

## **WORKING PAPER**

### **Openness and Growth of Fijian Economy<sup>1</sup>**

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*This paper presents work in progress in the School of Economics at USP. Comments, criticisms and enquiries should be addressed to the corresponding author.*

### **Openness and Growth of Fijian Economy<sup>2</sup>**

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<sup>1</sup> The earlier version of this paper was presented at the Fiji Economic Update 2011 held at USP, Suva on 16<sup>th</sup> September 2011. Usual disclaimers apply.

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Aril 2012

### **Abstract**

Since small economies are not in a favourable position compared to the relatively large economies in the world market when it comes to benefits from trade, the issues of trade openness and its impacts on economic growth has been of critical importance to small and open economies. The paper provides an analysis of the Fijian economy and finds that the degree of its openness, both in absolute and relative terms, is seen to be on the rise during 1970-2009. Even though the net trade balance has moved against the country from early 1990s our econometric results finds a positive and significant impact of openness on the GNP growth. The openness has mainly boosted up the service activities (led by trading and tourism sectors) while industrial and construction sectors have not grown much. The intra-industry trade share for fifteen product groups, at aggregate level, is found to be declining during 1980-2009. Although the share is quite high for agriculture and mining activities it is abnormally low for non-agriculture, except for clothing. Therefore, Fiji predominantly relies on comparative advantages of traditional sector for favourable trade balance. This is risky and the county needs to pursue the integration policies for the expansion of industrial base in the economy and its result growth.

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## **1. Introduction**

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How and to what extent 'openness' has contributed to the economic growth of a small country in the world economy raises some important questions for Pacific Island economies. The economic gain from trade for a small economy tends to be smaller than that of larger economy. This is due to the lack of diverse economic activities to reap up the substantial benefits from trade or market size to derive favourable gain from terms of trade. Since such factors do not favour these economies, one needs to critically examine whether the small economies are still able to derive substantial benefits from trade openness. 'Openness' is sometimes narrowly defined in terms of exportability of a country. Undoubtedly, exports provide gains from trade for the country. But, according to modern trade theories, imports can help to attain the gains too, by increasing competition and spill over effects in the economy. So, openness should include both exports and imports of the economy. During the last few decades most of the economies have pursued policies towards more liberalisation in order to accelerate their economic growth. Contemporary empirical research has shown that openness has sharply pushed up the growth of many developing and emerging countries in recent years, and China, India, Brazil, South Africa are a few successful players among them. A part of the story behind their success lies in the comparative advantage, but the larger part of it is due to intra-industry trade. It is widely accepted that as an economy grows, more and more trade will take place within the industry (known as 'intra-industry trade'). Varieties of goods within the same industrial groups are traded which help them to derive gains from economies of scale.

When one looks at the level of openness and its resultant benefits for small island countries, two contrasting arguments, following contemporary empirical research, comes into our mind immediately. One, the trade flow between any two countries in the world economy is practically limited for a small economy<sup>3</sup> because of its size. They may be in a more vulnerable situation compared to large economies, particularly during the global crisis. Moreover, the terms of trade are known to be unfavourable for agriculture in the world market (known as Prebisch' argument; Frankenhoff (1962)). It seems that the degree of gains from trade, both due to comparative advantages and intra-industry, looks likely to be limited. But, this is not true when one looks at the success stories of growth from openness

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<sup>3</sup> The Gravity model of Trade is built on size of the economies and distance (Anderson, 1979; Krugman, 1980; Anderson and Wincoop, 2003).

in many of the East Asian countries including Singapore, South Korea, Taiwan and Hong Kong. They may be small but have gained significantly from openness. This contrast has prompted us to look at the pace of openness and its impact on the economic growth with particular focus to the Fijian economy.

In recent years, researchers have tried to understand the impact of various aspects of trade on growth and development of these small pacific islands. For example, Prasad and Narayan (2006) find a positive impact of exportability on the GDP growth of Fijian economy while the productivity difference between export and non-export sectors of the economy is not substantial to be noted. Jayaraman and Singh (2007) undertake an econometric study of the impact of FDI in Fiji during a 30-year period and find its positive contribution on employment creation and economic growth.

After political independence in 1970, Fiji became a member of the United Nations, the Commonwealth, the Pacific Community, and the Pacific Islands Forum. It has a deeper political link with Pacific Islands through the Melanesian Spearhead Group (MSG), and is a member of the African-Caribbean-Pacific Group associated with the European Union. Because of its central location in the South Pacific and relatively well-developed economy and infrastructure, Fiji is the host to many regional and international organizations.. During the initial period after independence Fiji had pursued a strategy of import substitution. This strategy had not been effective in driving economic growth. So in order to gear up the growth, the country has gradually changed the trade policy and moved toward export promotion strategies since late 1980s and became a member of the General Agreement on Tariffs and Trade (GATT) in 1993, just a year before the formation of World Trade Organization (WTO). It is now, an active member of its successor organisation, WTO. With the acquaintance of GATT and WTO, small economies such as Fiji, have accelerated the pace of trade liberalisation for the sake of economic growth. After that the foreign policy tends to be more liberalized. This must have some implication on the trade flow of the country and resultant impact on the economic growth. The present study analyses the effectiveness of trade liberalization policies towards supporting economic growth for the period 1970-2009.

The country has failed to maintain a decent rate of growth in recent years, for example the average growth rate over the last 5 years has been less than 1 %. Sudgen (2008) identifies

several binding constraints to growth in the Pacific. These include lack of appropriate, infrastructure, political instability and security issues, market distortions created by monopolistic structures, especially in the transport and telecommunications sectors, and lack of land reform in some countries. In another study, Prasad (2010) argues that Fiji's economic performance has remained poor over the last four years and the global economic crisis could cause a further deterioration. . Fiji is forecasted to continue to perform poorly due to the political uncertainty. Prospects could improve if the military government lifts the emergency rule, removes media censorship, and outlines a clear path and time table for democratic elections. Investor confidence is low and will continue in this fashion because of the lack of clear direction on the political way forward and lack of consistencies in economic policies.

The study has particular importance in the present context for the following reasons: while economic growth of the country is constrained by so many factors one would be interested to look at the trade flow, net trade balance and resultant growth of the country. Second, the primary sector, particularly sugar, used to be the principal economic activity, but the sector has not performed well in recent years, partly due to natural calamities and partly because of the difficulty in getting land leases for sugarcane farming. . Thirdly, the financial crisis in the Western world has not only reduced demand for export supplied by developing countries but also reduced investments and outsourcings<sup>4</sup>. Under these circumstances, it is important to understand the trade dynamics for deriving possible strategies to accelerate the economic growth of a small island country like Fiji. The next few sections have been organized as follows: The section 2 discusses the general trade openness of the country. The section 3 deals with the effect of openness on the growth of the country. The section 4 further looks at the inter and intra-sector trade in order to examine the dynamics of trade in the country. The last section provides some concluding remarks.

