



## **TRENDS AND DETERMINANTS OF TIRE EXPORT INCOME IN SRI LANKA: AN ECONOMETRIC ANALYSIS**

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### **ABSTRACT**

*The tire industry in Sri Lanka shows excellent potential for the development of the economy with a substantial contribution to export income. Therefore, the main objective of this study is to examine the determinants and impact of tire export income in Sri Lanka. Secondary data was obtained from Central Bank in Sri Lanka and United Nations Statistical Office covering the period from 1989 to 2018. Unit root test, simple and multiple regression Co integration analysis, Error Correction Model, and Granger Causality tests were used for analysis. The study found a long-run causality between GDP, Global market price for rubber, Exchange Rate, and Inflation with tire export income. The causality test suggested a causality running from export income to GDP. However, there is no causality running between GDP and export income. According to regression results, GDP, inflation, and exchange rate significantly determined the tire export income in Sri Lanka. Further, inflation and exchange rates were negative, and the GDP was positively influenced by the tire export income. While Domestic and Global Market prices for rubber did not show a significant influence on the tire export income. Government should maintain favourable macroeconomic policies, especially monetary policies which enhance the stability of the economy.*

**KEYWORDS:** *Tire Export Income, GDP, Causality, Cointegration*

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## **1. INTRODUCTION**

In terms of foreign exchange earnings and exertion on the rubber-based product business in Sri Lanka, the tire industry plays a vital part in the Sri Lankan economy. Throughout the last 70 years, the tire sector has been a substantial contributor to Sri Lanka's export value as a partner of rubber-based products. Rubber Products account for around 7% of overall yearly export revenues, with the tire industry accounting for more than 60% of that figure. (Export Development Board, 2017). Furthermore, current statistics suggest that the tire industry's contribution to the Sri Lankan economy has been steadily expanding in recent years. (Export Development Board, 2017). Sri Lanka exports several types of tires and among them, Solid tires are the most significant tires on the market, followed by pneumatic and semi-pneumatic tires. Until now, Sri Lanka has developed into a hub for solid tire manufacture, and the country is the world's largest solid tire exporter, accounting for 20% of the market share (Samarasinghe and Karunarathne, 2015).

The tire industry, as one of the key contributors to foreign earnings, is influenced by a variety of internal and external factors. Over the last 30 years, the money earned from tire export in Sri Lanka has been highly volatile due to swings in the exchange rate and market price of rubber. Rubber pricing, as a significant determinant factor of tire cost, is critical in determining tire export income. Further when looking at the Sri Lankan tire market, tire export income shows some changes due to fluctuations in rubber prices locally and globally from 1989 to 2018. According to data, the greatest tire export income record in 2013 was 402\$ mn due to low rubber prices in the domestic market when compared to rubber prices over the previous four years. It records 396 million dollars in tire export income in 2018, compared to the lowest rubber in the local market over the previous 12 years. (World Bank, 2018). In addition, the most widely accepted notion is that higher exchange rate fluctuations create uncertainty, raising the riskiness of trading activity and eventually depressing trade (Todani and Munyama, 2005).

Changes in domestic inflation also influence price swings in the tire sector. Because it is a crucial element in determining input costs as well as the exchange rate. The largest inflation rate in the last 30 years was recorded in 2008, and as a result, the price of rubber in the domestic market climbed up to 2.47 \$, recording the highest price for rubber in the domestic market. In the same year, tire export income fell to 140 million dollars, the lowest level since 2003. According to data, it had the highest export revenues in 2015 and 2016 in relation to the Sri Lankan economy's low inflation rate during the same year (International monetary fund, 2017).

In this regard, the present study was carried out on determinants of tire export and its impact on the economy. Furthermore, the research was targeted at assessing the level of influence of those determinants and finding their impact of them on tire export earnings in Sri Lanka. In addition, it is hard to find studies directly related to tire export income and its determinants. Therefore, the findings of this study and their policy implications will provide a comprehensive picture to policymakers in the economy as well as experts in export and rubber and tire sectors and give an opportunity to rethink policies and macroeconomic management in the economy.

