*Original Paper*

# The Effect of Economic Globalization on the Economic Growth-A Study on Foreign Portfolio Investment, Foreign Direct Investment, Export and Import in 1982-2017 Period: A Case Study in China

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*Abstract*

*In the context of economic globalization, countries around the world are closely linked through economic activities such as import, export, foreign direct investment and foreign portfolio investment. Economic globalization is conducive to participating in the international division of labor, giving play to its comparative advantages and expanding overseas markets. This research is an ex post facto study using quantitative. The data used are as many as 35 data from 1982 to 2017. This study aims to determine the effect of economic globalization on economic growth, study: Foreign Portfolio Investment, Foreign Direct Investment, import and export, both directly or indirectly. The data ware validated using the VAR model, the results of this study indicate that the effects of variables on economic growth are positive.*

*Keywords*

*Foreign Direct Investment, Foreign Portfolio Investment, Imports, Exports, Economic Growth, Economic Globalization*

## 1. Introduction

Economic globalization refers to the economic activities that transcend national borders and are interdependent and interconnected through foreign trade and services, thus forming an organic economy as a whole on a global scale. Economic globalization is an important trend in the development of the world economy. It is conducive to the rational allocation of resources within the world and promotes the global flow of capital and technology. It is conducive to promoting the

economic development of underdeveloped regions, and China actively participates in international trade activities under the influence of economic globalization. Therefore, the influence of import, export, foreign direct investment and foreign securities chiefs on China's economic growth has become a hot issue. Many experts and scholars have been researching and discussing these two issues and have put forward their own views.

## 2. Literature Review

He Wang (1999) proposed that "economic globalization refers to the large-scale activities of economic activities such as production, trade, investment, finance, etc. on a global scale, the global allocation and restructuring of production factors. It is also the performance of economic interdependence and integration among countries in the world. Mengfei Tian (2005) used the OLS method for regression analysis. The results show that FDI has a positive impact on China's economic growth. Shujing Yue (2008) used the measurement method to study the relationship between FDI and China's economic growth. The results show that there is a stable positive effect and a one-way causal relationship between the two. The growth of FDI is the Granger cause of GDP growth. Qiuju Cao (2004) shows that foreign direct investment can allocate capital on a global scale and increase the marginal efficiency of capital, thereby promoting domestic economic growth. Huijuan Lu and Xiaoping Xu (2005) test the effect of China's export trade on economic growth. The results show that China's economy is multi-factor-driven, compound growth is not export-oriented growth, but export trade is still driving China's economic growth. One of the factors that cannot be ignored. Xiaopeng Liu (2001), using China's 1952-1998 GDP and import and export data for co-integration analysis, concluded that imports have a greater role in promoting China's economic growth, and the impact of exports on China's economic growth is not significant. At the same time, it also explains the weak correlation between exports and China's economic growth from the perspective of export commodity structure.

## 3. Research Method

This research is an ex post facto study using quantitative, the type of data used by researchers is secondary data. Exposure facto research method to find the factors that have occurred. This method is chosen because it is in accordance with the objectives to be achieved, namely obtaining data based on time series. This paper draws on four indicators of economic globalization: import, export, FDI (Foreign Direct Investment), FPI (Foreign portfolio Investment) and economic growth as research objects, and uses the VAR model analysis to get a model of economic globalization pathway through four indicators of economic growth and various indicator. It directly affects the effect, thus providing a certain reference for China's foreign trade.

*3.1 Unit Root Test*

In order to avoid the pseudo-regression of time data, the ADF (Augmented Dickey - Fuller) test method is used to perform unit root test on its data. As can be seen from Table 1, the data in the Level is not

stable. The results were all stable by the test first difference test.

