



Analysis of Fiji's Export and Its Impact on Economic Growth

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ABSTRACT

Exports are vital for Fiji's economy as it contributes significantly to its gross domestic product (GDP) and economic growth. The export data over the years show very slow growth and is gradually increasing. Fiji's GDP data show that GDP is gradually increasing. Thus, Fiji's economic growth is also increasing at a steady rate. This study aims to measure the relationship between exports and economic growth in Fiji. A regression analysis on data collected for Fiji from 2000-2015 shows that there is a strong positive relationship between exports and economic growth. Thus, when exports increase, economic growth also increases. Potential sectors that can be further developed to boost Fiji's exports are sugar, garment, tourism and agriculture. The government should restrict imports through import quotas, tariffs and embargoes and give subsidies and tax incentives to potential export sectors to boost domestic production and increase exports. The government's motive is to increase export incentives and promote Fiji made products both locally and overseas. Thus, this leads to an increase in exports, improves the trade balance and economic growth. This research article was undertaken to carry out research to investigate the link between Fiji's export and economic growth and highlight ways and potential sectors to increase Fiji's export and reduce imports.

Keywords: Economic growth, exports, GDP (Gross Domestic Product), imports, international trade.

JEL Codes: F14, F44.

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1.0 INTRODUCTION

The transfer of goods, services and capital crossing foreign boundaries is known as international trade ([En.wikipedia.org](https://en.wikipedia.org), 2017). Selling commodities such as sugar produced in one country to citizens of other countries are termed as exports. Exports are not only limited to goods but are also extended to intangible

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items such as tourism services of which is categorized as an invisible export. International trading requires the countries to pay for the goods and services in the currency of the exporting country. Thus, it is not only exchange of goods, services, and capital but also an exchange of currencies taking place between the trading partners. Trade embodies the major contributor to Gross Domestic Product (GDP) of many economies whether developed or still developing.

According to literature, the association between exports and economic growth has received mixed reviews over the years. Economic growth is stimulated by international trade. And the expansion of exports, in turn, escalates the income of the inputs used in the production process thus increasing the demand for the factors of production to produce more goods and services. This fosters technological change and brings about better opportunities for investment. The higher demand generated by exceeding exports is also likely to spill over to the entire economy (Quddus and Saeed, 2005). Furthermore, through trade, nations have the advantage to access technology from other countries to improve their production processes and to increase economic well-being of their countries. For example, Fiji imports latest communication devices and computers to improve its production processes enabling them to use these tools to bring effective and efficient production. Thus, the overall production increases. The advancement in technology, for example, modern production techniques, together with state-of-art transport structure, efficacious development of industries within a nation and large companies operating internationally have accelerated international trade. (Economywatch.com, 2017).

Moreover, Balassa (1978), Krueger (1978) and Ndulu and Ndungu (1998), suggest that the growth of the export sectors in an economy may lead to an escalation in the capacity of economies of scale as the market size increases and allocative efficiency and competitiveness is enhanced at the firm level. Thus making the export sector more productive compared to non-export sectors when greater incentives enhance investments and upgrade technologies, therefore, having a favorable impact on the economic gross domestic product. Pugel (2007) further adds that the trading across borders has been intensified as a result of the benefits it encompasses and trade is a significant source of earnings for a growing nation. Another important benefit of international trade is that it enhances domestic competitiveness. For example, through trade, domestic producers become more efficient, so they increase their production and the surpluses are exported which earns them higher revenue thus leading to increased sales and profit. Nations take advantage of international trade technology to improve their production processes such as, automation that is using more machines in the production process. This makes production process fast and is cost effective.

Furthermore, nations engage in international trade because nations with strong international trade have become prosperous and have the power to control the world economy. The global trade can become one of the major contributors in the reduction of poverty. David Ricardo, a classical economist, employing his principle of comparative advantage explained how trade can benefit all parties such as consumers, firms, and countries involved in it, as long as goods are produced with the lowest opportunity costs. This leads to specialization, that is, a country focuses on producing those items in which it has a cost advantage. The net benefits from such activity are called gains from trade. This is one of the most important concepts in international trade. Adam Smith, another classical economist, with the use of the principle of absolute advantage, demonstrated that a country could benefit from trade if it has the least absolute cost of production of goods that is per unit input yields a higher volume of output. According to the principle of comparative advantage, benefits of trade are dependent on the opportunity cost of production. The opportunity cost of production of goods is the amount of production of one good reduced, to increase production of another good by one unit. A country with no absolute advantage in any product, that is, the country is not the most competent producer for any goods, can still be benefited from focusing on the export of goods for which it has the least opportunity cost of production (Economywatch.com, 2017).

Nations engage in international trade because nations with strong international trade have become prosperous and have the power to control the world economy. The global trade can become one of the major contributors in the reduction of poverty. David Ricardo, a classical economist, employing his

principle of comparative advantage explained how trade can benefit all parties such as consumers, firms, and countries involved in it, as long as goods are produced with the lowest opportunity costs. This leads to specialization, that is, a country focuses on producing those items in which it has a cost advantage. The net benefits from such activity are called gains from trade. This is one of the most important concepts in international trade.

Another benefit to countries engaging in international trade is a higher standard of living. International trade increases standard of living because it enables the country to have access to a wide variety of goods and services. Other reasons to trade internationally are the lack of resources and climatic and geographical conditions. Lack of resources is one of the major reasons for international trade. Most countries have limited natural resources; therefore they will not be able to produce everything they require. For example, Fiji lacks oil reserves so petroleum products are imported from Singapore and Korea. Fiji has abundant of land resources so they carry out more agricultural activities. The agricultural products are exported to earn revenue. Countries may not be able to produce different food items because they do not have the right climate. For example, apples cannot be grown in Fiji as it requires cold climates. Fiji has a tropical maritime climate. It is able to produce tropical fruits and vegetables. Fiji has an open economy that export and import goods and services with many countries. Although trade embodies many benefits to an economy and leads to economic growth and development but some studies indicate otherwise. Studies by [Dodaro \(1991\)](#), [Bhagwati \(1988\)](#), [Kunst and Marin \(1989\)](#) and [Henriques and Sadorsky \(1996\)](#) suggest that the intensity of export growth is dependent on the level of development in an economy.

