export, fob	6.6	7.1	3.8	7.9	10.7	8.4	10.7	8.8	12.1	8.2
Import, fob	32	34.8	44.4	41.4	47.7	49.3	54.7	60.4	59.1	66.3
Balance of services, income and and un requited transfer	17.9	28.5	28.2	29.2	35.1	39.5	53.1	44.2	46.3	74.1
Total receipts	24.9	37.1	44.8	47.6	57	67.9	84.1	79.7	80.4	102.6
private remittances	14.8	37.1	44.8	47.6	57	67.9	84.1	79.7	80.4	102.6
official remittances	0.1	25	22.9	22.9	29.1	36.6	38.4	36.8	35.6	43.9
Investment income	3.9	3.9	3.3	3.6	3.9	4.3	6	8	3.7	5.6
other	6.2	7.2	10.6	13.2	19.7	21.1	29.3	25.7	27.6	39.2
Total payments	7	8.6	16.6	18.4	21.9	28.4	31	35.5	34.1	28.5
private remittances	0.9	1.6	5.9	5.6	2.8	3.4	4.6	7.5	5.1	6.2
official remittances	1.1	1.3	0.6	0.6	0.1	1.6	0.8	1.4	1.2	2
other	5	5.7	10.1	12.2	19	23.4	25.6	26.6	27.8	20.3
Current account balance	-7.5	0.8	-12.4	-4.3	-1.9	-1.4	9.1	-7.4	-0.7	16
GDP at current prices**	54.4	60.7	66.9	74.5	80	98.9	110.1	119.8	128.8	139.2
Current account balance (per cent of GDP)	-13.7	1.4	-18.6	-5.6	-2.3	-1.4	8.3	-6.3	-0.6	11.5
Financed by:										
Net capital flow	7	-1.4	1.2	4.7	5.2	-0.8	0.3	6.6	10.2	-10.2
Direct investment	0	0	0	0	0	0.2	0.3	0.1	0.1	0.2
Portfolio investment	0	0	0	0	0	0	0	0	-2.7	-12.8
Long-term capital	1.7	6.3	-0.1	-0.3	1	-1.4	0.6	4.9	3.5	1.3
Short term capital	5.3	-7.7	1.3	5.1	4.1	1.4	-0.9	1.6	0.6	0.5
net errors & omissions	0.3	0.4	1.5	-1.1	3.2	2.7	2.5	0.2	-0.6	-5
Reduction in reserves	-0.3	-1.5	0.1	-6.2	-3.7	-1	-11.3	2.6	1.6	n.a

Sources: World Bank, *Toward higher Growth in Pacific island economies: lessons from the 1980s*, vol2 country surveys, Washington D.C., 1991
National Center for Development Studies, Pacific Economic Bulletin, 6 (1), June 1991

Table 7. A7

Exchange rates, 1983 - '90

Countries	83	84	85	86	87	88	89
US\$	0.90	0.67	0.71	0.71	0.78	0.78	0.77
NZ\$	1.39	1.47	1.28	1.23	1.14	1.30	1.31
AUST\$	1.06	1.00	1.00	1.00	1.00	1.00	1.00
Pound Sterling	0.65	0.53	0.47	0.43	0.42	0.50	0.47
Deutsche marks	2.45	2.06	1.60	1.23	1.33	1.54	1.37
Japanese yen	207.57	167.16	121.30	101.89	97.80	111.83	113.14
Fj\$	0.95	0.79	0.79	0.68	1.10	1.19	1.16
 T\$/US\$	 1.1061947	 1.499925	 1.4025245	 1.400168	 1.2843565	 1.2858429	 1.300052
T\$/NZ\$	0.7200461	0.6825939	0.7791196	0.8126778	0.8777319	0.7694675	0.7628929

NB: Currently the Tonga Pa'anga are pegged to a weighted basket of currencies of its major trading partners. I believed that this is a great move because, it will reduced the fluctuation between the nominal and the effective exchange rates and hance it will provide a more stable enviroment for traders and investors.

