

Economic sectors effect: gdp in malaysia



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ABSTRACT

The importance of this study is to understand the relationship between economic sectors and the Gross Domestic Product (GDP) in Malaysia. Based on the three major economic sectors consist of Primary, Secondary and Tertiary sectors it is agriculture, livestock, forestry and fishing, mining and quarrying, manufacturing, construction and services. The main objective in this study is to see which economic sectors is the most significant to the Gross Domestic Product (GDP) and to see the relationship between the economic sectors and the Gross Domestic Product (GDP). Where the models understudied are based on Unit Root Test, Ordinary Least Square (OLS) and Granger Causality Test. This entire model is to determine the result there are relationship between the variable. Using Unit Root Test methods it shows that the entire variable has stationary 2st difference. Only GDP has the stationary at the 1st difference for order of integrations. Other than that, using the ordinary Least Square (OLS) method the result shows that all the variables are significant less than lower bound critical value 0.05, but only the services variable is not significant. For the last methods Granger Causality Test were use to test the data and the result shows that only several variables are co integration.

Keyword: Agriculture, Livestock, Forestry and Fishing, Mining and Quarrying, Manufacturing, Construction and Services, GDP, Unit Root Test, Ordinary Least Square OLS and Granger Causality Test.

INTRODUCTION

This background of study more focuses on the relationship between the economic sectors and the Gross Domestic Product (GDP). Where the economic sectors consist of three major: primary, secondary and tertiary. See for the primary sectors the nature resources industries such as agriculture, fishing, farming, forestry and mining. Where the secondary sectors deals with the processing of raw materials into finished goods. Manufacturing and construction is the types of secondary sectors. Lastly is the tertiary sectors in the economic sector has to do with services to businesses and consumers. For examples, Transportation, banking, tourism and retail stores are all part of the tertiary economic sector.

In this study, we focus more on the relationship between the dependent variable and the independent variable. Which is the dependent variable is Gross Domestic Product (GDP) and the independent variable we choose from the three major of economic sectors, where agriculture, fishing, farming, forestry and mining from the primary sectors, manufacturing and construction from the secondary sectors and services from the tertiary sectors.

According to (Fatimah M. A. 1997) she said that the share of agricultural sector in the country's GDP has declined from peak at 30 percent in the 1970s to about 14 percent in the 1990s. Here we can see the reaction between the agriculture sectors and the Gross Domestic Product (GDP). According to (Larry Wong 2007) argued that in general development economists, and agricultural economists, have focused on how agriculture can be best contribute to overall economic growth and modernization, <https://assignbuster.com/economic-sectors-effect-gdp-in-malaysia/>

crucial to sustained economic development the premised on their in-grained believe that robust agricultural growth and productivity increases, at least up till the mid 1980s.

LITERATURE RIVIEW

Economic sector is a certain type of business activity within an economy.

Economics is part of the social structure of a society and is concerned with how people produce and consumer goods and services. The types of goods and services are produced and consumed in a society depend on geography and social customs. The three major economic sectors are: primary, secondary and tertiary.

The Primary sector in the economic sectors obtaining and refining raw materials such as wood, steel and coal. Primary economic sector workers include loggers, steelworkers and coalminers. All types of natural resources industries such as agriculture, fishing, farming, forestry and mining are a part of the primary economic sector. According to (Azmi S. R 2004) he said that in total, the agriculture sector contributed RM42b amounting to 9. 5 percent of Malaysia's GDP in 2004. During the period 2000-2004 the growth of the manufacturing sector continued to outpace growth in the agriculture sector. At the end of 2004, the manufacturing sector contributed 31. 4 percent to the GDP. According to (Habibah 2005) she argued that while independence on 1957, the primary sector consisting of agriculture and mining, was major contributor to GDP where 45. 77 percent of GDP. In 2000, GDP declined further to 8. 7 percent and expected to just 7. 0 percent in 2005 where it contributes of the agriculture, livestock, forestry and fishing.

The secondary sector in the economic sectors deals with the processing of raw materials into finished goods. Builders and potters are examples of secondary economic sector workers. Lumber from trees is made into homes and clay from the earth is made into pottery. Brewing, engineering, manufacturing, construction and all types of processing plants are part of the secondary economic sector. According to (Senior Research Officer Industrial policy) has played an important role in Malaysia's economy to transforming the Malaysia's economy from one dependent on the primary sector to one driven by the manufacturing sector. According to (Habibah 2005) only 11.1 percent of GDP while independence where the secondary sector consisting of manufacturing and construction. In 2005, where the manufacturing sector contribution to GDP was 33.4 percent and it is expected to contribute a high 35.8 percent.