**Table 1. The Results of Unit Root Test**

| Variable | Level | | *First Difference* | |
|---|---|---|---|---|
| | ADF-Statistics | t-Statistic (5%) | ADF-Statistics | t-Statistic (5%) |
| FPI | -1.532621 | -2.948404 | -5.492743 | -2.954021 |
| FDI | -2.608453 | -2.948404 | -4.524581 | -2.951125 |
| EX | -0.600011 | -2.948404 | -4.935077 | -2.951125 |
| IM | -1.313260 | -2.948404 | -4.604201 | -2.951125 |
| GDP | -0.907433 | -2.954021 | -4.207931 | -3.552973 |

In the test Level, Foreign Portfolio Investment's ADF t-statistic is greater than the Mac Kinnon Critical value of 5 percent, which is -1.532621> -2.948404. Foreign Direct Investment's ADF t-statisticis greater than Mac Kinnon Critical 5 percent, i.e., -2.608453> -2.948404. Export's ADF statistic of the is greater than the Critical Mac Kinnon value of 5%, which is -0.600011> -2.948404. Import's ADF t-statistics is greater than the Mac Kinnon Critical value of 5 percent, namely -1.313260> -2.948404. GDP's ADF t-statistics is greater than Mac Kinnon Critical value of 5 percent, which is -0.907433> -2.954021. So, all variables have ADF-Statistics greater than t-Statistic (5%), and this result proves that the data is not stable. Because Therefore, in the First Difference test, The result is the opposite. The ADF-Statistics of all variables is less than t-Statistic (5%), which proves that the data is stable, and can be analyzed in the next step.

*3.2 Test Optimum Lag*

Testing of causality and testing of VAR are very sensitive to optimal hysteresis. Therefore, determining the optimal lag length is useful for causality testing and testing. According to the best principle of AIC and SC minimum results, the lag order of the selected models is 1, as shown in Table 2.

**Table 2. The Result of Test Optimum Lag**

| Lag | LogL | LR | FPE | AIC | SC | HQ |
|---|---|---|---|---|---|---|
| 0 | -86.02061 | NA | 0.000125 | 5.201178 | 5.423370 | 5.277879 |
| 1 | 121.4780 | 343.8549* | 3.76e-09* | -5.227315* | -3.894159* | -4.767110* |

*3.3 Test the Granger's Causality*

In this test the researcher wants to know the causality relationship between Foreign Portfolio Investment, Foreign Direct Investment, import, export, GDP. We can see the results of this causality test from its probability value. The decision criteria used are H0 rejected if the probability value is less than 10%. and used are H1 accepted if the probability value is more than 10%.

**Table 3. The Result of Test the Granger's Causality**

| | | | | |
|---|---|---|---|---|
| H0: FPI does not Granger Cause GDP | 35 | 3.88436 | 0.0574 | refuse |
| H1: GDP does not Granger Cause FPI | | 7.31973 | 0.0108 | refuse |
| H0: FDI does not Granger Cause GDP | 35 | 0.05614 | 0.8142 | accept |
| H1: GDP does not Granger Cause FDI | | 1.18677 | 0.2841 | accept |
| H0: EX does not Granger Cause GDP | 35 | 3.92316 | 0.0563 | refuse |
| H1: GDP does not Granger Cause EX | | 1.57906 | 0.2180 | accept |
| H0: IM does not Granger Cause GDP | 35 | 2.05227 | 0.1617 | accept |
| H1: GDP does not Granger Cause IM | | 0.64038 | 0.4295 | accept |
| H0: FDI does not Granger Cause FPI | 35 | 2.01895 | 0.1650 | accept |
| H1: FPI does not Granger Cause FDI | | 0.10638 | 0.7464 | accept |
| H0: EX does not Granger Cause FPI | 35 | 8.00142 | 0.0080 | refuse |
| H1: FPI does not Granger Cause EX | | 2.00284 | 0.1667 | accept |
| H0: IM does not Granger Cause FPI | 35 | 9.76640 | 0.0038 | refuse |
| H1: FPI does not Granger Cause IM | | 1.83621 | 0.1849 | accept |
| H0: EX does not Granger Cause FDI | 35 | 0.89621 | 0.3509 | accept |
| H1: FDI does not Granger Cause EX | | 3.30125 | 0.0786 | refuse |
| H0: IM does not Granger Cause FDI | 35 | 0.76436 | 0.3885 | accept |
| H1: FDI does not Granger Cause IM | | 0.05052 | 0.8236 | accept |
| H0: IM does not Granger Cause EX | 35 | 2.51551 | 0.1226 | accept |
| H1: EX does not Granger Cause IM | | 1.62029 | 0.2122 | accept |

As can be seen from the above table 3, FPI and GDP are mutually causal. FDI, IM and GDP are not mutually causal. There is a one-way causal relationship between EX and GDP. There is no causal relationship between FPI and FDI. There is a one-way causal relationship between IM, EX and GDP. There is a one-way causal relationship between EX and FDI. There is no causal relationship between IM and FDI. There is no causal relationship between EX and IM.