Source: National Center for Development Studies, Pacific Economic Bulletin, 6 (1), June 1991

Table 7 . A8

Consumer price index, 1980 - '90

	80	81	82	83	84	85	86	87	88	89
All items	76.3	84.6	91.6	100.2	101.9	133.8	143.8	159.7	166	175.3
Local component	76.8	83.5	87.9	96.1	98.9	132	142	170.3	173.8	189.9
Imported componenet	75.2	86.1	97.5	104.7	106.7	134.5	144.6	152.5	156.5	164
All items	76.3	84.6	91.6	107.2	101.9	133.8	143.8	159.7	166	175.3
Food	78.2	91.3	99.8	107.6	103.2	139.2	147.6	168.8	167.9	166.1
Housing	75.1	78.1	86.4	93.3	91.5	100.7	115.9	117.1	131.9	147.9
Household and Goods	78.7	84.9	92	95.2	106.5	133.5	138.1	146.5	160.1	180.3
Clothing & footwear	64.5	67.1	72.1	86.2	121.7	158.7	184.5	182.5	194.1	225.6
Transportation	76.1	78.6	80.6	85.7	107	122	128.8	121	123.2	136
Tobacco & alchol	71.4	72.5	77.4	96.4	99.9	119.5	126.2	144.2	159.2	168
Miscellaneous	69.8	73.4	77.4	85.9	114.3	135.8	160.3	191.3	221.6	238.3
Changes in CPI (per cent)										
All items		10.9	8.3	9.4	1.7	31.3	7.5	11.1	3.9	5.6
Local components		8.7	5.3	9.3	2.6	33.9	7.6	19.9	2.1	9.3
Imported componenet		14.5	13.2	7.4	1.9	26.1	7.5	5.5	2.6	4.8
All items										
Food		16.8	9.3	7.8	-4	34.8	6	14.3	-0.5	0.7
Housing		4	10.6	8	-1.9	10.1	15.1	1	12.6	12.1
Household and Goods		7.9	8.4	3.5	12.2	25	3.4	6.1	9.3	12.6
Clothing & footwear		4	7.5	19.6	41.2	30.4	16.3	-1.1	6.4	16.2
Transportation		3.3	2.5	6.3	24.9	14	5.6	-6.1	1.8	10.4
Tobacco & alchol		1.5	6.8	24.5	3.6	19.6	5.6	14.3	10.4	5.5
Miscellaneous		5.2	5.4	11	33.1	18.8	18	19.3	15.8	7.5

Sources: National Reserve Bank of Tonga, Quaterley Bulletin 1 (4), Dec 1990.

Statistics Department, Statistical Abstract, 1987, Nuku'alofa.

AIDAB, International Development Issues No. 22

APPENDIX D

Table 8.A1

GDP by origin, 1982 - 89

	82	83	84	85	86	87	88	89
At current prices	124	154	179	197	208	219	240	248
Subsistence	37	44	47	52	58	63	65	
Agriculture, forestry and fishing	27	33	40	43	44	44	52	
Manufacturing	14	21	29	32	29	37	32	
Electricity	4	6	9	9	8	11	11	
Construction	2	4	2	3	4	10	5	
Distribution, restaurants and hotels	9	11	13	16	19	22	26	
Transportation	5	5	7	7	5	5	5	
Other services	11	13	15	17	18	21	22	
Government	15	16	18	19	25	28	31	
At 1982 prices	124	132	130	134	141	143	142	142
Subsistence	37	38	38	37	40	39	38	40
Agriculture, forestry and fishing	27	28	27	26	30	28	25	28
Manufacturing	14	16	15	18	19	19	19	17
Electricity	4	4	5	5	5	6	6	6
Construction	2	1	2	3	4	6	7	3
Distribution, restaurants and hotels	9	10	10	11	13	13	13	14
Transportation	5	5	5	5	5	5	6	6
Other services	11	11	11	12	12	12	12	13
Government	15	16	16	17	15	15	16	16
GDP deflator (1982=100)	100	117	138	147	148	154	169	175