## **2. Openness**

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<sup>4</sup> Kumar and Singh (2010) have shows some channels through which global economic crisis affects the pacific economies.

The section attempts to illustrate the pace of trade flow of Fiji with rest of the world. Trade data at US dollar constant prices has been drawn from UNCOMTRADE for the relatively longer period during 1970-2009. The absolute value of export and import (at US dollars) has been shown in Figure 1. It clearly shows a steady rise of both export and import over the entire period. However, cyclical fluctuation is also quite prominent for both export and import after every two or three years. In other words, there is a rise of trade flow followed by a drop in the volume after every two or three years. Second, there has been an increase in the volume of trade during the early 1990s, that is before its entry as a member of the GATT/WTO. This has also justified the policy of trade liberalisation. Third, at the time of independence, the total volume of export was higher than the import leading to a positive trade balance. This continues up to the early 1990s and thereafter import dominates over exports. Although both export and import shows a structural shift in the level during early 1990s, the import level might have increased higher than the export leading to a negative trade balance. Since then the trade balance has never become positive, instead it tends to be widening over the years. The trend of trade balance is shown in Figure 2.

<INSERT FIGURE 1>

<INSERT FIGURE 2>

The negative trade balance should not be a concern if the overall openness compared to total domestic production shows a rising trend. Moreover, as discussed in the beginning the imports can also play a crucial role by creating positive externalities in various other sectors in the economy. Openness usually refers to the total trade flows (including exports and imports) with respect to gross national product. This is a gross measure of national openness. Again, a sharp jump in the level of openness has been quite visible in the early 1990s. In fact, the level of openness of the country registers a high value throughout the period. Again, the level of openness follows a cyclical fluctuation after every two or three years (Table 3). However, when one splits up the openness into export and import share, it demonstrates a slightly different picture. The export share (as percentage of gross national product) does not show any improvement during the period while the import share (as percentage of gross national product) registers a rising trend for the same period. Therefore, the net export share, an alternative index of trade balances, portrays a declining

trend and takes negative value after 1990s (Figure 4). These observations clearly reveal that the economy is highly influenced by external and internal shocks. Since, the economy is highly dependent on trade, any shock in the external market cannot be neutralised by the domestic market. Moreover, the domestic market has witnessed political uncertainty as well as production uncertainty in the agricultural sector. These factors are responsible for fluctuations in the openness of the economy.

<INSERT FIGURE 3>

<INSERT FIGURE 4>

### **3. Openness and Growth**

It is important to understand whether the openness has made any significant impact on national growth. It is quite evident from country experiences that the export sector takes a leading role in the promotion of economic growth. At the outset, it must be stated that negative trade balances may not necessarily be bad for the country. According to the modern trade theories, the import can also play an important role in increasing domestic production either through raising competition or accelerating spill-over effects. Strategic trade of capital goods imports and raw materials is necessary for exports in small states and Fiji is no different.

Gross Domestic Product (GNP) has increased sharply during the study period and registers almost three-fold rise within the period. But, it should be mentioned that the GNP accounted for a continuous decline during the last three-four years (Figure 5). Several scholars have pointed out this fact and the national government has also acknowledged this for possible remedies.

According to ISIC definition, economic activities are broadly grouped into seven categories<sup>5</sup>, viz., Gross value added in all the sectors has increased by several -fold during the study period. Most of the non-farm sector, except construction, has registered 2 to 2.5 times rise

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<sup>5</sup> (1) Agriculture, hunting, forest, fishing (ISIC A-B); (2) Mining and utilities (ISIC C&E); (3) Manufacturing (ISIC D), (4) Construction (ISIC F); (5) Wholesales, retail trades, restaurant and hotel (ISIC G-H); (6) Transport, storage and communication (ISIC I); (7) Other activities (ISIC J-P).

from 1970 to 2009. However, the value added in the farm sector (agriculture, hunting, forestry and fishing etc.) shows a moderate improvement (Table 1). The non-farm sectors, which have performed well during the period, include manufacturing and services such as wholesale, retail trades, restaurant and hotel; transport, storage and communication and other activities. While most of the emerging countries in recent past have revealed a sharp improvement in the construction section, but the economy accounts for quite substantial ups and downs during the period. This is more visible in Figure 6. Another import feature which appears from the figure is that almost all the sectors register a deceleration during last two years.

<INSERT FIGURE 5>

<INSERT TABLE 1>

<INSERT FIGURE 6>

In terms of relative contribution, other service activities (ISIC J-P) and agriculture, hunting, forest and fishing (ISIC A-B) represent 35% and 25% respectively and they jointly capture 60% of the GNP during 1970. But, these two sectors have shown movements in opposite directions over the years in relative terms. The relative contribution of agriculture and allied sector has dropped down from 25.2% in 1970 steadily to 13.2% in 2009. On other hand, the contribution of other activities has increased from 35.1% in 1970 to 42.8% in 1985 and then dropped to 37.8% in 2009. This seems to be a positive sign for the growth of the economy. Growth trajectories of many developed countries in the West and East Asia demonstrate that the relative contribution of industrial and service sectors in the economies gradually moves up with a fall of primary sector over the years. But, here it is observed that manufacturing contributed 15.4% of national outputs in 1970 and it showed a declining trend during 1980s and 1990s, leading to 14% decrease in 2009 (see Table 6). Similarly, the percentage contribution of construction in the national incomes initially rises from 5.8% in 1970 to 6% in 1980 and thereafter declines all the way to 2.9% in 2009. Therefore, the secondary sector (manufacturing and construction) has shown although increasing trend in absolute terms but decreasing trend in relative terms. A spectacular rise is observed in the relative contribution of two leading service sectors, viz., wholesale, retail trade, restaurant, hotels and transport, storage, communication. Fiji is an island country and hence it has a



locational advantage for a flourishing tourism industry in the country. Tourism has, in fact, grown during this period and boosted the allied sector like restaurants, hotels and other trading activities. In order to facilitate the growth of this sector, the government has patronised this by developing the infrastructure and road networks in the country. The growth of communication sector has been inevitable to facilitate those sectors and wholesale and retail trading activities. Therefore, the service sector, in total, has played a significant role in the national growth. But, over-dependence on tourism-led growth could be volatile and unsustainable until it is supported by growth of manufacturing sector. Financial crisis has further created uncertainty in the earnings from the tourism sector in recent years.