## **2. LITERATURE REVIEW**

The literature review mainly based on the rubber export and its determinants. Abolagba et al. (2010) found a positive significant correlation between natural rubber production and rubber export in a study on factors influencing rubber export in Nigeria utilizing time series data from 1970 to 2005 and semi-log data. However, there was a considerable inverse link between domestic rubber consumption and rubber export in Nigeria. When it comes to interest rates, the researchers identified a considerable positive association between interest rates and rubber export. The findings of Amoro and Shen (2012) using OLS regression agreed with those of Abolagba. Rubber export in Cote D'Ivoire has a considerable influence and a positive association with domestic rubber output, according to secondary data from 1970 to 2005. The findings also revealed a negative link between local rubber consumption and rubber export. The same is true for the currency rate. It

has a substantial impact on rubber export but has a negative association. This suggests that the depreciation of domestic currencies resulted in an increase in rubber exports. In terms of interest rates, they identified a considerable positive association between interest rates and the quantity of rubber exported. Similarly, Boansi (2014) used annual time series data from 1986 to 2011 to study the factors of Ghana's rubber export performance. The OLS regression findings also demonstrated that rubber export was strongly and positively connected to natural rubber production. Meanwhile, the study discovered a negative association between domestic consumption of rubber and quantity export of rubber, indicating that when domestic consumption is high, the quantity of export is low. Kannan (2013), on the other hand, discovered that the relationship between natural rubber production and export is insignificant in predicting the quantity of natural rubber exported in India. He analyzes the relevant data using secondary data from 1991 to 2010 and the OLS approach. The same can be said about Mousavi and Leelavathi (2013), who used time series data from 1980 to 2010 to study the causal links between agricultural export quantity and real exchange rate in India. They also discovered that there is no substantial association between agricultural export quantity and real exchange rate. The OLS findings revealed that natural rubber production has a positive significance influence on natural rubber export, whereas domestic consumption and interest rates have a negative significance effect on natural rubber export. Meanwhile, between 1985 and 2015, the influence of currency rates on Malaysian natural rubber exports was statistically insignificant. (Laili et al,2017). Kautsar (2014) was also investigating the factors influencing the export price of natural rubber from Indonesia. The goals of this study are to present the current state of the Indonesian natural rubber export price and to examine the factors influencing the Indonesian natural rubber export price. In this study, panel data regression was used from 2002 to 2012. According to the findings of this study, world pricing, export tariffs, exchange rates, local consumption, export volume, and the global crisis all have a substantial impact on the export price of Indonesian natural rubber. According to the findings of a study conducted by Daulika et al (2020), international rubber prices, exchange rates, and domestic

consumption all have a considerable impact on the price of Indonesia's natural rubber exports. Fatahillah et al. (2022) found that the dollar exchange rate negatively and considerably affects rubber exports. Suri et al. (2021) also observed that the exchange rate has a significant and substantial influence on the export volume of natural rubber in North Sumatra.

In the case of inflation, according to Ball et al. (1988), inflation causes an increase in the cost of goods and services, which makes a country's products and services less desirable or competitive on the international market. In addition, Gylfason (1991) examined the influence of numerous macroeconomic variables on export, with a focus on inflation. He concurred that there is a negative correlation between high inflation and export performance. Rehman and Khan (2015) conducted a case study of Pakistan and identified the rise in food prices between 1992 and 2013 in Pakistan, which had a negative impact on the country's export of food items. Mallik and Chowdhury (2001) conducted a similar analysis with four developing South Asian nations and discovered a positive long-term association between inflation and economic growth, meaning that there is a positive association between inflation and export. In the context of rubber export, the study done by Fatahillah et al. (2022) showed that rubber output and inflation considerably and positively impacted rubber exports. In contrast, Suri et al. (2021) found that inflation does not affect the export volume of North Sumatra natural rubber.

### **3. METHODOLOGY**

The data for this study were obtained from secondary sources using time series data for the study purpose. The study employed annual time series data covering the period 1989-2018. These secondary data were collected using both national and international sources such as central bank reports, World Bank reports, United Nations Statistical Office Economic Research Division and Federal Reserve Bank of St. Louis and International Monetary Fund.