There are many theories on trade and a few of them will be highlighted here. The principle of Absolute Advantage was first depicted by Adam Smith (1776) using only labor input. It is a theory which emphasizes on a country producing goods in which it has greater productivity and imports the goods with lower productivity. Fiji has absolute advantages in the products that it earns the highest export earnings, such as sugar, agricultural products, and fish and mineral resources. Another economic theory is the principle of Comparative Advantage depicted by David Ricardo (1817). Comparative advantage states that a country should export products in which it has a lower opportunity cost. According to the estimated by The Reserve Bank of Fiji (2017), A study by Prasad (2004) reveals that Fiji has a comparative advantage in products such as sugar, fish, timber, fruits and vegetables, cork and wood, clothing, gold, mineral water, garments, beverages and footwear for the period of 1998-2002.

In addition to this, the Heckscher - Ohlin Theory states countries should export those products that utilize inputs which are abundant in supply in the country. It is a triple comparison of comparative advantage: across countries: across products and: mainly across factors of production. Fiji has in abundance supply of unskilled laborers and abundance of unused land. The combination of the two available factors of productions is most attractive to labor and land intensive production, mainly agricultural and fisheries. The farmers of the agricultural products are not highly skilled but are appropriate for the production of agriculture produces. Fiji lacks high skilled labor thus does not produce high technological products such as automobiles and computers.

Most country's competitiveness increases as a result of international trade but due to some adverse factors, there is a decline in the performance of some export factors. The Dutch disease is a situation where some sector of the country performs poorly but previously they were very productive. Although Fiji has achieved diversification, a closer examination of the mining industry in isolation reveals a downfall due to common pitfalls associated with the natural resource depletion. Another example of Dutch disease is the garment industry in Fiji. This sector declined due to the expiry of tax-free zones. One such example is the sugar industry which was once known as the backbone of Fiji, being the major source of foreign exchange earnings. Sugar production has declined mainly due to the expiring of land leases after 1997.

Thus, due to international trade, export is an important economic variable in determining economic growth. Fiji's various export sectors contribute significantly to Fiji's economic growth. Export is an

important variable in the calculation of gross domestic product; therefore an increase in net exports implies an increase in a country's gross domestic product. Thus, this increases the economic growth in the country. Fiji's government is continuously promoting Fiji made products overseas to increase its exports earnings, improve its trade balance and the country's economic growth.

Although various studies have been conducted employing different methods to examine the causality between exports and economic growth and analysts have reached mixed conclusions, unfortunately, no such study exists for the Fiji Islands, in the South Pacific. Thus, there is a need to bridge this gap as sustained economic growth is vital for a developing nation like Fiji. The objective of this study attempts to measure the impact of export growth on economic growth in Fiji and provide recommendations to policy makers on which sectors of the economy to focus on to expand its production possibilities. There are a total of five sections in this paper: the next section focuses on literature review followed by the methodology, data analysis and finally the concluding remarks and policy recommendations

2.0 LITERATURE REVIEW

[Lin and Li \(2001\)](#), re-examine the contribution of international trade to economic growth in China for the years 1979 to 2000 using a Two-Stage Least Squares method as the sample size was small. Their argument is that previous studies have not differentiated between the portrayal of imports and exports on economic growth thus failing to describe the relationship between various economic variables. This had led to underestimating the contribution made by international trade. Therefore, they have employed econometric models and observed that a ten percent increase in exports leads to a one percent increase in GDP.

[Velnamby and Achchuthan \(2013\)](#) analyzed the impact of export and import on economic growth in Sri Lanka using data from 1970 to 2010. A time-series investigation using Eviews version 5 statistical software was conducted to establish the impact of the two variables on economic growth. It was discovered that there is a robust positive relationship between exports and imports and both of these economic variables have a significant impact on economic growth.

[Shahbaz, Ahmad and Asad \(n.d.\)](#) use the ARDL bounds test approach to explore the export led growth in Pakistan with data from 1990 to 2008. The study proves that the export is positively interrelated with growth for both the short-run and the long-run period. It further provides evidence that a depreciation in exchange rate hinders economic growth while a running real capital stock fosters it. Another study by [Sharma and Dhakal \(1994\)](#) also examines the association of exports growth and economic growth in thirty developing countries for the years 1960 to 1988. It is evident that international trade increases the level of output and generates more income in a country which assists in stimulating the volume of trade.

A few more studies have been conducted in this area which reveal the same result. Studies by [Balassa \(1994\)](#), [Sprout and Weaver \(1993\)](#) and [Lucas \(1990\)](#) validate the export-led theory based on the neoclassical growth accounting techniques of production function. They conclude that output growth is caused by export growth and not the other way round while other analysts, [Holman and Graves \(1995\)](#), [Jung and Marshal \(1985\)](#) and [Bahmani-Oskooee et al \(1991\)](#) accomplish that there is a significant causality between exports growth and economic growth. [Chemeda \(2001\)](#), utilizes Cobb-Douglas production function to analyze the impact of exports growth on economic growth for the Ethiopian economy for the years 1950 to 1986. The study uses co-integration techniques to examine the causality between the two economic variables. The finding is that there exists a significant long run relationship between export and gross domestic product.