<INSERT TABLE 2>

We use an econometric exercise to see whether openness is conducive for the national growth during the study period. Again, the relevant data for GNP, sectoral production and trade flows has been taken from UN COMTRADE. It covers sufficient observations to run time-series regression. Since our attempt is to see the effect of openness (Open) on the gross national product (GNP), simple regression analysis might provide misleading results because of its endogeneity between these two variables. In other words, openness affects growth of income and this further affects openness. In addition, there are other factors too which affect GNP and one should control some other variables in order to find robust relationship between these two variables. Because of paucity of other information for long-term time period, some proxy variables are used. Public expenditure (PE) is one of them. Government final consumption expenditure has been taken here to represent the public investment. In addition, gross fixed capital formation (GFCF, in logarithmic term) has also been considered to capture the effect of technological change in the economy. However, one might argue for causal relationship between gross fixed capital and openness. A separate regression is run, ignoring this variable in the model, for robustness checking. The econometric model of the relationship is presented as follows:

$$\ln GNP_t = \alpha + \beta_1 Open_t + \beta_2 \ln GFCF_t + \beta_3 \ln PE_t + u_t \quad (1)$$

$$Open_t = a + \pi \ln GNP_t + e_t \quad (2)$$

<INSERT TABLE 3>

As is discussed in the previous section, a simultaneity problem between GNP and Open appears in the econometric estimation. In order to deal with this problem, three alternative forms of regression methods have been applied using instrument variable approach – two-stage least squares (2SLS), Generalised Moment Methods (GMM) and Limited Information Maximum Likelihood Methods (LIML). In all cases, lag of openness is used as an instrument of the same variable. The regression results are presented in Table 3. Absolute value of variables like GNP, GFCF and PE are taken into logarithmic form and openness is in the form of percentage share. These minor changes of the variables help to deal with the non-stationary issue of time-series variables. Even then, simple unit tests have been run to check the stationary, before running these regressions. The first three columns in the table represent the regression results of the three alternative forms of econometric methods using same set of independent variables on GNP. The regression parameters of openness, which is of our interest, have been found statistically significant in all the three regressions even at 1% level of significance. Moreover, the results of three alternative forms of regression are almost identical. The two control variables, GFCF and PE, are also found to be statistically significant. Since there could be some colinearity between Open and GFCF, a separate regression is run without GFCF and the result is similar. Therefore, one can safely conclude that openness has made a positive impact in the national growth of the country during 1970-2009. But, the magnitude of the impact of openness on GNP growth seems to be very low.

The next question would be to see which sector got a significant boost from openness of the country. The same set of three variables has been regressed separately on sectoral value addition and the last three columns in the table represent the regression results. Again, the regression coefficients of *Open* have turned out to be statistically significant in all the regression. For a one percent rise of openness, GNP is grown by 0.5 to 0.7%. This accounts for relatively lower impact openness on the national growth. Moreover, magnitude of the impact of openness on primary sector seems to be lower than that in the secondary and tertiary sector. Agriculture and allied activities have slowed down, due to decline of sugar cultivation, and have weakened the gain from comparative advantage on agriculture. But, this is to some extent compensated by the proliferation of service sector activities.

Therefore, openness has contributed to the national growth positively but this seems to be low. One reason is that the exports have drastically declined, because of deceleration of agricultural sector, during the period and therefore, gain due to negative trade balances goes against the country. On the other hand, imports have pushed up trading and allied activities and this has lifted up growth of the economy. Tourism has been another sector which helps to earn foreign exchange to a large extent. So, openness has mainly acted positively through the service sector expansion.

#### **4. Inter-Industry Trade and Intra-Industry Trade**

Moving further into the analysis of the micro aspects of trade flows can be useful for drawing possible suggestions on planning. It should be remembered that while the traditional trade theories talk about the gains from comparative advantages over inter-industry trade between countries the modern trade theories illustrate the gain from intra-industry trade over same production sectors between them. Moreover, it is noticed that the intra-industry trade starts rising with the growth of the country. Before analysing the intra-industry trade, one should have a fair understanding of the top tradable commodities and large trade partners of the country.

If one looks at the top few imported and exported items, it clears that the country mostly imported manufactured commodities and exported mining and agricultural products to a large extent. Major imported commodities are mineral fuels, mineral oils and products of their distillation, bituminous substances, mineral waxes; nuclear reactors, boilers, machinery and mechanical appliances, Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles; Cereals; Plastics and articles thereof; and others (Table 4). Those commodities are by and large imported from Singapore, Australia, New Zealand, USA and China (Table 5).

On the other hand, major exported commodities are Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes; Sugars and sugar confectionery; Fish and crustaceans, molluscs and other aquatic invertebrates; Beverages, spirits and vinegar; Articles of apparel and clothing accessories, not knitted or crocheted;

and Other commodities (Table 6). They are by and large exported to UK, Australia, Singapore, USA and others (Table 7).

<INSERT TABLE 4>

<INSERT TABLE 5>

<INSERT TABLE 6>

<INSERT TABLE 7>

According to our theories of comparative advantage, if a country trades in a product, it should either mostly be exporting the product (based on its relatively low production costs) or mostly importing the product (as a result of its relatively high production costs). We would see only inter-industry trade, in which a country exports some products in trade for imports of others, quite different. But in reality, much of the trade takes place within industries particularly between developed countries and this is known as inter-industry trade (IIT). IIT is quite high between European countries, between Japan and USA etc. (Pugels, 2010; 95). Especially, in agriculture and allied primary products, there is also substantial IIT – two-way trade in which country both exports and imports the same or very similar products. Therefore, IIT is the part of total trade in the product (exports and imports) that is not net trade, i.e.,

$$IIT = (X + M) - |X - M| \quad (3)$$

Where  $X$  is the value of exports of the products and  $M$  is the value of imports of the same products. For the same inter-industry and inter-country comparison, one needs to derive the index in relative terms. One way is to measure the relative importance of IIT, as a share of total trade:

$$IIT\ Share = \frac{IIT}{Total\ Share} = \frac{(X+M)-|X-M|}{(X+M)} \quad (4)$$

The value of the index lies between 0 to 1. If it is 0, the intra-industry trade is assumed to be nil. If it is 1, intra-industry trade is assumed to be highest. IIT share has been constructed for major tradable commodities and data has been drawn from WTO website, for the period 1980 to 2009. Our attempt is to see the changes of IIT share during this entire period in the

country. But, some information are missing for few years. Even then, it allows us to derive the value of IIT share for major commodities (see Table 8). It is interesting to note that IIT share was quite high for agricultural products (0.744) and food (0.743) during 1980, but the share has gradually come down to 0.500 and 0.508 respectively in 2009. Similarly, the IIT share was relatively high for fuels and mining products, registering 0.303 during 1980, and then has dropped to 0.255 during 2009.