*3.4 Test the Stability of Var*

It can be seen from Figure 1. that the unit roots are all within the unit circle (less than 1), so the stationarity test is satisfied, indicating that there is a long-term stable relationship between the four variables.
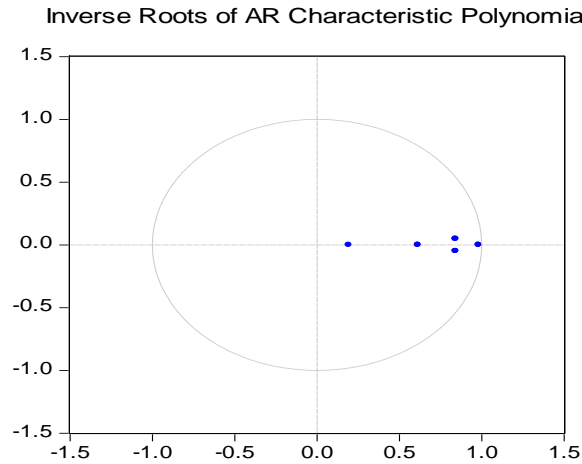
Inverse Roots of AR Characteristic Polynomial



**Figure 1. Test the Stability of Var**

*3.5 Impulse Response Function (IRF)*

Impulse response is a reaction to describe the impact of endogenous variables on errors caused by error terms, that is, the degree of influence on the current and future values of endogenous variables after applying the standard deviation of the term random error. Figure 2 shows that the impulse response of GDP to each variable is positive, that is positive impact.
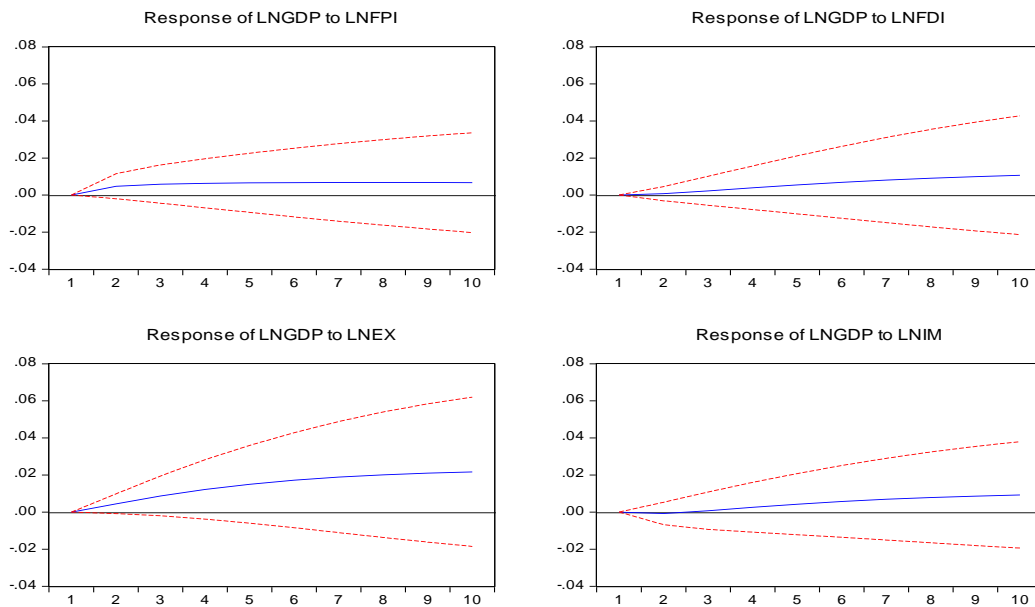


**Figure 2. Result of Impulse Response Function (IRF)**

In the figure, GDP has a positive impact on each variable within the lag period of ten. Among them, the impulse response value of GDP to exports is the most obvious. In the tenth period, the maximum value is reached. The impulse response of GDP to foreign portfolio investment is relatively stable. The effect of GDP on imports has gradually increased after the fourth period. The response value of GDP to FDI

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is relatively small. In the first to third periods, the response value is almost 0. From the third period, the response value is around 0.02%. It maintains a positive impact within the lag period and maintains a maximum during the tenth period.