The tertiary sector in the economic sector has to do with services to businesses and consumers. Dry cleaners, real estate agents and loan officers fall into the category of tertiary economic sector workers. Transportation, banking, tourism and retail stores are all part of the tertiary economic sector. According to our Prime Minister Datuk Seri Mohd Najib Tun Abdul Razak he complementing the growth and development in the manufacturing sector, where the Government is intensifying its efforts to develop and promote the services sector. The full potential in the services sector and raise its contribution to 60 percent of the GDP, as targeted in the Third Industrial Master Plan is targeting by the Government. According to rahul and sutanu they said that, however the production of goods and services, in economic development is the services which are used as intermediate inputs.

Intermediate services are now critical to the function of the world economics and their importance is likely to increase as information and knowledge intensity of international economic activity increases. According to (Habibah 2005) she said that while independence, the tertiary sector contributed a significant 43.2 percent to GDP and the Malayan economy was extremely dependent on trade where services such as financial and banking were much needed. GDP is expected to increase further reflecting the relative importance of the sector to the economic in 2005.

The economic sector which is primary, secondary and tertiary sectors will affect the Gross Domestic Product (GDP) in Malaysia. Were GDP is the total market value of all final goods and services produced in a country in a given year, equal to total consumer, investment and government spending, plus the value of exports, minus the value of imports. GDP includes only goods and services produced within the geographic boundaries regardless of the producer's nationality. According to International Development Research Center (IDRC) Only in the 1990s, after Taiwan and Korea had developed into mature industrialized economies, did their tertiary sector become the dominant provider of employment outside agriculture? By contrast India's share of employment growth in the tertiary sector in the seventies was already 60 percent higher than in manufacturing. According to (Aaditya Mattoo 2001) explained that in examining the link between growth and services, the key question the link between liberalization of services and economic growth might be expected to be different from that between goods liberalization and growth. According to (Danavaindran 2005) he said that the manufacturing sector contributed 31.6 percent of Malaysia's GDP in 2004

(30.8 percent in 2003). It is the fastest growing sector with value added expanded at 9.8 percent in 2004 (8.3 percent in 2003).

DATA AND METHODOLOGY

Data

The data will cover on the dependent variable Gross Domestic Product (GDP) and independent variable which is agriculture, livestock, forestry and fishing (AG), mining and quarrying

(MAN), manufacturing (CON), construction (SER) and services (SER), method: Unit root test, Ordinary Least Squares and Granger causality test. For the years of observation is from 1987 until 2008.

.....(1)

Unit Root Test

i. Augmented Dickey-Fuller

ADF-Statistic that stands for the Augmented Dickey-Fuller statistics using for unit root test each variable of the data. It is the test for time series sample data which are have a large number and complicated sets time series of the variables. According to the Dickey and Fuller (1979) were found that the comparisons of the ADF-statistic may draw the conclusion in the stationary from the critical values.

.....(2)

.....(3)

It might called that :-

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t stationary at the level difference.

t-1 stationary at the 1st difference level.

t-2 stationary at the 2nd difference level

TABLE 1:

Unit Root Test table shows that the conclusion in the stationary from the critical values.

VARIABLES

ADF- STATISTICS

CRITICAL VALUES

ORDER OF INTEGRATION

GDP

-4. 393753

(0. 0027)

1% level = -3. 788030

5%level = -3. 012363

10%level = -2. 646119

Stationary at 1nd difference

AGRICULTURAL

-5. 450311

(0. 0004)

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1% level = -3. 857386

5% level = -3. 040391

10% level = -2. 660551

Stationary at 2st difference

CONSTRUCTION

-5. 291260

(0. 0004)

1% level = -3. 808546

5% level = -3. 020686

10% level = -2. 650413

Stationary at 2st difference

MANUFACTURING

-5. 111001

(0. 0006)

1% level = -3. 808546

5% level = -3. 020686

10% level = -2. 650413

Stationary at 2nd

Difference

MINING & QUARRYING

-6. 976246

(0. 0000)

1% level = -3. 808546

5% level = -3. 020686

10% level = -2. 650413

Stationary at 2st

Difference

SERVICES

-3. 617004

(0. 0150)

1% level = -3. 808546

5% level = -3. 020686

10% level = -2. 650413

Stationary at 2st

Difference

This is the first method that used to test the data it test by the Unit Root Test of the data. This method has been use to test for every variables for the significant level. There are three methods in the unit root test to maintain or to bring the significant level. There are level, first difference and second difference.

The table 1 data above shows that six variable were use the unit root test to regress the significant level for every data. The entire variable above has stationary 2st difference. Only GDP has the stationary at the 1st difference for order of integrations.

Ordinary Least Square (OLS)

This section is the second method that used in the econometrics methods to access the relationship between the dependent and independent variable. It is Ordinary Least Square (OLS). In this method GDP is the dependent variable and independent variable consist of the agriculture, livestock, forestry and fishing, mining and quarrying, manufacturing, construction and the services.