3.0 METHODOLOGY

In the first few pages, an introduction to the proposed area of research was presented. This included a description of the study's research problem, several research purposes, rationale or justification of the

study, research objectives and research questions that will serve to direct the data analysis and an identification of several key terms to the study. In addition, a review of relevant literature related, established a background of support for the study. The analysis of Fiji's exports and its impact on economic growth have been studied extensively; however it was only carried out on a single research paradigm. This research was an effort to carry out a mixture of research paradigms, that is, a mixture of qualitative and quantitative research methods to assess and analyze Fiji's export and its impact on economic growth. Thus, the "Ontological Position" of this research project was both a mixture of objectivist and subjectivist. The research philosophy will be a mixture of positivist and interpretive view. The study has been conducted mainly on the basis of literature survey, interviews and secondary information. Various journals and research papers, diagnostic study reports and newspaper articles have been surveyed to give validity and viability to this research. Research entails the collection of data and analyzing the collected data into useful information. This underscores the immense role that research plays in academic research as well as in the business environment which cannot be underrated. The research method section of the study introduces major activities – the research strategy and the research design.

4.0 DATA ANALYSIS AND RESULT DISCUSSION

4.1 OVERVIEW OF THE FIJIAN ECONOMY

This study is based on Fiji, which is a small island nation in the South Pacific with a population close to a million (0.824m) as in 2007. The World Bank (2002) classifies this economy as an upper middle-income country with gross domestic product per capita as \$4050 in 2008. The policy makers in Fiji had implemented import substitution policies after its independence which was directed at encouraging consumption to innervate economic growth. Since 1986 Fiji has altered its strategy to export-led growth endorsed by the International Monetary Fund as it preceding policy was ineffective in invigorating constant economic growth (UNDP Pacific Office in Fiji, 2017).

Fiji's economy is an open economy and it trades (exports and imports) in the international market. It has been noticed and highlighted that Fiji's export earnings over the years having been declining and showing slow growth likewise, imports have been seen to continuously rise year over year increasing Fiji's trade deficit and balance of payments According to Rogers (2000) the ratio of imports to gross domestic product has rapidly increased over the last three decades. Export production in Fiji is also declining due to several reasons. Prasad (2000) said that the process of Fiji's assimilation with the world in previous years has been brought by significant developments in its balance of payments. One such development was signs of improvement in the countries' export orientation program, leading to increase in Fiji's exports.

Over the years, export growth in Fiji has been mainly affected by the nature of Fiji's preferential trade arrangements, exchange rate arrangements. Fiji's domestic exports, which mainly consist of agricultural products, faced spiked fluctuations from exogenous and endogenous factors. In most developing nations, the commodity concentration of Fiji's exports has been regarded as a major factor contributing to the short-term variability of Fiji's exports. Instability in global prices for agricultural products poses a significant amount of insecurity about export earnings from one year to the next (Prasad, 2000). A factor, such as the susceptibility of exports to adverse weather conditions has impacted Fiji's export earnings, thus, affecting gross domestic product and economic growth.

Export means that domestic country is selling its goods and services overseas. Some of the commodities Fiji export are, agricultural and forestry products, sugar, timber, gold, fish. The various export sectors in Fiji that contribute significantly to Fiji's economy in bringing export earnings are tourism, sugar industry, dairy, agriculture, fisheries, and forestry. Fiji also has a garment industry that export garment products. However, due to the expiry of tax-free zones, garment industry products in Fiji have significantly declined. Fiji has some garment factories still operating but the production is not on a very large scale.

The major garment factory 'GIMLI' closed its operations in Fiji due to the expiry of tax-free zones. Sugar used to be Fiji's largest export earner but due to many upheavals, tourism has become Fiji's largest foreign exchange earner. Sugar industry still continues to play an important role as an export earner. Other sectors such as agriculture, fisheries, and forestry, continue to play a vital role in Fiji's economy as well as bringing export earnings to Fiji. Some of the countries that buy Fiji goods and services are Australia, New Zealand, America, European Union, Japan and the Pacific regions.

Export earnings are important to Fiji's economy. Over the years, Fiji's export earnings have shown very slow growth. From the years 1995 till 2005, export earnings continue to fluctuate and steadily decline. The negative effects relating to Fiji's growth is related to the impulsiveness in the global commodity prices, natural disaster prone environment and decline in the confidence of foreign investors, ongoing declines in the sugar industry and uneven global recovery. Looking at this report of negativity towards its economic structure, Fiji is in high need to at least increase its exports in relation to its Gross Domestic Production.

Fiji is a member of many trade agreements and the most significant one is World Trade Organization (WTO).

WTO offers benefits from increased access to foreign markets, opening up more room for export earnings for a nation. WTO facilitates trade expansion and liberalization of international trade under non-discriminatory, predictable and transparent conditions, with prescribed rules based on General Agreement on Tariffs & Trade (GATT). For a small island nation such as Fiji, it brings in huge benefits to be a part of the World Trade Organization. Its trading concerns are protected by the rules set by the international body and provides an equal platform for the smaller economies to trade which have less authoritative power. Fiji is also a member country in PICTA (Pacific Island Country Trade Agreements) and some other Pacific and global trade agreements. These agreements help Fiji have duty free access to products; allow free trade and also better access to foreign markets (Foreignaffairs.gov.fj, 2017).