To identify the factors affecting tire export earning in Sri Lanka, the multiple regression analysis was done, by using the following equations.

A dynamic equation can be derived as:

$$Y = a + b_1 x_1 + b_2 x_2 + b_3 x_3 + b_4 x_4 + b_5 x_5 + \mu$$

Where,

$Y$ - Tire Export Earning (US \$)

$x_1$  - Gross Domestic Product (US \$)

$x_2$  - Exchange Rate (US \$)

$x_3$  - Average Annual Domestic Market Price of rubber (US \$)

$x_4$  - Average Annual Global Market Price of rubber (US \$)

$x_5$  - Inflation Rate (%)

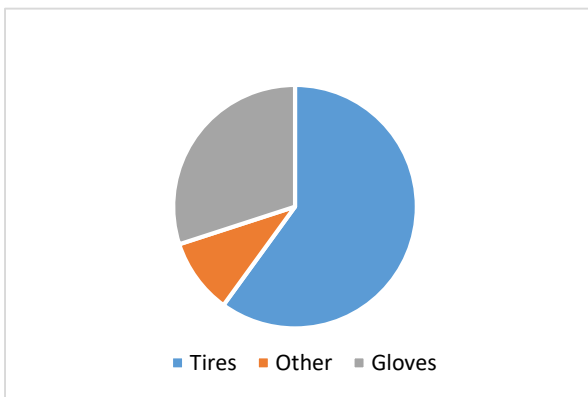
$\mu$  - error term

$b_1$ -  $b_5$  Regression Coefficients

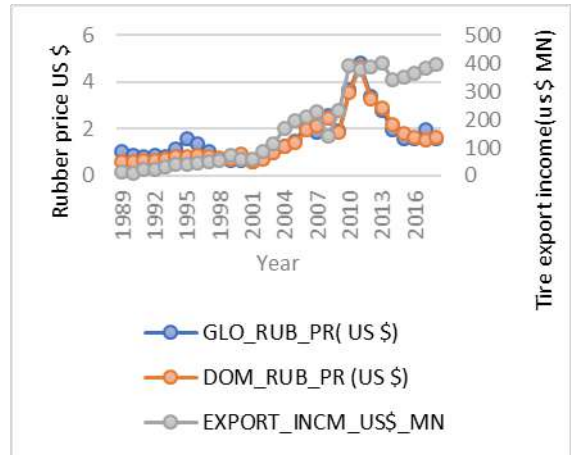
In addition, this study attempts to identify the short and long-run influence of these independent variables on the dependent variable. Therefore, using cointegration analysis and Error Correction Model (ECM) test long-run causality running from independent variables to dependent variables. Therefore, assess long-term causation flowing from independent factors to dependent variables using cointegration where  $Y$ - Tire Export Earning (US \$)

#### 4. RESULT AND DISCUSSION

Sri Lanka produces an extensive variety of latex and dry rubber-based products. According to the data presented in Figure 1, tires account for 60% of export earnings.

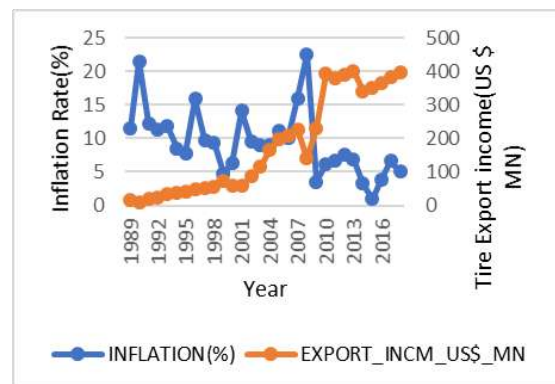


**Figure1: Rubber-based export analysis and the Error Correction Model (ECM).** Source: Export development board industry capability report (2017)



**Figure 2: Fluctuations of tire export income and rubber price.** Source: World Bank (2018)

This graph depicts the annual price fluctuations of rubber on the domestic and international markets from 1989 to 2018. Except for 1995 and 2017, all other years have identical data distribution patterns. It indicates that the price of rubber as a raw material for tire production swings similarly in the local and worldwide markets. In 1995, however, the worldwide market price for rubber significantly exceeded the domestic market price. Nonetheless, there is an upward tendency in the data up until 2011, after which the global and domestic rubber market prices decline. According to Okoruwa et al. (2003), a rise in the rubber price to match the global price will stimulate the maintenance and expansion of rubber farms. Consequently, it will have a good effect on the rubber-based product market.