Sources: World Bank (1991), Toward Higher Growth in Pacific Island Economies: lessons from the 1980s, Vol.2, Country Surveys, Washington
AIDAB (1991), The Western Samoan Economy: Prospects for Recovery and Longterm Growth. Issue No. 17

Table 8. A2

Exchange rates 1982 - '90 (foreign currency per tala, end of period)

	1982	1983	1984	1985	1986	1987	1988	1989*	1990
Us dollars	0.8083	0.6172	0.4581	0.4336	0.4550	0.4973	0.4655	0.4367	0.4286
New Zealand dollars	1.1035	0.9429	0.9615	0.8638	0.8585	0.7524	0.7389	0.7352	0.7292
Australian dollars	0.8243	0.6915	0.5550	0.6349	0.6836	0.6888	0.5448	0.5530	0.5550
Pounds sterling	0.5006	0.4255	0.3955	0.2999	0.3064	0.2637	0.2569	0.2711	0.2216
Deutsche marks	1.9209	1.6811	1.4453	1.0593	0.8690	0.7808	0.8240	0.7387	0.6386
Japanese yen	189.9500	143.3100	115.3700	86.7600	71.9400	60.1700	58.1600	62.8600	58.0800
fiji dollars	0.7657	0.6457	0.5228	0.4845	0.5218	0.7104	6520	0.6489	0.6207
SDRs	0.7328	0.5895	0.4673	0.3947	0.3720	0.3505	0.3459	0.3323	0.3012

* Tala adjusted against the basket of currencies to which it is linked as follows: on 24 April 1990;
on 11 July 1990, down by 0.77 percent; on 6 November 1990, down by 1.49 percent.

Sources: Central bank of Samoa, Bulletin 6 (1) march 1991.
ANU. Pacific Economic Bulletin. Vol 5 no1, June 1990.

Table 8. A3

Balance of Payment. 1980 - ' 89 (US\$ million)