4.1.1 FIJI'S ECONOMIC GROWTH TREND (1970 – 2010) AND EXPORTS: FACTORS AFFECTING IT

Fiji's growth performance has been adversely affected by the country's vulnerability to both internal and external shocks. These include political unrest (four coups since 1987), natural disasters (cyclones and floods), global oil and food price shocks, and global financial and economic crises. From 1970 to 1980, the economy experienced moderate rates of economic growth, with the real gross domestic product (GDP) increasing by an average of 6.5% per annum on account of high levels of public investment and increasing exports of sugar and copra. Until 1986, economic policy was marked by a strong emphasis on import substitution, food self-sufficiency, and economic diversification, with the state playing a dominant role in economic activity. In the late 1980s, prior to joining the World Trade Organization (WTO), Fiji embarked on an important policy shift toward a more market-oriented, outward-looking development strategy. Against this backdrop, Fiji gradually liberalized its trade and reduced import restrictions in favor of export promotion. The more open trading approach led to increased opportunities in the economy, creating thousands of jobs in industries like tourism and textiles. Over 2001–2006, the Fiji economy experienced extreme volatility in growth performance. Annual GDP growth fell to 2.7%, on average, while during 2007–2009 the economy contracted at an average rate of -0.4% (Economic Analysis: Summary, 2014).

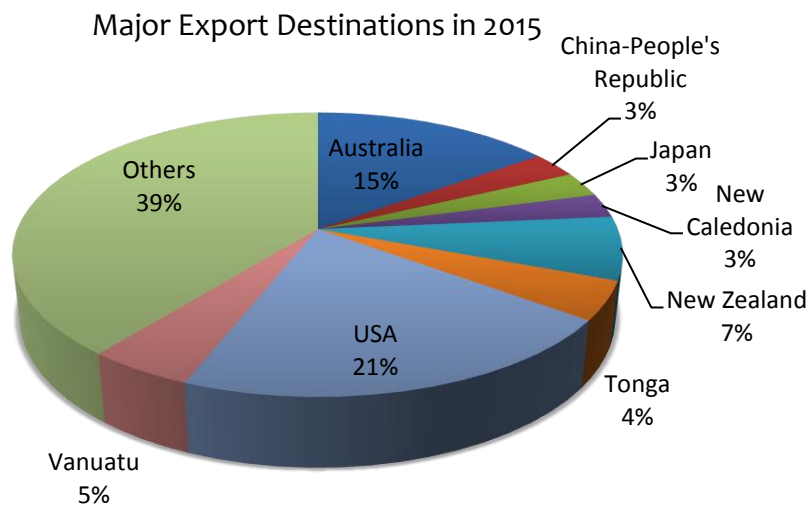
4.1.2 EXPORT SECTORS

One important cause of Fiji's weak growth record beginning in the mid-1990s has been the performance of the merchandise exporting sector. Since 1970, sugar and textile exports drove Fiji's economy, but both have experienced difficulty in competing effectively in deregulating global markets. The sugar industry has suffered from quality concerns, management problems, labour relations issues, non-renewal of land leases, shortages of harvest labour, and most importantly the phasing out of the preferential price agreement with the European Union—due to end in 2017—leading to sugar price reductions of 36% and a decline in sugarcane production. In 2010, the government began implementing industry reforms. These

are making an impact, with sugar production increasing by 16.2% in 2013, reversing a contraction of 7.1% in 2012. The textile industry similarly declined following the end of the quota system under the Agreement on Textiles and Clothing and the full integration of textiles into the WTO tariff regime³. Overall, garment exports have declined from 34% of all merchandise exports in 1999 to only 11% in 2013; while sugar exports were 15% in 2013, down from 28% in 1999 (Economic Analysis: Summary, 2014).

More recently, growth has been driven by Fiji's strong tourism industry, which has demonstrated a strong degree of resilience to the setbacks of cyclones and floods occurring in the tourism high season. Some 45% of Fiji's visitors come from Australia, with large numbers also coming from New Zealand, the United States, the United Kingdom, and the Pacific islands. Mining is also an emerging sector with the potential to boost the economy's output significantly. Fiji's second highest foreign exchange earner after tourism is remittances from Fijians residing and working overseas. These have increased in importance and in 2013 were estimated to be equivalent to 3% of GDP (Economic Analysis: Summary, 2014). Thus, exports are important to Fiji's economy. The government of Fiji has been promoting Fiji made products both local and overseas to increase exports earnings and economic growth.

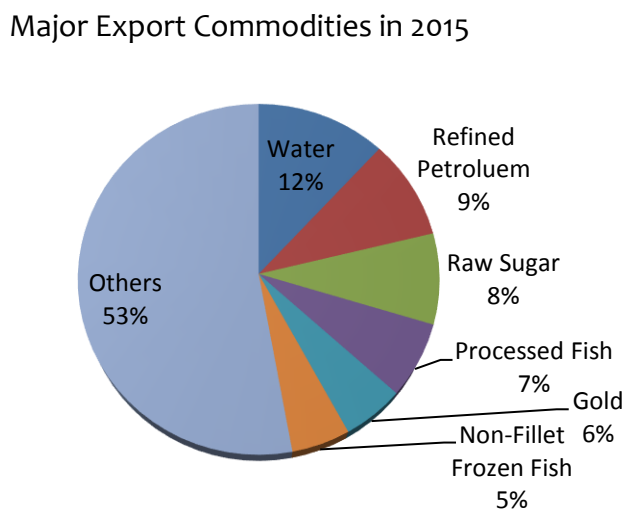
Pie chart 1: Major trading partners of Fiji in 2015



Source: Fiji Bureau of Statistics, 2017

In the year 2015, Fiji exported majority of its commodities to The United States of America (21%), followed by its neighbouring countries Australia (15%) and New Zealand (7%) in 2015.