Modern trade theories have given much importance on the IIT share of non-agricultural goods. This indirectly relates development of secondary and tertiary sector in the country. The problem of inference on non-agricultural products is the lack of information. Based on the information available, IIT share of non-agricultural products, except clothing, seems to be quite low. The share of clothing has sharply increased from 0.119 in 1980 to 0.795 in 2009. Manufacturing accounts for 0.079 in 1980 and then increased to 0.243 in 1994 and again dropped to 0.174 in 2009. Similarly, other important industrial goods and services, which played important role in emerging countries, accounts for very low share in chemicals, pharmaceuticals, machinery and transport equipments, office and telecom equipments, electronic data processing and office equipments, telecommunication equipments, integrated circuits and electronic components, automobiles etc. However, one positive thing is that even though it is low it still shows marginal improvement over the years during the study period.

<INSERT TABLE 8>

One would be further interested to know the aggregate IIT share of the economy as a whole and its trend over the period. For this purpose, weighted average of IIT share combining all tradable products has been constructed. IIT share has been calculated for each product based on (3) and then the weighted average is calculated across all these products (using the country's total trade in the product as weights, so that products with more total trade receive more weight in the overall average). The formulae is given in (5).

$$\text{Weighted Average of IIT Shares} = \sum_{i=1}^n \left[ \frac{(X_i + M_i)}{\sum_i^n (X_i + M_i)} \cdot \text{IIT Share} \right] \quad (5)$$

In the calculation, above-mentioned 15 product groups are used and it gives a proxy of overall IIT share of the economy. The share shows a declining trend from 0.470 in 1980 to

0.294 in 2009 (see Table 8). This is because of two factors. Agricultural and mining products, which dominate in the country's trade volume, register declining trend in the respective shares. On the other hand, the shares of non-agricultural sector are still too low to push up the trend. It should be mentioned that although country has been able to draw gains from trade which is largely driven by the inter-industry trade (i.e., comparative advantage). In other words, the intra-industry trade is very low and the level of competitiveness within the industry would also be very low and hence, benefits from economies of scale seem to be negligible. This is a real concern about openness in the country and its resultant impact on the national growth.

<INSERT FIGURE 7>

## **5. Concluding Observations**

The paper attempts to look at the level of openness of a small economy and its impact on growth, based on Fijian experiences during 1970-2009. While some of the Asian and Latin American economies have successfully derived benefits from openness to accelerate the economic growth during the last couple of decades, the analysis of this issue in relation to small Pacific Island nations has not been seriously considered. This paper analyses the impact of the openness of Fijian economy on its economic growth. Fiji became a member of GATT/WTO in 1993. Since then, the country has adopted several measures to liberalise its economy. Using UN COMTRADE data, the paper shows that exports and imports have increased in both absolute and relative terms during 1970-2009, but the net trade balance has gone against the county from early 1990s. The degree of openness, measured in terms of the relative share of trade flows to the Gross National Products (GNP), is found to be high and is rising over the span of time. Moreover, various alternative method of regression using instrument variable to deal with the simultaneity have been applied to see the robust impact of openness on the growth of GNP and the results suggest that the openness has made positive impact on national growth. It has boosted mainly the service sector activities like wholesale, retail trade, restaurant, hotels and transport, storage, communication etc. On the other hand, manufacturing and construction activities are yet to flourish and this is one area where policy makers need to pay more attention.

Moreover, the basic trade theory has shown that gains from trade not only laid on inter-industry trade (for comparative advantages) but also intra-industry trade (for economies of scale). The source of growth from the later is supposed to be more relevant for a small economy. In order to understand the origins of gain from trade, the paper further constructs intra-industry trade share using fifteen product groups, both at disaggregate and aggregate level, and it reveals that the share is quite high for agriculture and mining activities and also showing a declining trend. The share is abnormally low for non-agricultural products, except clothing. Therefore, one can safely say that although the growth of economy is explained by openness, but the gain from trade is mainly rooted into the comparative advantage of agriculture and mining sectors.

Since agriculture, its allied activities and mining sectors still play predominant role in the trade front, the growth of economy is highly volatile with natural calamities and uncertain land leasing arrangement in the country. Service sector has grown significantly in recent years, but industry sector needs to be accelerated in order to sustain it. It is very important when many of the trading partners of the country are likely to under severe economic crisis for a relatively longer period. The size and location of the country play an important role to accelerate the pace of industrialization, but recent experiences of East Asian success has shown that it is not a necessary condition. Continuous persuasion of liberalisation is mandatory and but the government has a role to channelize these benefits. Bilateral negotiations, particularly with the emerging and growing countries, should be one way to do so. This has to be supported by domestic policies to promote competitiveness.

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Figure 1: Exports and imports of goods and services (millions, US\$) during 1970-2009