**Figure 3: Changes in tire export income and inflation rate.** Source: International Monetary Fund (2018)

According to the graph (Fig. 3) above, there was a substantial increase in tire export profits in 1995 due to the low price of rubber. Price increases on the domestic market in 1999 reduced tire export revenue. During the period from 2001 to 2007, both pricing and tire export revenue increased similarly. However, it ceases with the abrupt increase in rubber prices in the local and global markets.

According to Figure 3, the inflation rate soared in 2007 while tire export earnings dropped from \$226 million to 140 million in the same year. This is because a high inflation rate might affect input costs such as those for materials and labour. When the cost of production rises, the producer raises the price of a commodity to offset the increase. As a result of this action, foreigners must pay more for the commodities they were purchasing from our country. However, they dislike paying more than before. Therefore, they utilize a substitute for that commodity. Consequently, export earnings decline with inflation. In 2009, however, the rate of inflation quickly declined to 3.6%. It had the lowest inflation rate through 2014. This decrease positively impacts economic activity. As a result, tire export earnings grew by \$231 million in 2008 due to falling inflation. The studies Daulika et al., 2020; Fatahillah et al. 2022 and Suri et al. 2021 highlighted similar results.

The researcher built two separate equations based on the result of the analysis.

**4.1 Model for Impact of Tire export income**

The study used export income as their dependent variable and GDP as their independent variable. But according to the theoretical concept we export will influence on GDP. Therefore, the researcher test the causality of these variables to find out the impact of tire export income. According to result there can see impact from export to GDP. According to this impact researcher built following equation.

Equation,  

$$DLOGDP = 0.085 + 3.51E-10 EXP\_INCM$$
 0.2097(standardized coefficient)

According to result there is a positive impact from

export to GDP. The researcher used the standardized coefficient to interpret the impact from export income to GDP. Standardized beta coefficient compares the strength of effect of each independent variable to the dependent variable. According to that if tire export income increases by one standard deviation, on average, the GDP increases by 0.2 standard deviation unit. The R<sup>2</sup> value of this normal regression model shows 4.3% of variation of tire export income is explained by the GDP in the regression model.

**4.2 Model for Determinants of Tire Export Income**

Another main objective of is to identify the determinants of tire export income in Sri Lanka. Here the dependent variable is tire export income and the researcher used five independent variables. Such as Global market price for rubber, Domestic market price for rubber, Gross Domestic Price, Exchange Rate, and Inflation. Therefore, multiple regression analysis was conducted so as to test the relationship among variables (independent) on the tire export income in Sri Lanka. To identify the factors affecting Tire export income in Sri Lanka, the Ordinary Least Squares (OLS) technique was done, by using the following equations.

**Equation,**

$$DLOEXP\_INCM = 13882769 + 5.29E+08 DLOGDP + 16105408 DLOGLOBAL\_RUB\_PR - 10442015 DLODOM\_RUB\_PR - 7.70E+08 DLOEX\_RATE - 6507248 INFLATION$$

**Table 4. 1Standardized beta coefficient**

Variable	coefficient	Standardized coefficient	Elasticity at means
DLOGDP	5.29E+08	0.8847	3.5941
LOGLOBAL_RUB_PR	16105408	0.2334	0.0275
DLODOM_RUB_PR	-10442015	-0.0590	0.0216
LOEX_RATE	-7.70E+08	-0.8251	3.0405
INFLATION	-6507248.	-0.7913	-4.6275

Source: Secondary data (1989-2018)

According to table 4.1, if GDP increase by one standard deviation, on average, the tire export income increases by 0.9 standard deviation unit by showing the positive significant relationship between Export income and GDP.