Pie chart 2: Major export commodities in 2015



Source: The Observatory of Economic Complexity (OEC), 2017

The commodity Water was the key foreign exchange earner in the year 2015 surpassing the earnings of raw sugar which was considered the major export commodity a decade ago. Water includes artificial or natural mineral water and also aerated water. It does not, include natural or artificial mineral waters and aerated waters. A greater part of the mineral water export went to The United States, followed by Canada. A total of eight percent of raw sugar was exported in 2015 and the exports destinations were United Kingdom, Portugal, Romania Italy and The United States of America. Processed Fish comprises 7% of total exports and The United States, Vanuatu and Papua New Guinea are the main buyers of this product. Fiji exports 9% of Refined Petroleum to Tonga, Kiribati, Nauru, Cook Islands, Wallis and Futuna, New Caledonia and a few other small islands in the South Pacific. The third largest commodity exported by Fiji is raw sugar which is 8% of total exports. The exports destinations are the United Kingdom, Portugal, Romania, Italy and The United States respectively. Fiji sells processed fish mainly to the United States which is 7% of total exports. A total of ninety-seven percent of the gold exports is to Australia. Non-fillet frozen fish has a share of 5% of total exports and countries which import this product are China, Japan, Thailand, other Asian countries, Vietnam, American Samoa, Hong Kong and a few more (Atlas.media.mit.edu, 2017).

4.2 STATISTICAL ANALYSIS: STATISTICAL ANALYSIS OF FIJI'S EXPORTS AND ECONOMIC GROWTH

4.2.1 FIJI'S EXPORT AND GROSS DOMESTIC PRODUCT (GDP) DATA FROM THE YEARS 2000 TO 2015

A. DATA INPUT

Table 1: Data showing Fiji's exports and GDP for the years 2000 to 2015.

Year	Exports	FJD (Millions)
2000	1,155	4,892
2001	1,221	4,985
2002	1,132	5,145
2003	1,269	5,186
2004	1,206	5,466
2005	1,193	5,395
2006	1,202	5,497
2007	1,210	5,448
2008	1,471	5,502
2009	1,310	5,425
2010	1,605	5,588
2011	1,925	5,739
2012	2,182	5,820
2013	2,120	6,095
2014	2,302	6,418
2015	2,059	6,784

Source: Fiji Bureau of Statistics

Eviews is economics statistical software that was being used in conducting statistical analysis of Fiji's exports and economic growth. The ordinary least squares method (OLS) was used to generate the output. For this research paper, only 16 years of recent data from 2000 to 2015 were used to conduct the analysis based on the 2011 base price. Data from 1999 and backwards were not used because the base price had changed. If more data were used, this would have distorted the gross domestic product (GDP) at constant prices, since two base prices would have been used. To be consistent in the analysis, only the data relating to one base price is taken into account. GDP is used as an indicator for economic growth. From the Table 1 above, it can be concluded that from 1995 to 2005, Fiji's exports is gradually increasing

however there is some fluctuations over the years as shown in Table 1. As for Fiji's GDP, there is a gradual increase from 2000 to 2015.

Furthermore, for GDP, only real GDP at constant prices were used. Real GDP is the value of all goods and services measured at constant prices and adjusted for inflation. Nominal GDP is GDP that includes inflation and measures goods and services at current prices. Real GDP is used instead of nominal GDP, because of the importance of using actual changes in GDP. An actual change in GDP gives the true picture of Fiji's economic growth. If the nominal GDP was used, it will not show the actual changes in GDP since it includes inflation as one of the basis to calculate GDP. This does not give the true picture of Fiji's GDP as the inflation level varies from time to time. For example, in one year there was very high inflation, thus the GDP at current prices were very high. In another year, inflation was very low, thus GDP at current prices was low. This indicates that fluctuations in inflation will vary GDP at current prices. Therefore it does not reflect the true picture of the economy in terms of the actual changes in GDP. Thus, real GDP is used in the statistical analysis.

B. EIEWS OUTPUT INTERPRETATION (OLS REGRESSION OUTPUT)

Table 2 shows LNY is the dependent variable and represents economic growth. Economic growth is represented by GDP since GDP is an indicator of Economic Growth. C is a constant. LNX is the independent variable and represent exports. A simple linear regression model was used in the form of: $y = \beta_0 + \beta_1 x$. Where y represents dependant variable, β_0 is a constant, β_1 is the coefficient which is multiplied by x which is the independent variable. Thus, the following equation was derived based on the model:

$$LNY = \$4,063.138 + 0.992378 * LNX.$$

Table 2: Table showing the regression output generated from eviews.

Dependent Variable: LNY				
Method: Least Squares				
Date: 04/07/17 Time: 14:27				
Sample: 2000 2015				
Included observations: 16				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNX	0.992378	0.165933	5.980590	0.0000
C	4063.138	263.8645	15.39857	0.0000
R-squared	0.718692	Mean dependent variance		5586.563
Adjusted R-squared	0.698598	S.D. dependent variance		501.5186
S.E. of regression	275.3341	Akaike info criterion		14.19032
Sum squared residuals	1061324.	Schwarz criterion		14.28689
Log likelihood	-111.5225	Hannan-Quinn criteria.		14.19526
F-statistic	35.76746	Durbin-Watson stat		0.781984
Probability (F-statistic)	0.000034			

Source: Eviews Econometrics Software Version 10

Full Equation: ECONOMIC GROWTH (GDP in \$) = \$4,063.138 + 0.992378 * EXPORTS (\$)

' β_0 ' represents a constant (\$4,063.138, intercept) and β_1 is the coefficient and represents slope of the line. Since β_1 is a positive number (0.992378), the regression line is positive. This shows a positive linear relationship between LNY (economic growth represented by GDP) and LNX (exports).