	80	81	82	83	84	85	86	87	88	89
Merchandise trade (net)	-45	-45.3	-36.8	-31	-32.1	-35.9	-36.6	-49.6	-59.5	-62.6
Export (fob)	17.2	11.2	13	17.8	18.6	16.5	10.5	11.8	15.1	12.9
Imports (cif)	-62.2	-56.5	-49.8	-48.8	-50.7	-52.4	-47.1	-61.4	-74.6	-75.5
Services and income (net)	n.a	-1.8	-0.6	-1.2	-1.1	1.8	2.6	7.5	16.4	20.2
Credit	n.a	n.a	n.a	9.4	9	11.3	14.5	19.9	28.5	36.4
Debit	n.a	n.a	n.a	-10.5	-10.1	-9.5	-11.9	-12.4	-12.1	-12.1
Travel (net)*	n.a	2.2	2.2	3.4	3.3	5.4	6.9	7.9	14.4	12.2
Credit	n.a	n.a	n.a	4.7	4.7	6.7	8.5	9.5	15.9	14.2
Debit	n.a	n.a	n.a	-1.3	-1.4	-1.3	-1.6	-1.6	-1.4	2
Investment income**	n.a	n.a	n.a	-2.3	-2	-2.1	-1.1	1.1	0.6	5.2
Credit	n.a	n.a	n.a	0.1	0.3	0.7	1.2	3.4	2.9	6.8
Debit	n.a	n.a	n.a	-0.2	-2.3	-2.9	-2.3	-2.3	-2.3	-1.5
Other services (net)***	n.a	n.a	n.a	-2.4	-2.4	-1.5	-3.2	-1.5	1.3	2.7
Credit	n.a	n.a	n.a	4.5	4	3.9	4.8	7	9.7	15.3
Debit	n.a	n.a	n.a	-6.8	-6.4	-5.3	-8	-8.5	-8.4	-12.6
Private transfer (net)****	n.a	18.6	18.8	20.4	20.6	24.2	28.4	36.4	35.5	38.2
Bank notes	n.a	n.a	n.a	2.3	3.8	7.8	6.1	8.5	6.8	9.5
Others (net)	n.a	n.a	n.a	18.2	16.8	19.3	22.3	27.9	28.7	28.7
Balance on current account	n.a	-28.5	-18.5	-11.8	-12.7	-9.9	-5.6	-5.7	-7.6	-4.6
Capital account										
Government (net)	n.a	n.a	14.3	11.9	20.3	19	12.4	15.8	20.2	20.9
1 Transfer (net)**	n.a	n.a	n.a	n.a	17	13.4	11.7	15.2	16.9	19.8
- Project grants	n.a	n.a	n.a	n.a	16.4	12.8	11.9	12.1	13.7	15.2
- Cash and commodity grant	n.a	n.a	n.a	n.a	1.3	0.9	0.1	4	3.9	5.2
- Other	n.a	n.a	n.a	n.a	-0.7	-0.4	-0.4	-0.8	-0.8	-0.7
2. Loans (net)	n.a	n.a	n.a	n.a	4.8	8.5	0.7	0.5	3.3	1.1
- Disbursements	n.a	n.a	7.3	4.4	4.8	8.6	2.6	2.6	5.9	4
- Repayments	n.a	n.a	-1.4	-1.2	-1.6	-3	-1.8	-2.1	-2.6	-2.9
Govmnt guaranteed loans (net)	n.a	n.a	-1.1	-2.4	-0.1	-1.3	-1.2	-1.2	-0.6	-0.5
- Disbursements	n.a	n.a	0.3	0.7	1.1	1.5	0.6	0	0	0
- Repayments	n.a	n.a	-1.3	-3.2	-1.2	-2.8	-1.9	-1.2	-0.6	-0.5
Other***	n.a	n.a	n.a	n.a	-6.2	-3.6	1.1	1.9	-1.7	2.5
Overall balance = change in net foreign assets****	n.a	n.a	n.a	2.2	1.4	2.4	11.2	12.1	15.2	14.4

* Excludes diplomatic imports

** Unrequited transfer

*** Includes private capital flows, valuation changes, and errors and omission

**** To convert from Tala since 1983 the following annual average exchange rate were used:

US\$ per Tala = 0.6496 (1983); 0.4557 (1984); 0.4474 (1986); 0.4716 (1987); 0.4810 (1988); 0.4408 (1989); 0.4320 (1990).

Sources: Central bank of Samoa, Bulletin 6 (1) march 1991.

World Bank, Toward Higher Growth in the Pacific Island Economies: lessons from the 1980s, Vol 2, Washington D.c
AIDAB (1991), The Western Samoan Economy: Prospects for Recovery and Longterm Growth. Issue No. 17

Table 8. A 4

GDP by expenditure component, 1982 -89 (Tala million)