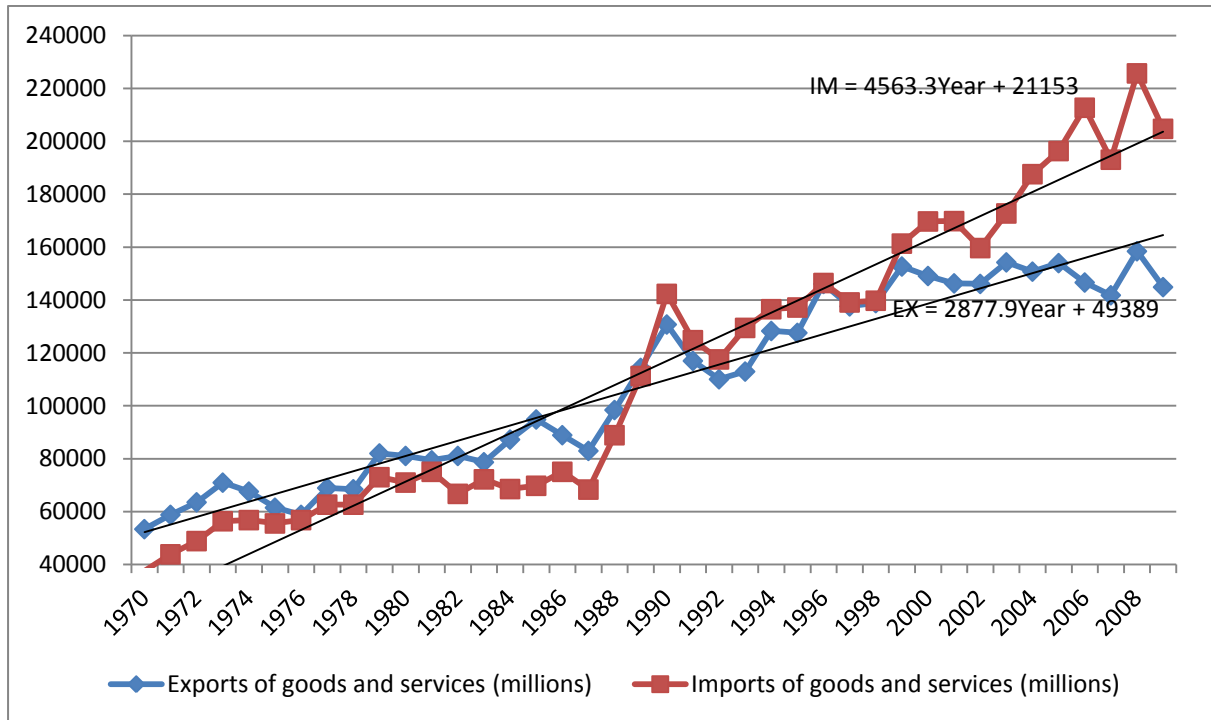


Figure 2: Trade Balances (Exports minus Import) of Fiji Island (millions, US\$) during 1970-2009

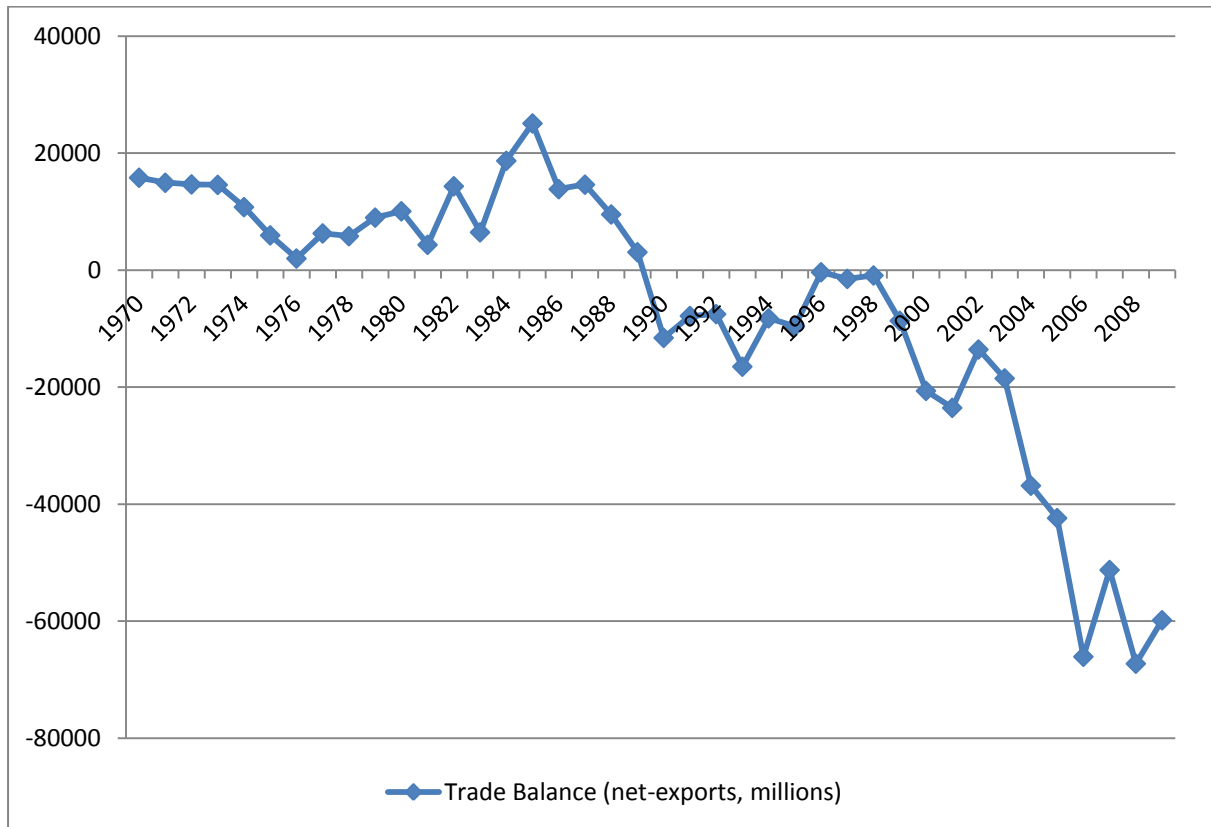


Table 3: Openness of Fijian Economy during 1970-2009

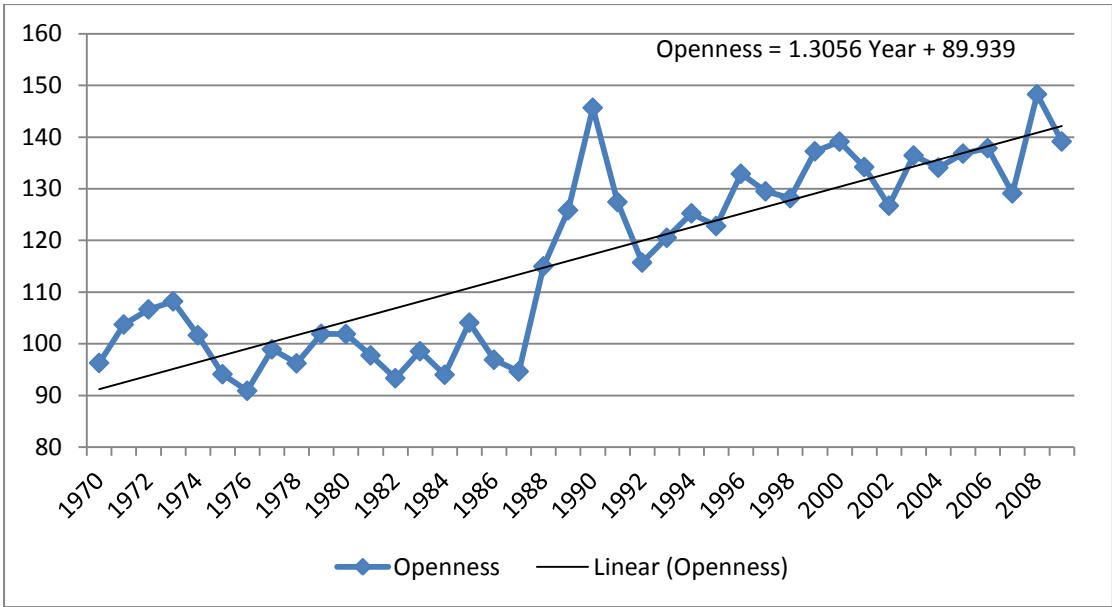


Figure 4: Export Share, Import Share and Net export share of Fiji Islands during 1970-2009