A 1% increase in exports will increase economic growth by 0.992378%. In other words, a unit increase in exports will increase economic growth by 0.992378. This shows that there is a positive relationship between exports and economic growth (GDP). In interpreting the coefficients of β_1 (beta), it explains the

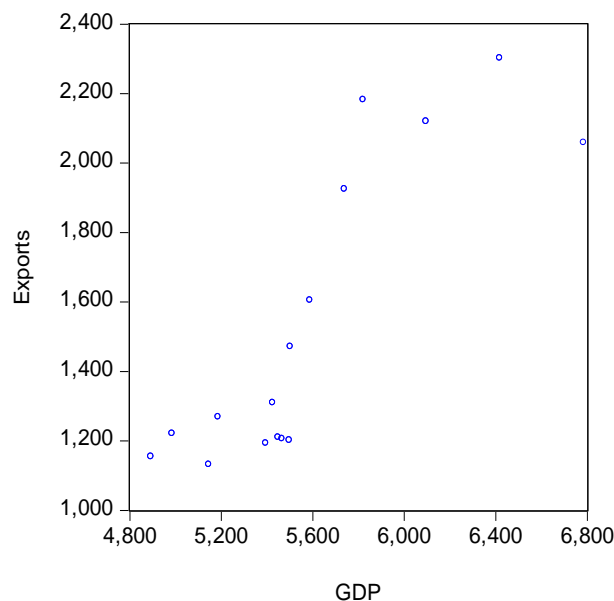
strengths of the coefficient of correlation and the slope. For β_1 , it has a positive relationship. Thus, when exports increase, economic growth also increases.

R Square (R^2) is usually called the 'goodness of fit coefficient' or the coefficient of determination. R^2 denotes the amount of variation in the dependent variable that can be attributed in the variation of the explanatory variable. A large R^2 coefficient provides an indication that the fitted model explains the data sufficiently. 71.87% of the variations in economic growth (LNY) can be explained by exports (LNX). Thus, it can be said that the fitted model explains the data sufficiently.

R (r) is the coefficient of correlation which shows how strong or weak the relationships between the variables are and whether it is positively or negatively related. To calculate the value of 'r', the researcher takes a square root of R Square (R^2) found in Table 2. In finding the correlation of economic growth (LNY) and exports (LNX) or when calculating 'r', it gives a value of 0.8478. 84.78% indicates a strong positive relationship between economic growth and exports. Since log (LN) was used to generate the OLS regression output, any heteroscedascity (unequal variance) has been removed. This shows a true picture of the results obtained in the statistical analysis. By using log (LN), any extreme values (outliers), have been removed to show consistency in the data points and show a true picture of the economy.

Heteroscedascity means unequal variance. OLS is based on the assumption of equal variance. Since there is equal variance, OLS is best and efficient. F- Statistics is very close to zero (0.000034 or 3.35978E-05) as shown in Table 2. This indicates that there is homogeneity of variance. One attractive feature of log is that the slope coefficients measure the elasticity of Y (economic growth) with respect to X (exports), that is, percentage changes in Y for a given percentage change in X.

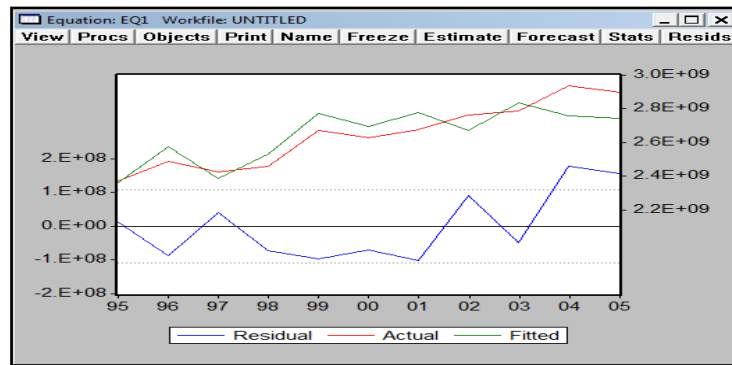
D. SCATTER GRAPH SHOWING THE RELATIONSHIP BETWEEN EXPORTS AND ECONOMIC GROWTH



Source: Eviews Econometrics Software

The above scatter graph shows that there is a positive relationship between economic growth (LNY) and exports (LNX). The data points are upward sloping indicating a positive slope. An increase in exports would imply that economic growth would also increase.

E. RESIDUALS



Source: Eviews Econometrics Software

The residuals lie between -1 and 1. This shows that there is consistency in the data points. There is a very close gap between the actual and the fitted line. The residual is closer to 0. The residual line does not fluctuate much, indicating that the residual plots show a good pattern (line of good fit).

Thus, exports are positively related to economic growth. From the statistical analysis, it can be concluded that exports has a strong positive relationship with economic growth. Therefore, increase in exports would lead to an increase in economic growth. The variations in economic growth can be explained by exports.

5.0 CONCLUSION, FINDINGS AND RECOMMENDATIONS

Thus, exports are positively related to economic growth. From the statistical analysis, it can be concluded that exports has a strong positive relationship with economic growth. Therefore, increase in exports would lead to an increase in economic growth. The variations in economic growth can be explained by exports.

Exports earnings are vital for Fiji's economy. It contributes significantly to Fiji's GDP and economic growth. Fiji's domestic exports, which largely comprises of agricultural and fisheries commodities include sugar, fish, coconuts, taro, copra, pawpaw and ginger. Other major exports include garments, mineral water and gold which earn a huge amount of foreign currency for Fiji. Fiji also has extensive mahogany timber reserves which are exported. In terms of value adding, the most important manufacturing activities are the processing of timber for furniture, canning and semi-process of fish, value adding and preserving of fruits and vegetables for the export markets. Another growing export is furniture made of palm (coconut) wood. Potential for the agriculture can be found in the production and export of high value niche agricultural produce. Products that give the best returns from labor and land resources include root crops, fresh fruits, vegetables and virgin coconut oil. Given the enormous export potential within the agriculture sector, the government plans to intensify its Export Promotion Programme through awareness programmes for farmers (World News, 2017).