When Global rubber price increase by one standard deviation, on average, the tire export income increases by 0.2 standard deviation unit by showing the positive relationship between Export income and global market rubber price. But the relationship is not significant. Even though Global rubber price relate positively Domestic market rubber price shows negative relationship with tire export income. It is true because when raw material price increase it cause to reduce our export income. Hence when Global rubber price increase by one standard deviation, on average, the tire export income decreases by 0.06 standard deviation unit.

If exchange rate increase by one standard deviation, on average, the tire export income decreases by 0.8 standard deviation unit by showing the negative significant relationship between Export income and exchange rate. When inflation increase by one standard deviation, on average, the tire export income decreases by 0.8 standard deviation unit by showing the negative significant relationship between Export income and inflation. Daulika et al., 2020; Fatahillah et al., 2022 and Suri et al., 2021 also found a similar result.

The R<sup>2</sup> value of this normal regression model shows 48% of variation of tire export income is explained by the independent variables such as GDP Global and Domestic market price for rubber, Exchange rate and inflation in a regression model. P value of f statistic is less than 5%, and it is 0.6%. Means that it is highly all independent variables jointly can influence on dependent variable. GDP and exchange rate has the standardized coefficient with the largest absolute value. This measure suggests that GDP and exchange rate are the most important independent variables in the regression model. Inflation also shows considerable influence on the dependent variable when compares with other independent variables.

Before we proceed for tire exports of Sri Lanka and its determinants (by using Vector Error Correction Model), to check whether the variables are stationary or not, the researcher’s employed the ADF test. A summary of the results is given below (Table 4.2).

**Table 4. 2: ADF Unit root test**

Variable	Level/First difference	Probability		
		Intercept	Trend & Int	None
LOEXP_INCM	Level	0.5473	0.5512	0.9952
	First difference	0.0000		
LOGDP	Level	0.9169	0.0790	1.0000
	First difference	0.0044		
LOGLOBAL_RUB_PR	Level	0.5966	0.7472	0.2707
	First difference	0.0018		
LODOM_RUB_PRICE	Level	0.5995	0.8399	0.2869
	First difference	0.002		
EXCHANGE_RATE	Level	0.3878	0.8156	1.0000
	First difference	0.0003		
INFLATION	Level	0.0156		

Source: Secondary data (1989-2018)

As shown in Table 4.2 stationary test verified that the log variables such as export income, GDP, Global market rubber price , domestic market rubber price and exchange rate stationary after first differenced but inflation stationary at level.

### 4.3 Cointegrated Model

The result of the cointegrated model is as follows.

#### 4.3.1 Johansen test of cointegration

In the Johansen test of cointegration, the number one condition is variable must be nonstationary at level and but stationary after converting in to first difference. In this research although inflation stationary at level all other variables stationary after converting in to first difference. Before running the Johansen test researcher checked the optimum lag selection using lowest AIC value According to that

choose lag 2 as best. Johansen test of cointegration has two test. One is “Trace Statistics” and another one is “Maximum Eigen value”. Here two Hypotheses were built as given below.

Null hypothesis H0: There is no cointegration among variables

Alternative hypothesis H1: There is cointegration among variables.

### 4.3.2 Trace statistics

If trace statistics are higher than the critical value, the researcher can reject the null hypothesis that there is no cointegration. The trace test indicates 3 cointegrating equations at the 0.05 level. Therefore, there are 3 error correction models.

### 4.3.3 Maximum Eigenvalue

If maximum eigenvalue is more than critical value can reject null hypothesis. Max-eigenvalue test indicates 2 cointegrating equations at the 0.05 level. Both results indicate two different values. Among them selected two cointegration equation as best to run the model. Because it is match with the output of both tests. All these results indicate long run associate of all variables.

### 4.3.4 Vector Error Correction Model (VECM)

When all variables are cointegrated researcher can run VECM. But if variables are not cointegrated researcher should run VAR model. In this research researcher run VECM because our variables are cointegrated in long run. In fact, in here target is to use the first model which used export income as dependent variable.

The estimate equation of error correction model is given below.