OLS framework

$$= + + + ++ + \dots\dots\dots(4)$$

Where GDP is the dependent variable and the independent variable is,, , , and . GDP is equal to the independent variable where the independent variable is agriculture, livestock, forestry and fishing, mining, manufacturing, construction and services.

Hypothesis

$H_0: \hat{\beta}^2 = 0$ There are relationship between dependent and independent variable

$H_a: \hat{\beta}^2 \neq 0$ There are no relationship between dependent and independent variable

To use the hypothesis test is to see whether there have relationship between the dependent and independent variable. The null hypothesis $\hat{\beta}^2 = 0$ (there are no relationship between the dependent and the independent variable) and for the Alternative hypothesis $\hat{\beta}^2 \neq 0$ (if less than lower bound critical value (0.05), then we do not reject the null hypothesis. Conversely, if the t-statistic value greater than 5% critical value, then we reject the null hypothesis and conclude that there are significant relationship between the dependent variable and the independent variable.

This is the test by using OLS method between the dependent variable and the independent variable. Where the dependent variable is GDP and the independent variable is agriculture, livestock, forestry and Fishing, Mining and Quarrying, Manufacturing, Construction and Services.

TABLE 2

Dependent Variable: GDP

Method: Least Squares

Variable

Coefficient

Std. Error

t-Statistic

AGRICULTURE LIVESTOCK

0. 035047***

0. 012301

2. 849176

CONSTRUCTION

0. 173803***

0. 025686

6. 76651

MANUFACTURING

0. 054844***

0. 008416

6. 516913

MINING AND QUARRYING

0. 039738***

0. 007809

5. 089044

SERVICES

0. 072149

0. 046901

1. 538322

C

2406. 977***

170. 2333

14. 13928

Note: *, **, *** denote as significant level 10%, 5%, 1%

R-squared

: 0. 999272

Adjusted R-squared

: 0. 999058

= + + + ++ +(5)

Result above shows that all the variables are significant less than lower bound critical value 0. 05, but only the services variable is not significant. The result for R-squared is 0. 999272.

The result for the separately OLS test is:

TABLE 3

Dependent Variable: GDP

Method: Least Squares

Variable

Coefficient

Std. Error

t-Statistic

agriculture, livestock, forestry and Fishing

0.377317***

0.024249

15.5598

C

556.6521

926.5143

0.600802

Note: *, **, *** denote as significant level 10%, 5%, 1%

R-squared

: 0. 920185

Adjusted R-squared

: 0. 916384

= + +(6)

The result above shows that there is significant between GDP and the agriculture, livestock, forestry and Fishing. The R-squared is 0. 920185.

Hypothesis

H0: $\hat{\beta}^2 = 0$ there are relationship

Ha: $\hat{\beta}^2 \neq 0$ there are no relationship

In this hypothesis is to show the relationship between GDP with the agriculture, livestock, forestry and Fishing. It is to shows how far that coefficient of the two variables.

H0 = There is relationship between agriculture, livestock, forestry and fishing and GDP.

Ha = There is no relationship between agriculture, livestock, forestry and fishing and GDP.

Above result shows that, there are relationship between agriculture, livestock, forestry and fishing and GDP. It means that we cannot reject null

Hypothesis. This is because the independent variables have significant data under the 1% level.

TABLE 4

Dependent Variable: GDP

Method: Least Squares

Variable

Coefficient

Std. Error

t-Statistic

CONSTRUCTION

1. 005293***

0. 122777

8. 187932

C

1083. 713

1675. 081

0. 646961

Note: *, **, *** denote as significant level 10%, 5%, 1%

R-squared

: 0. 761478

Adjusted R-squared

: 0. 75012

= + +(7)

The result above shows that there is significant between GDP and the construction. The R-squared is 0. 761478.

Hypothesis

H0: $\hat{\beta}^2 = 0$ there are relationship

Ha: $\hat{\beta}^2 \neq 0$ there are no relationship

In this hypothesis is to show the relationship between GDP with the construction. It is to shows how far that coefficient of the two variables.

H0 = There is construction and Gross Domestic Product (GDP).

Ha = There is no construction and Gross Domestic Product (GDP).

Above result shows that there are relationship between construction and GDP. It means that we cannot reject null Hypothesis. This is because the independent variables have significant data under the 1% level.

TABLE 5

Dependent Variable: GDP

Method: Least Squares

Variable

Coefficient

Std. Error

t-Statistic

MANUFACTURING

0. 112338***

0. 002485

45. 19902

C

3378. 533***

265. 926

12. 70479

Note: *,**,*** denote as significant level 10%, 5%, 1%

R-squared

: 0. 989825

Adjusted R-squared

: 0. 989341

= + +(8)

The result above shows that there is significant between GDP and the manufacturing. The R-squared is 0. 989825.