Moreover, new programs will be funded to target the development of ginger, cocoa and rice. Fiji adopted an export oriented, outward looking approach with regards to trade relations. Fiji's main trading partners namely Australia, New Zealand, United States, England and Japan. The government of Fiji has decreased the export income tax to give incentives to producers to increase production for export purposes. Fiji exporters to use world priced inputs into their products to make them more competitive and to operate at their maximum potential. The government has introduced tax free region from Tavua to Korovou. This gives incentive for farmers who engage in agriculture, beef and dairy farming. The motive is to revitalize these industries to increase exports. Some of the methods the government has used to increase exports are import substitution and trade barriers. Import substitution is producing goods locally which were previously imported. One example of import substitution is potato farming. However, it is still in the initial

production stage. The government uses trade barriers such as tariffs, embargoes, import quotas to restrict imports so that domestic production increases and more is exported. Subsidies are given to industries such as sugar and agriculture to increase production for export purposes.

The potential sectors that can be further developed to boost export earnings are garment, sugar, tourism industry and agricultural sector. Tax free zones should be given to garment industry so that garment production increases for export purposes. Garment industry is an export intensive industry that produces garment products mostly for export. Sugar industry can be further developed by giving subsidies to cane farmers to increase cane production so that more sugar is produced for export. Since Fiji's has abundance of land, more land should be used for sugarcane farming and to renew the land leases that had expired. The government should negotiate with European Union (EU) in further extending the trade agreement to provide preferential prices for Fiji's sugar. The government should also look for other potential markets apart from EU who are willing to buy Fiji's sugar at preferential prices that are above the world market price. Tourism is another major sector that can boost export earnings. More money should be allocated in the government budget for the tourism sector so that Fiji is continuously promoted in overseas. This will result in more visitor arrivals thus will foreign exchange earnings will increase. This can also lead to an increase in demand for Fiji made products overseas, thus, exports will increase. The second largest export commodity is water mainly comprising mineral water, therefore, government should provide subsidies to increase the production in the sector. Another policy recommendation is to expand the small and medium enterprises to expand the range of export commodities by Fiji and also expand the production of the existing commodities. The policy makers in Fiji should focus on further developing its export sectors to reap the gains of international trade and also focus on re-exports as its consists of a major component of total exports.

Lastly, the government should give subsidies to the agricultural sector, dairy, ginger farming, beef, fisheries and forestry so that the production increases for export purposes. Sweet biscuit are also in demand from foreigners, so subsidies needs to be given to domestic producers to increase production for export purposes. Trade theories such as Adam Smith's Absolute Advantage, David Ricardo's Comparative Advantage and Hecksha Ohlin's theory of trade apply to Fiji's exports. Thus, export is strongly and positively linked to economic growth.

5.1 LIMITATIONS OF THE RESEARCH STUDY AND DEFINED PARAMETERS

There are some limitations to this research project. Firstly, the study period for research and analysis purpose for the exports and economic growth of Fiji was only for 16 years. The research project was carried out in a developing country and may not resemble the views of developed nations. Time was also one of the limitations, since the research project was carried out within one semester (within three months) to be assessed. This area is a very interesting area and further in depth research could be done on this area.

REFERENCES

- Abu-Qarn, A. S. and Abu-Bader, S. (2004) "The validity of the ELG hypothesis in the MENA region: cointegration and error correction analysis", *Applied Economics*, 36, 1685-95.
- Adjaye, A. 2010, "Contemporary Economic Policy Journal: The Implications of European Union Sugar Price Cuts, Economic Partnership Agreement, And Development Aid for Fiji, vol.28.no.1.pp.52-64.
- Alkhuzaim, Waleed M. (2005). 'Export-Led growth hypothesis: Causality analysis for oil-based Gulf Cooperation Council countries', Doctoral dissertation, Colorado State University, Fort Collins.
- Anon, (2015). [online] Available at: <http://www.foreignaffairs.gov.fj/trade-policy/fiji-s-trade-policy/multilateral-trade/fiji-s-membership-to-the-world-trade-organization-wto> [Accessed 27 Oct. 2015].
- Atlas.media.mit.edu. (2017). OEC – 'Fiji (FJI) Exports, Imports, and Trade Partners'. [online] Available at: <http://atlas.media.mit.edu/en/profile/country/fji/#Exports> [Accessed 6 Apr. 2017].