In here,

C1: coefficient of error correction model

C2: Constant of the Model

### 4.3.5 Long run influence

The quid line is C (1) should be significant and all coefficient of these error correction terms should be negative. The value of error correction term is -1.21. It is called as speed of adjustment towards the equilibrium or speed of adjustment any disequilibrium towards long run equilibrium state. In this model speed of adjustment is 121%. Meaning that is adjusting very fast towards long run equilibrium. Therefore, there is a long run causality from five independent variables. Meaning that GDP, Global and domestic market price for rubber, Exchange Rate and Inflation have influence on the dependent variable of tire export income at long run. In the other words there is long run causality running from independent variables to dependent variables.

Table 4. 3 Equation of error correction model

Dependent Variable: D(LOEXP_INCM)				
Method: Least Squares				
Sample (adjusted): 1992 2018				
Included observations: 27 after adjustments				
D(LOEXP_INCM) = C(1)*( LOEXP_INCM(-1) - 0.651846095858				
*LOGLOBAL_RUB_PR(-1) - 0.20114112828*LODOM_RUB_PR(-1) +				
1.69099871177*LOEX_RATE(-1) + 0.0710696638046*INFLATION(-1) -				
11.5211746094 ) + C(2)*( LOGDP(-1) - 0.649804021569				
*LOGLOBAL_RUB_PR(-1) - 0.793231429658*LODOM_RUB_PR(-1) +				
2.27603804441*LOEX_RATE(-1) - 0.027450009597*INFLATION(-1) -				
13.580920052 ) + C(3)*D(LOEXP_INCM(-1)) + C(4)*D(LOEXP_INCM(-				
-2)) + C(5)*D(LOGDP(-1)) + C(6)*D(LOGDP(-2)) + C(7)				
*D(LOGLOBAL_RUB_PR(-1)) + C(8)*D(LOGLOBAL_RUB_PR(-2)) +				
C(9)*D(LODOM_RUB_PR(-1)) + C(10)*D(LODOM_RUB_PR(-2)) +				
C(11)*D(LOEX_RATE(-1)) + C(12)*D(LOEX_RATE(-2)) + C(13)				
*D(INFLATION(-1)) + C(14)*D(INFLATION(-2)) + C(15)				
	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-1.212887	0.530289	-2.287221	0.0411
C(2)	-0.638892	0.209678	-3.047016	0.0101
C(3)	0.135988	0.315277	0.431330	0.6739
C(4)	0.480929	0.362179	1.327876	0.2089
C(5)	3.031568	1.738850	1.743433	0.1068
C(6)	4.098242	1.942973	2.109264	0.0566
C(7)	-0.383209	0.472773	-0.810556	0.4334
C(8)	-0.670867	0.393915	-1.703075	0.1143
C(9)	0.316907	0.387070	0.818733	0.4289
C(10)	0.335291	0.417116	0.803831	0.4371

C(11)	-1.832545	1.819432	-1.007207	0.3337
C(12)	0.139201	1.765833	0.078830	0.9385
C(13)	0.022470	0.023344	0.962542	0.3548
C(14)	0.010870	0.014832	0.732842	0.4777
C(15)	-0.627410	0.339778	-1.846528	0.0896
R-squared	0.577716	Mean dependent var		0.110194
Adjusted R-squared	0.085050	S.D. dependent var		0.214259
S.E. of regression	0.204945	Akaike info criterion		0.031972
Sum squared resid	0.504028	Schwarz criterion		0.687938
Log likelihood	15.43162	Hannan-Quinn criter.		0.182095
F-statistic	1.172633	Durbin-Watson stat		2.022639
Prob (F-statistic)	0.395250			

Source: Secondary data (1989-2018)

#### 4.3.4 Short run influence

According to result final decision is GDP jointly can influence on tire export income, but Global and Domestic market rubber price, Exchange Rate and Inflation cannot influence jointly on tire export income in the short run (Table 4.4)

Table 4. 4 Walt test result (Source: Secondary data (1989-2018))