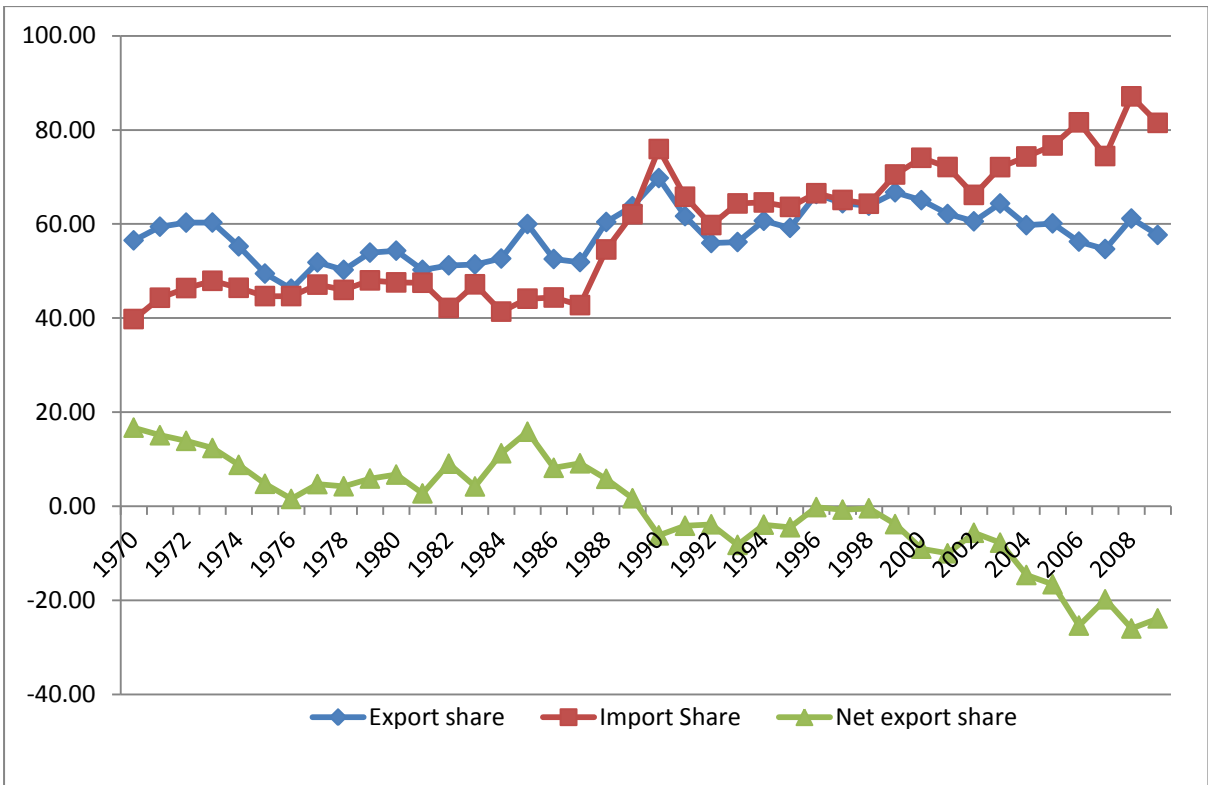
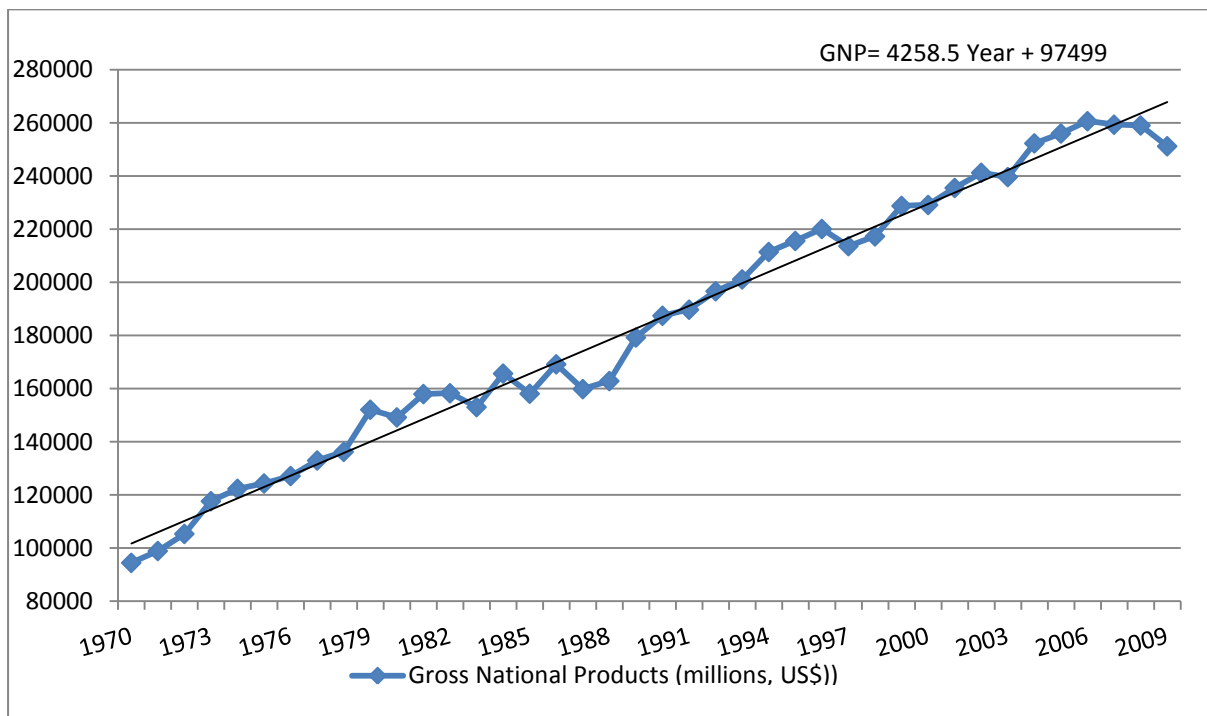