- Bahmani-Oskooee, M. and Alse, J. (1993), "Export Growth and Economic Growth: an Application of Cointegration and Error Correction Modeling", *The Journal of Developing Areas*, pp: 535–42.
- Balassa, Bela (1978) 'Exports and Economic Growth—Further Evidence'. *Journal of Development Economics* 5:2, 181–9
- Bhagwati, J. (1988), *Protectionism*. MIT Press, Cambridge, MA.
- Chemeda, F. (2001). 'The Role of Exports In Economic Growth with Reference to Ethiopian Country'. In: *Annual Meeting of the American Agricultural Economics Association in Chicago*.
- Country Partnership Strategy (2014 – 2018): <http://www.adb.org/sites/default/files/linked-documents/cps-fij-2014-2018-ea.pdf> (accessed on 30th October, 2015).
- Dodaro, S., 1993, "Exports and Growth: A Reconsideration of Causality", *Journal of Developing Areas*, pp: 227-244
- Economic Analysis: Summary. (2014). 1st Ed. [Ebook] Country Partnership Strategy: Fiji, 2014–2018. Available At: <https://www.adb.org/sites/default/files/linked-documents/cps-fij-2014-2018-ea.pdf> [Accessed 30 Oct. 2015].
- Feder, G. (1982) 'On Exports And Economic Growth', *Journal Of Development Economics*, 12: 59-3.
- Holman, J.A. and Graves, P.E. (1995), "Korean Exports Economic Growth: An Econometric Reassessment", *Journal of Economic Development*, pp: 45–56.
- Frca.org.fj. (2015). 'Fiji Revenue & Customs Authority'. [online] Available at: <http://www.frca.org.fj/> [Accessed 27 Oct. 2015].
- Foreignaffairs.gov.fj. (2017). Home. [online] Available at: <http://www.foreignaffairs.gov.fj> [Accessed 27 Oct. 2015].
- Gujurati, D. (2003). *Basic Econometrics*. McGraw Hill Irwin: Gary Burke.
- Henriques, I. and P. Sardosky (1996), 'Export-led Growth or Growth driven Exports? The Canadian Case', *Canadian Journal of Economics*, Vol. XXIX, pp. 540–55.
- Heshmati, A. and Peng, S. (2012). *International Trade and Its Effects On Economic*
- Jung, W. S. and Marshall, P. J. (1985). "Exports, growth and causality in developing countries", *Journal of Development Economics*, pp: 1-12.
- Krueger, A. O., (1978), "Foreign Trade Regimes and Economic Development: Liberalization Attempts and Consequences", Cambridge, MA: Ballinger.
- Lin, J. and Li, Y. (2001). *Export and Economic Growth in China: A Demand-Oriented Analysis*. [online] Available at: <http://cerdi.org/uploads/sfCmsContent/html/197/JustinLi.pdf> [Accessed 6 Apr. 2017].
- Lucas, R.E. (1990), "Why does not capital flow from rich to poor countries", *American Economic Review*, 80, 92-6.
- Merza, Ebrahim. (2007) 'Oil exports, non-oil exports and economic growth: Time series analysis for Kuwait (1970-2004)', Doctoral dissertation, Kansas State University, Manhattan.
- Narayan, S. And Narayan, P. (2004). *Determinants Of Demand For Fiji's Exports: An Empirical Investigation*. *The Developing Economies*, 42(1), Pp.95-112.
- Ndulu, B. and N. Ndungu (1998), 'Trade and Growth in Africa', in I. Zubair and M.S. Khan (eds), *Trade Reform and Regional Integration in Africa*, International Monetary Fund, Washington, DC.
- Performance in China. *China Economic Policy Review*, 01(02), P.1250009.
- Quddus, M. and Saeed, I. (2005). *An Analysis of Exports and Growth in Pakistan*. The Pakistan Development
- Pugel, T. (2007). *International Economics*. McGraw Hill Irwin: Gary Burke.
- Prasad, S (2000). *Determinants of Exports in Fiji*. Suva, Fiji.
- Prasad, R. (2004). *Fiji's Export Competitiveness: A Comparison with Selected Small Island Developing States*. Reserve Bank of Fiji, [online] 2004(06), p.Working Paper. Available at: <http://www.rbf.gov.fj/docs/2004-06%20WP.pdf> [Accessed 27 Oct. 2015].
- Rbf.gov.fj. (2015). Reserve Bank of Fiji - Home. [online] Available at: <http://www.rbf.gov.fj/> [Accessed 27 Oct. 2015]
- Rogers, A. (2000). *An Analysis of the Determinants of Fiji's Imports*. Suva, Fiji.
- Ram, Rati. (1985) *Export and Economic Growth: Some Additional Evidence*, *Economic Development and Cultural Change*, 33, pp. 415-425.
- Ram, R. (1986) *Government size and economic growth: A new framework and some evidence from cross-section and time-series data*. *American Economic Review*, 76(1), 191–203.

- Ram, R. (1987) Exports and economic growth in developing countries: evidence from time series and gross-section Data, *Journal of Economic Development and Cultural Change*, 36: (1): 121-30.
- Sprout, R.V.A., and J.H. Weaver (1993), "Exports and Economic Growth in a Simultaneous Equations Model," *Journal of Developing Areas*, pp: 289-306.
- UNDP Pacific Office in Fiji. (2017). About Fiji. [online] Available at: <http://www.pacific.undp.org/content/pacific/en/home/countryinfo/fiji.html> [Accessed 4 Apr. 2017].
- Vuki, L. (2014). 'World Forestry and Trees for Life. The Fiji Times, 29 March, 2014.
- Shahbaz, M., Ahmad, K. and Asad, M. (n.d.). Exports-Led Growth Hypothesis in Pakistan: Further Evidence'. 1sted.[eBook] Available at: <http://citeseerx.ist.psu.edu/viewdoc/download;jsessionid...?doi=10.1.1.704.4697>. [Accessed 7 Apr. 2017].
- Sharma, S. and Dhakal, D. (1994). 'Causal analyses between exports and economic growth in developing countries'. *Applied Economics*, 26(12), pp.1145-1157.
- Statsfiji.gov.fj. (2017). International Trade Statistics - Fiji Bureau of Statistics. [online] Available at: <http://www.statsfiji.gov.fj/statistics/economic-statistics/merchandise-trade-statistics> [Accessed 7 Apr. 2017].
- Velnamy, T. and Achchuthan, S. (2013). 'Export, Import and Economic Growth: Evidence from Sri Lanka'. 4th ed. [eBook] *Journal of Economics and Sustainable Development*. Available at: [http://pakacademicsearch.com/pdf.../147-155%20Vol%204,%20No%209%20\(2013\).pdf](http://pakacademicsearch.com/pdf.../147-155%20Vol%204,%20No%209%20(2013).pdf) [Accessed 7 Apr. 2017].
- Witte, W. and Bhagwati, J. (1979). 'Anatomy and Consequences of Exchange Control Regimes'. *Southern Economic Journal*, 46(2), p.681.
- World News. (2017). Investment Fiji. [online] Available at: <http://www.investmentfiji.com> [Accessed 7 Apr. 2017]