	1982	1983	1984	1985	1986	1987	1988	1989
At current prices								
GDP	123.9	153.6	179	196.6	208.3	219.4	240.3	248.4
Imports	63.4	87.6	107.5	129.5	126.5	151.4	175.5	194.6
Exports	21.4	41.6	50	59.4	53.3	59.8	84.5	94.3
Expenditure	165.9	199.7	236.5	266.7	281.7	311	331.2	348.7
Consumption	133	159.7	177.1	206.6	222	236.9	253.8	265.6
Private	122.2	135.2	148.7	173.8	185.7	198.1	211.2	214.7
Government	10.8	24.5	28.4	32.8	36.3	38.8	42.6	50.9
Gross investment	32.9	40	59.4	60.1	59.7	74.1	77.4	83.1
Private	5.7	6.9	10.3	10.4	10.1	12.9	11.7	15
Government	27.2	33.1	49.1	49.7	49.6	61.2	65.7	68.1
Domestic Saving	-9.1	-6.1	49.9	-10	-13.7	-17.5	-13.5	-17.2
Private	-10.2	-16.9	24	-42.7	-54.3	-70.5	-76.6	-63
Government	1.1	10.8	25.9	32.7	40.6	53	63.1	45.8
Net factor income	-1.7	-1.8	-3	-3.8	-2.3	2.6	1.6	5.4
Net current transfers	22.5	31.4	37.8	53.1	63.5	77.2	73.8	86.6
National saving	11.7	23.6	36.7	39.2	47.6	62.4	61.9	74.9
GNP	122.2	151.8	176	192.8	206	222	241.9	253.8
GNY	144.7	183.2	213.8	245.8	269.5	299	315.7	340.4
At 1982 prices								
GDP	123.9	131.7	129.5	134.1	140.9	142.6	142.4	142.3
Imports	63.4	73.8	77.1	83.2	80.7	91.1	95	96.5
Exports	21.4	27.7	19.6	27.5	36.6	34.5	40.9	46.4
Expenditure	165.9	177.8	187	189.8	185.1	199.2	196.5	192.3
Consumption	133	144.7	144.5	151.8	147.2	154.8	154.6	150.7
Private	122.2	123.7	122.7	128.7	123	130.1	129.6	122.5
Government	10.8	21	21.8	23.1	24.2	24.7	25	28.2
Gross investment	32.9	33	42.5	38	37.9	44.4	41.9	41.6
Private	5.7	6	7.9	7.3	6.7	8.2	6.9	8.3
Government	27.2	27	34.6	30.7	31.2	36.2	35	33.3
Net factor income	-1.7	-1.5	-2.2	-2.5	-1.5	1.6	0.9	2.8
Net current transfers	22.5	26.4	27.7	34.9	41	47.3	41.2	45
GNP	122.2	130.2	127.3	131.6	139.4	144.2	143.3	145.1
GNY	144.7	163.9	171.3	177.1	177.9	193.1	189.4	190.4

Sources: World Bank, Toward Higher Growth in the Pacific Island Economies: lessons from the 1980s, Vol 2, Washington AIDAB (1991), The Western Samoan Economy: Prospects for Recovery and Longterm Growth. Issue No. 17