*3.6 Forecast Error Variance Decomposition (FEVD)*

Decomposition of variance is the importance of further assessing the impact of different structures by analyzing the contribution of each structural shock to changes in endogenous variables (usually measured by variants). As can be seen from Figure 2, S.E is the largest in the tenth period, so the contribution rate of each variable to GDP is the largest in the tenth period.

**Table 4. Result of Forecast Error Variance Decomposition (FEVD)**

| VarianceDecompositionofLNGDP: | | | | | |
|---|---|---|---|---|---|
| Period | S.E. | GDP | FPI | FDI | EX | IM |
| 1 | 0.022503 | 100.0000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| 2 | 0.036099 | 96.65146 | 1.736458 | 0.042415 | 1.521495 | 0.048168 |
| 3 | 0.048372 | 93.18180 | 2.455229 | 0.243039 | 4.069905 | 0.050024 |
| 4 | 0.060099 | 89.75736 | 2.698660 | 0.579087 | 6.749499 | 0.215390 |
| 5 | 0.071485 | 86.58418 | 2.750635 | 0.991537 | 9.165327 | 0.508320 |
| 6 | 0.082537 | 83.77568 | 2.723973 | 1.432818 | 11.20587 | 0.861653 |
| 7 | 0.093208 | 81.35294 | 2.665220 | 1.872894 | 12.88167 | 1.227278 |
| 8 | 0.103451 | 79.28889 | 2.594699 | 2.295059 | 14.24355 | 1.577800 |
| 9 | 0.113228 | 77.53888 | 2.521660 | 2.691093 | 15.34842 | 1.899948 |
| 10 | 0.122520 | 76.05586 | 2.450380 | 3.057765 | 16.24720 | 2.188803 |

From Table 4 that in the first period, contribution of LnGDP is 100% for itself, and the contribution of other variables is 0. The variable that contributes to GDP in the tenth period is LnFPI = 2.450%, LnFDI = 3.058%, LnEX = 16.247%, LnIM = 2.1889%, and the economic forecast errors of each variable exceeded 10%. LNEX has the largest contribution rate to LNGDP, and it is increasing from the first period to the tenth period, and the increase rate is large. In the tenth period, it reached 16.25%. It shows that LNEX has a significant impact on LNGDP. The error of LNIM for LNGDP in the third and fourth phases is about 0.050% and 0.215%. From the fifth period, LnIM's role in economic growth has increased steadily, reaching a maximum in the tenth period, about 2.19%.

## 4. Conclusion

The statistics used 1987-2017 data and used the structural VAR method to study the impact of China's foreign direct investment on economic growth and employment. Analysis of foreign direct investment, international securities investment, imports and exports positively promote China's economic

growth .The results show that: (1) GDP responds positively to changes in the value of FPI (Foreign Portfolio Investment), FPI (Foreign portfolio investment) contributes 2.45% to changes in GDP. (2) GDP responds positively to changes in FDI (Foreign Direct Investment). FDI (Foreign Direct Investment) contributes 3.06% to changes in GDP. (3) GDP responds positively to changes in import values. Imports contributed 2.19% to changes in GDP. (4) GDP responds positively to changes in exports. Exports contribute 16.25% to changes in GDP. So, the Chinese government should speed up the upgrading of industrial structure, promote exports, and direct foreign direct investment to high-tech industries through the introduction of advanced technologies and management methods. Actively adjust the problems in the import and export trade, improve the rules of the foreign securities market, and thus promote the steady growth of the Chinese economy.

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