Hypothesis

H0: $\hat{\rho}^2 = 0$ there are relationship

Ha: $\hat{\rho}^2 \neq 0$ there are no relationship

In this hypothesis is to show the relationship between GDP with the manufacturing. It is to shows how far that coefficient of the two variables.

H0 = There is relationship between manufacturing and Gross Domestic Product (GDP).

Ha = There is no relationship between manufacturing and Gross Domestic Product (GDP).

Above shows that the relationship between manufacturing and GDP. It means that we cannot reject null Hypothesis. This is because the independent variables have significant data under the 1% level.

TABLE 6

Dependent Variable: GDP

Method: Least Squares

Variable

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Coefficient

Std. Error

t-Statistic

MINING_AND_QUARRYING

0. 177837***

0. 014089

12. 62274

C

7044. 868***

700. 9635

10. 05026

Note: *,**,*** denote as significant level 10%, 5%, 1%

R-squared

: 0. 883549

Adjusted R-squared

: 0. 878004

= + +(9)

The result above shows that there is significant between GDP and the mining and quarrying. The R-squared is 0. 883549.

Hypothesis

H0: $\hat{\rho}^2 = 0$ there are relationship

Ha: $\hat{\rho}^2 \neq 0$ there are no relationship

In this hypothesis is to show the relationship between GDP with the mining and quarrying. It is to shows how far that coefficient of the two variables.

H0 = There are relationship between mining and quarrying and Gross Domestic Product (GDP).

Ha= There are no relationship between mining and quarrying and Gross Domestic Product (GDP).

Above shows that the relationship between mining and quarrying and GDP. It means that we cannot reject null Hypothesis. This is because the independent variables have significant data under the 1% level.

TABLE 7

Dependent Variable: GDP

Method: Least Squares

Variable

Coefficient

Std. Error

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t-Statistic

SERVICES

0. 687714***

0. 027567

24. 94685

C

668. 9676

576. 3518

1. 160693

Note: *, **, *** denote as significant level 10%, 5%, 1%

R-squared

: 0. 967358

Adjusted R-squared

: 0. 965804

= + +(10)

The result above shows that there is significant between GDP and the services. The R-squared is 0. 967358.

Hypothesis

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$H_0: \hat{\beta}^2 = 0$ there are relationship

$H_a: \hat{\beta}^2 \neq 0$ there are no relationship

In this hypothesis is to show the relationship between GDP with the services. It is to shows how far that coefficient of the two variables.

H_0 = There are relationship between services and Gross Domestic Product (GDP).

H_a = There are no relationship between services and Gross Domestic Product (GDP).

Above shows that the relationship between services and GDP. It means that we cannot reject null Hypothesis. This is because the independent variables have significant data under the 1% level.

The Granger Causality Test

The granger causality test also called the error correction model that if the proven co integration is exist, then, in this step is to prove if they're co integration between the dependent variable and independent variable where the dependent variable is Gross Domestic Product (GDP) and the independent variable consist of agriculture, livestock, forestry and fishing (AGRI), mining and Quarrying (MINI), construction (CONT) and services (SERV).

Using the data that collected from the department of statistic in Malaysia, tested using the granger causality test method to prove whether there is co integration between the variable. The result shows that there are only

several co integration between the variable were (CONS) does not Granger Cause GDP with 0.0379 probability and GDP does not Granger cause with (SERV) with 0.0052 probability.

CONCLUSION

In conclusion, the objective of this study is to see which economic sectors is the most significant to the Gross Domestic Product (GDP) and to see the relationship between the economic sectors and the Gross Domestic Product (GDP). Where the models understudied are based on Unit Root Test, Ordinary Least Square (OLS) and Granger Causality Test. This entire model is to determine the result there are relationship between the variable.

Using Unit Root Test methods it shows that the entire variable has stationary 2nd difference. Only GDP has the stationary at the 1st difference for order of integrations.

Other than that, using the ordinary Least Square (OLS) method the result shows that all the variables are significant less than lower bound critical value 0.05, but only the services variable is not significant. All the independent variables such as agriculture, livestock, forestry and fishing, mining and quarrying, manufacturing, construction and services have significant data under the 1% level. That means all the variables are significant and have a relationship between Gross Domestic Products (GDP). When all the variables are significant, so we cannot reject null Hypothesis. We can refer to the above hypothesis to shows the relationship.

For the last methods Granger Causality Test were use to test the data and the result shows that only several variables are co integration. The result

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shows that there are only several co integration between the variable were (CONS) does not Granger Cause GDP with 0. 0379 probability and GDP does not Granger cause with (SERV) with 0. 0052 probability.