Figure 5: GNP (millions, US\$) of Fiji Island during 1970-2009



Source: UN COMTRADE

Figure 6: Gross value added (millions, US\$) of Fiji Island by Sectors during 1970-2009

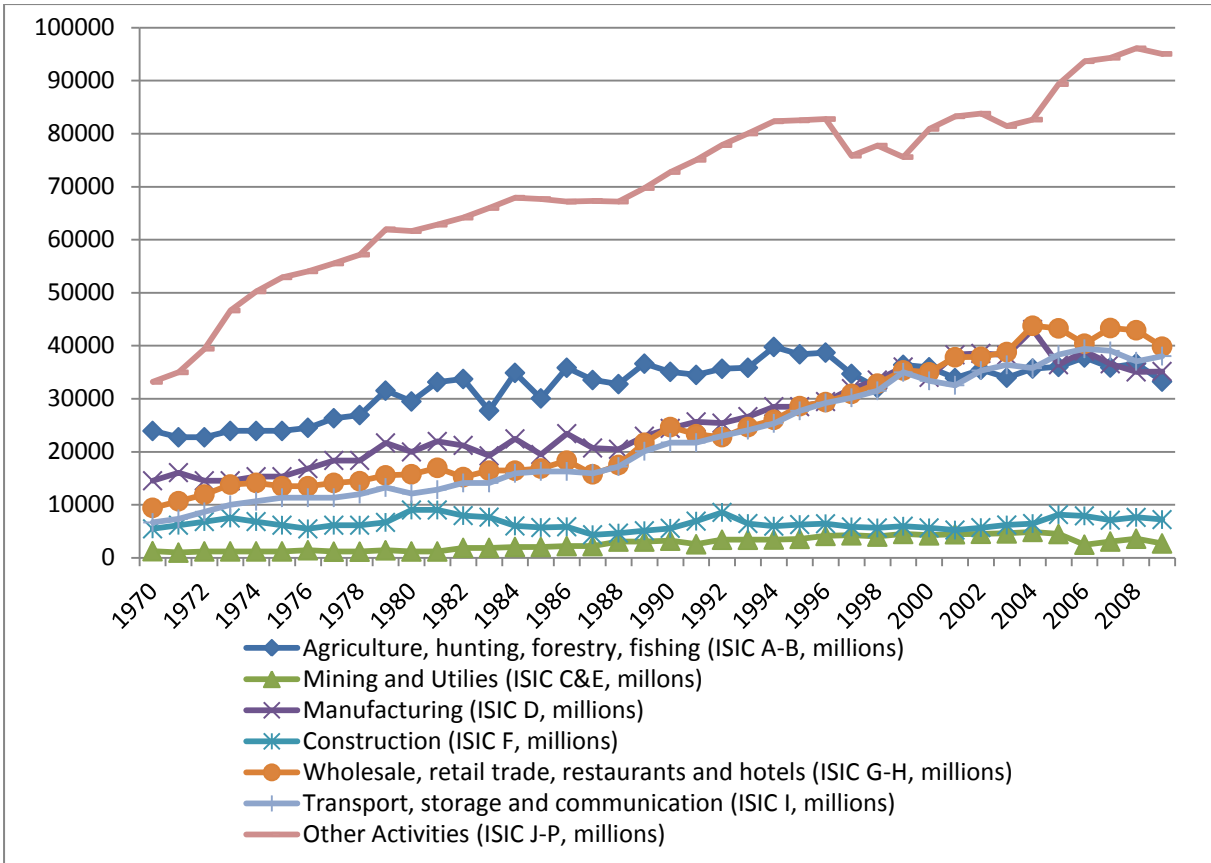


Figure 7: Weighted IIT share of Fijian Economy during 1980-2009

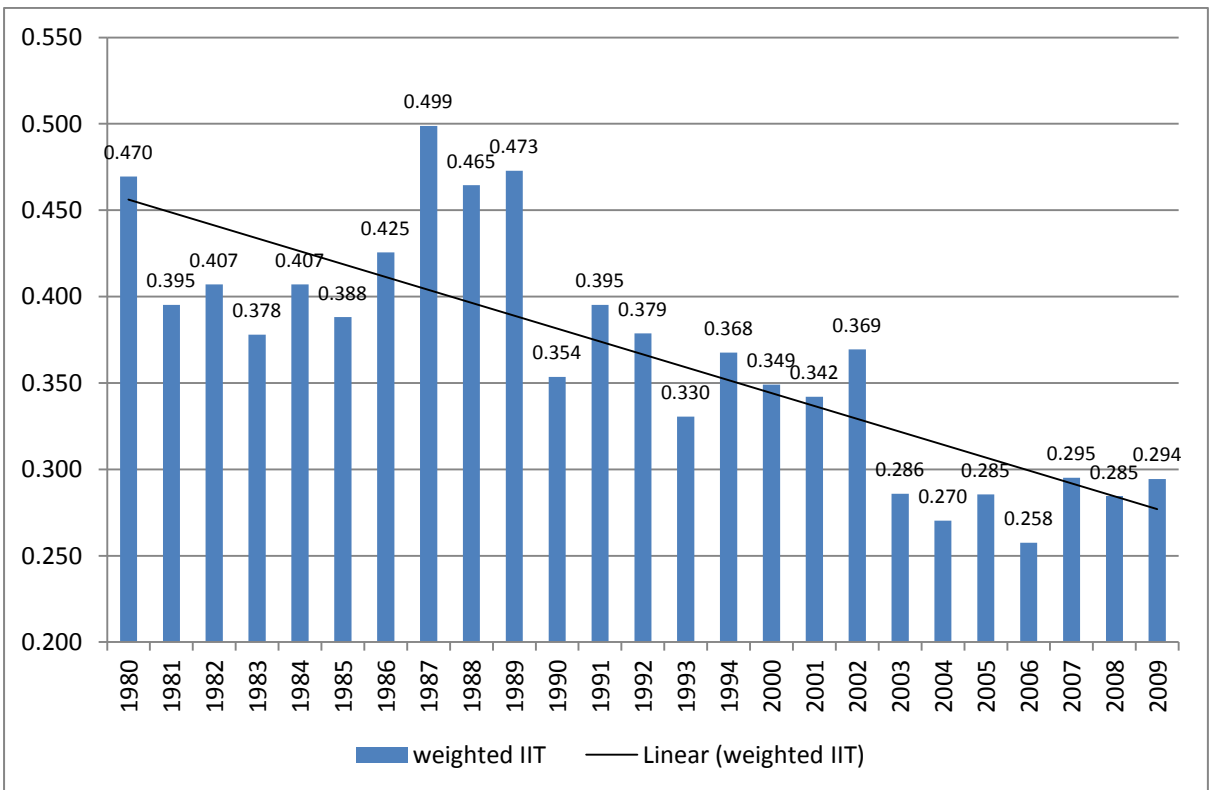


Table 1: GNP (millions, US\$) by sectors, 1970-2009

Year	Agriculture, hunting, forestry, fishing (ISIC A-B)	Mining and Utilities (ISIC C&E)	Manufacturing (ISIC D)	Construction (ISIC F)	Wholesale, retail trade, restaurants and hotels (ISIC G-H)	Transport, storage and communication (ISIC I)	Other Activities (ISIC J-P)	GNP
1970	23933.6	1260.6	14543.0	5466.7	9424.4	6672.9	33183.7	94484.9
1975	23933.6	1213.5	15308.4	6150.1	13508.4	11344.0	52904.5	124362.4
1980	29492.3	1198.0	19977.2	9021.3	15768.1	12137.6	61627.5	149222.0
1985	30070.6	2049.0	19483.9	5713.5	16846.2	16304.2	67674.6	158142.1
1990	35082.4	3242.3	24416.5	5563.2	24662.9	21738.9	72766.3	187472.6
1995	38394.1	3576.9	28513.7	6273.4	28610.6	27732.2	82515.6	215616.5
2000	35938.1	4245.0	34044.0	5647.1	34987.4	33395.7	80902.8	229160.0
2005	36013.1	4494.2	36427.1	8160.6	43286.7	38319.4	89352.8	256053.9
2009	33239.9	2714.1	35157.2	7210.0	39822.7	38054.1	95051.2	251249.2

Source: UN-COMTRADE

Figure 6: Gross value added (millions, US\$) of Fiji Island by Sectors during 1970-2009

Table 2: Sectoral contribution in GNP (%), 1970-2009

Year	Agriculture, hunting, forestry, fishing (ISIC A-B)	Mining and Utilities (ISIC C&E)	Manufacturing (ISIC D)	Construction (ISIC F)	Wholesale, retail trade, restaurants and hotels (ISIC G-H)	Transport, storage and communication (ISIC I)	Other Activities (ISIC J-P)	GNP
1970	25.3	1.3	15.4	5.8	10.0	7.1	35.1	100
1975	19.2	1.0	12.3	4.9	10.9	9.1	42.5	100
1980	19.8	0.8	13.4	6.0	10.6	8.1	41.3	100
1985	19.0	1.3	12.3	3.6	10.7	10.3	42.8	100
1990	18.7	1.7	13.0	3.0	13.2	11.6	38.8	100
1995	17.8	1.7	13.2	2.9	13.3	12.9	38.3	100
2000	15.7	1.9	14.9	2.5	15.3	14.6	35.3	100
2005	14.1	1.8	14.2	3.2	16.9	15.0	34.9	100
2009	13.2	1.1	14.0	2.9	15.8	15.1	37.8	100

Source: UN-COMTRADE

Table 3: Regression results

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Variables	GNP (ln)	GNP (ln)	GNP (ln)	GNP (ln)	Primary Sector Output (ln)	Secondary Sector Output (ln)	Tertiary Sector Output (ln)
Open (%)	0.0052***	0.0052***	0.0052***	0.006***	0.003**	0.006***	0.007***
GFCF (ln)	0.11**	0.11***	0.11***	---	0.037	0.305***	0.212***
PE (ln)	0.48***	0.48***	0.48***	0.491***	0.459***	0.282***	0.540***
Const.	5.54***	5.54***	5.54***	6.371***	5.556***	3.682***	4.144***
N	39	39	39	39	39	39	39