Table 8. A5

Merchandise exports, 1980 - '90

	1980	1981	1982	1983*	1984	1985	1986	1987	1988	1989	1990
Value (US\$ million)	17.22	10.76	13.49	17.85	21.53	16.37	10.47	11.79	15.13	12.92	8.64
Bananas	0.48	0.23	0.24	0.26	n.a	0.01	0.02	0.02	0.01	0.01	n.a
Beer	0.37	0.44	0.54	0.52	0.49	0.18	0.13	0.22	0.31	0.32	0.36
Cigarettes	0.17	0.29	0.3	0.33	0.33	0.25	0.31	0.29	0.33	0.31	0.25
Cocoa	3.3	1.39	0.82	2.99	1.25	1.07	1.42	1.24	0.61	0.94	0.21
Coconut cream	0.63	0.61	0.62	0.78	0.92	1.29	1.26	1.47	1.86	2.24	2.34
Coconut oil	n.a	n.a	3.42	7.22	11.26	6.96	2.91	4.1	5.62	3.09	1.75
Copra	9.11	3.79	2.29	0.91	n.a	0.46	0.45	0.05	0.95	1.43	0.46
Copra meal	n.a	n.a	0.32	0.46	3.21	0.27	0.31	0.38	0.45	0.29	0.16
Fruit juice	n.a	0.04	0.14	0.33	0.27	0.46	0.13	0.09	0.03	0.03	0.01
Taro	1.14	2.06	1.81	1.56	1.52	2.33	1.92	2.4	2.5	2.58	1.47
Timber	0.35	0.28	1.06	0.33	0.71	0.36	0.27	0.19	0.52	0.06	0.01
Veneer	n.a	n.a	0.26	0.33	0.16	0.09	0.22	n.a	n.a	n.a	n.a
Other Exports	1.11	0.81	0.7	0.59	0.65	0.91	0.58	0.49	1.12	0.99	1.14
Re- exports	0.56	0.82	0.97	1.24	0.76	1.73	0.54	0.85	0.82	0.63	0.48
Volume (metric tons)											
Copra	25657	16323	10536	4864	n.a	2796	3350	570	3282	5850	2400
Copra meal	n.a	n.a	3963	5200	4290	5926	6152	5170	5281	3058	2215
Coconut oil	n.a	n.a	8037	12207	10651	10926	12552	11527	10330	6292	5188
Coconut cream	n.a	n.a	n.a	n.a	589	924	923	1002	1166	n.a	n.a
Cocoa	1527	902	782	2157	662	590	898	852	474	605	220
Taro ('000)	86	151	140	110	137	220	188	224	191	264	128
Timber ('000bd.ft)	1288	941	2627	1409	1724	1277	612	309	955	112	18
Unit value (US\$/metric ton)											
Copra	361	236	221	190	n.a	158	142	55	293	244	193
Copra meal	n.a	n.a	80	84	75	43	48	69	85	44	71
Coconut oil	n.a	n.a	425	590	1059	637	233	357	544	491	337
Coconut cream	n.a	n.a	n.a	n.a	1526	1367	1368	1463	1598	n.a	n.a
Cocoa	2193	1560	1062	1413	1884	1807	1612	1474	1298	1588	957
Taro (US\$/case)	13	14	13	14	11	10	10	11	13	10	11
Timber (US\$/ '000 bd.ft)	274	296	401	249	397	285	433	604	546	531	81

Sources: South Pacific Commission, Overseas Trade, various issue.
World Bank, Toward Higher Growth in the Pacific Island Economies: lessons from the 1980s, Vol 2, Washington D.c.
AIDAB (1991), The Western Sanoan Economy: Prospects for Recovery and Longterm Growth, Issue No. 17

Table 8. A6

Merchandise trade indices (1982=100)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
Value*									
Exports**	100	170.7	219	215.5	148.3	155.2	198.3	186.2	129.3
Imports	100	124.6	154.4	191.2	175.4	217.5	264.5	289.5	321.1
Volume									
Exports**	100	124.7	94.6	110.8	114	104.3	104.3	97.8	74.2
Imports	100	102.4	109.4	118.8	110.6	128.2	138.8	131.8	141.2
Unit value*									
Exports**	100	134.9	227	193.7	130.2	146	188.9	188.9	173
Imports	100	122.4	141.8	162.7	159.7	170.1	189.6	219.4	228.4

Source: World Bank, Toward Higher Growth in the Pacific Island Economies: lessons from the 1980s, Vol 2, Washington D.c.

Table 8. A7

Economic indicators

Merchandise ('000 US\$)	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91
Index 1987=100																	
Exports (fob)	58	60	64	72	87	103	106	100	96	95	94	92	100	100	102	123	112
Imports (fob)	-158	-114	-100	-104	-128	-259	-194	-130	-127	-107	-88	-88	-100	-143	-134	-160	-165
Trade balance	-100	-54	-36	-32	-41	-156	-88	-30	-31	-12	6	4	0	-43	-32	-37	-53
NBTT	143	122	108	98	59	137	141	98	117	120	98	96	100	70	109	101	88
ITT	148	130	122	119	69	141	133	94	116	119	96	104	100	71	131	92	90
GDP											630	630	650	710	830	940	960
GDP/capita											83	88	99	113	122	132	142

Sources: World Bank (1993), World Tables, Baltimore, John Hopkins, University press.