Variable	Null hypothesis	P value	Decision
EXP_INCM (1) EXP_INCM (2)	C(3)=C(4) =0	0.41	There is no short-run causality running from the lag value of tire export income to tire export income.
DLOGDP(1) DLOGDP(2)	C(5)=C(6) =0	0.04	There is short-run causality running from the lag value of tire GDP to Tire export income.
LOGGLOBAL_RUB_PR (1) LOGGLOBAL_RUB_PR (2)	C(7)=C(8) =0	0.22	There is no short-run causality running from the lag value of Global Rubber price to tire export income.
DLODOM_RUB_PR(1) DLODOM_RUB_PR(2)	C(9)=C(10) )=0	0.59	There is no short-run causality running from the lag value of Domestic . Rubber price to tire export income

LOEX_RA TE(1) LOEX_RA TE(2)	C(11)=C(12) =0	0.59	There is no short-run causality running from the lag value of the Exchange Rate to tire export income.
INFLATIO N(1) INFLATIO N(2)	C(13)=C(14) =0	0.61	There is no short-run causality running from the lag value of inflation to tire export income.

Source: Secondary data (1989-2018)

## 5. CONCLUSION AND RECOMMENDATION

This study employed econometric approaches to determine the impact and determinants of tire export income in Sri Lanka using the Ordinary Least Square method. In this study, researchers looked at five independent variables that have an impact on tire export income in Sri Lanka. Such as GDP, global market rubber price, domestic market rubber price, exchange rate, and inflation. The data for this study were gathered from secondary sources as time series data from 1989 to 2018. The researcher's two aims in this study are to investigate the impact and factors of tire export income in Sri Lanka. As a result, the researchers developed two distinct models to identify the impact and determinants. The variables GDP, inflation rate, and currency rate were identified as the most relevant factors influencing tire export income in Sri Lanka in this model. At a 5% level of significance and a 95% level of confidence, those variables are significantly influenced positively or negatively. The findings found that, while the variable GDP had a favorable influence on tire export income in Sri Lanka, variables such as inflation and currency rate had a negative effect. However, fluctuations in the global and domestic market rubber prices have no bearing on tire export earnings.

According to the standardized coefficient values, GDP and exchange rate have the greatest impact on the tire export income.

When looking at the exchange rate from 1989 to 2018, the value of the rupee depreciates year by year in relation to the dollar. As a result, our export income



is reduced. As a result, the exchange rate has a negative impact on tire export revenue. When we evaluate the inflation rate, we can see that inflation raises the price of our commodity. Then, it diminishes demand from foreign countries, resulting in lower export demand. As a result, the inflation rate has a negative impact on tire export income. However, when GDP is considered, it raises the question of whether exports impact GDP or GDP influences export income. The Granger causality test method was used to determine the direction of the link between export and GDP. The researcher demonstrated causation from export to GDP in this test. As a result of demonstrating these linkages, run a simple regression model to demonstrate the influence of tire export income in Sri Lanka.

The cointegrated model was performed using all dependent and independent variables to investigate the long run relationship between dependent and independent variables. The regression analysis results also demonstrated a 121 percent pace of adjustment towards long run equilibrium. It means that it rapidly adjusts from any state of disequilibrium to long-run equilibrium. Following the establishment of the linkages between variables, the Walt test was used to assess the influence of the short run coefficient of lag values of variables. In the short run, the result demonstrated an impact from lag vales of GDP on Sri Lanka's tire export income.

Based on the findings, the study recommends the followings.

As a developing country, Sri Lanka must establish a long-term strategy to improve the quality of its exportable goods through the adoption of improved technology, because export income is a primary determinant of the country's sustainable GDP.

Rather than selling raw rubber, the government should focus on exporting standardized produced goods that help it compete with other countries.

The government should implement trade policies that eliminate trade barriers when exporting manufactured goods.

Tire export earnings have shown an increasing trend in recent years with reductions in the inflation rate in the Sri Lankan economy; therefore, it is necessary to maintain a favourable inflation rate by implementing new techniques.

According to the study, the government should boost export promotion measures to preserve a trade surplus and a favourable climate. Adequate security and infrastructure should be given to entice international investors to invest in the rubber-based product sector of the economy.

The government should maintain favourable macroeconomic policies, particularly monetary ones that improve economic stability.

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