R2	0.97	0.97	0.97	0.96	0.93	0.89	0.96
Model	2SLS (IV)	GMM (IV)	LIML (IV)	2SLS	2SLS (IV)	2SLS (IV)	2SLS (IV)
Instruments	Openness (lag)	Openness (lag)	Openness (lag)	Openness (lag)	Openness (lag)	Openness (lag)	Openness (lag)

Note: Open – Openness; GFCF – Gross Fixed Capital Formation; PE – Public Expenditure

\*\*\* - significant at 1% level, \*\* - significant at 5% level and \* - significant at 10% level.

Table 4: Top Imported Commodities in 2009 (billions US\$)

Code	Description	Trade Value
27	Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes	114.60
84	Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	30.75
85	Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles	24.55
10	Cereals	14.6,4
39	Plastics and articles thereof	12.78
	Other commodities	172.77

Source: WTO

Table 5: Top Import Partners with Fiji (billions US\$)

Partner Country	Trade Value
Singapore	1,18.58
Australia	76.33
New Zealand	52.83
USA	21.61
China	17.58
Other partners	83.17

Source: WTO

Table 6: Top Exported Commodities in 2009 (billions US\$)

Code	Description	Trade Value
27	Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes	38.59
17	Sugars and sugar confectionery	27.21
03	Fish and crustaceans, molluscs and other aquatic invertebrates	17.08
22	Beverages, spirits and vinegar	12.44
62	Articles of apparel and clothing accessories, not knitted or crocheted	8.19
	Other commodities	51.54

Source: WTO

Table 7: Top Export Partners with Fiji (billions US\$)

Partner Country	Trade Value
United Kingdom	23.13
Australia	21.38
Singapore	19.80
USA	18.25
Areas, nes	15.41
Other partners	57.08

Source: WTO



Table 8: IIT share of major products

Year	1980	1985	1990	1994	2000	2005	2009
Agricultural products	0.744	0.620	0.681	0.670	0.624	0.582	0.500
Food	0.743	0.617	0.662	0.652	0.605	0.564	0.508
Fuels and mining products	0.303	0.311	0.330	0.288	---	0.261	0.255
Fuels	---	---	---	---	---	0.262	0.254
Manufactures	0.079	0.107	0.218	0.243	0.281	0.147	0.174
Iron and steel	---	---	0.128	0.112	0.138	0.079	0.082
Chemicals	---		0.068	0.079	0.063	0.082	0.144
Pharmaceuticals	---				0.067	0.141	0.293
Machinery and transport equipment			0.101	0.144	0.006	0.052	0.104
Office and telecom equipment	---	---	0.063	0.058	---	0.039	0.111
Electronic data processing and office equipment					---	0.040	0.031
Telecommunications equipment				---	---	0.039	0.194
Integrated circuits and electronic components					---	0.008	0.023
Automotive products			0.008	0.016	---	0.017	0.028
Clothing	0.119	0.392	0.890	0.867	0.791	0.746	0.795

Note: Author's calculation based on WTO data

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