How the Population Inflow Influence Guangdong's Economy and Mechanism Study

Zhiming Li[1], Huifen Li[2]

[1]Department of Management Science and Engineering, Shandong University of Finance and Economics, Shandong, China
[2]Department of Settlement Center, Nanhai Settlement Center, Foshan University, Guangdong, China

Abstract: This study observed the relationship and predictability of population inflow, industrial development, and per capita wage in Guangdong Province from 1998 to 2020. Firstly, the research makes the variables stable, establishes the VAR model, and tests the stability of the model. And then the research uses the Granger causality test to evaluate the relationship among population inflow, per capita wage, and GDP. It shows that under the 5% confidence level, on the one hand, per capita wage has a significant impact on the gross industrial value, and the gross industrial value has a significant impact on population inflow. On the other hand, per capita wage and population inflow have a direct impact on each other. The results of impulse response function and variance decomposition analysis show that the rise of wages will promote industrial development, and the total industrial value will lead to the rise of population inflow, but the impact is not significant over time. Wages have a direct impact on population mobility and population mobility fluctuates greatly over time. The results show that per capita wage, gross industrial value, and population inflow play a significant role in promoting each other and forming a positive cycle. Promoting population inflow will help greatly promote prosperous economic development.

Keywords: Per-capita wage, Gross industrial value, Population inflow, Economic growth, Macroeconomic.

1. Introduction

How population mobility affects regional economic growth has always been the core issue studied by scholars. Migration flows are likely to be procyclical, and the changes of regional economic differences significantly affect migration flows (Decressin, 1994; Salvatore, 2020). Bove and Elia (2017) "push-pull theory" comprehensively analyzes the influencing factors of population mobility. Looking at these factors, economic factors are considered to be the most important factors, which means that the income gap between regions has a decisive impact on population mobility. In addition to the difference in economic level, the level of social public service is another important macro factor, which is due to the differences in education, medical treatment, and culture between urban and rural areas and between urban and rural areas in China. There are great differences in culture and social security, which leads to the phenomenon that cities with better public service levels can attract foreign populations, especially in the eastern region (Braun, 1993; Marrucci et al., 2021). A. Chen and Coulson (2002) uses the urban fixed effect model to analyze the "pull" of each city Factor lag value to explore the reasons for the changes in the number of urban migrants in China from 1995 to 1999, although wage income has no significant impact on immigrants, per capita total urban income has an impact, which shows that immigrants seek more than wages. The regression also results show that cities with a high proportion of manufacturing and service industries grow the fastest.

Many scholars have researched the relationship between intercity migration and economic development. With China's economic reform and opening policy, a large number of new floating population, urban and rural floating population is changing the urban labor force. Seeborg et al. (2000) A large number of urban labor force plays a great role in promoting the economic development of the city. Moody (2006) used the growth accounting policy framework to analyze, and finally found that the government can try to use immigration to solve specific labor market problems, which is conducive to economic growth. The proportion of migrant labor is high, and their wages are much lower than those of locals, and the amount of wages in the labor market depends on the interaction between supply and demand, although some jobs in specific countries are short of labor for a long time, the wage level in some economic sectors usually does not increase (Meijerink & Keegan, 2019; Tupa, 2016; Wang et al., 2019), which provides sufficient conditions for enterprises in labor-intensive industries to expand production.

Some scholars have researched the relationship between skilled migration and economic growth. Bove and Elia (2017) found that when immigrants move from one country to another, they carry a series of new skills and innovation knowledge, which promotes technological innovation and stimulates economic growth.

Labor salary and employment are also important reasons affecting urban migrants. Glaeser et al. (1995) investigated the relationship between urban characteristics in 1960 and urban growth from 1960 to 1990. Income and population growth have an impact relationship with each other. Both types of growth are negatively correlated with initial unemployment and are positively correlative with the initial share of manufacturing employment.

According to Todaro's population mobility model, the real factor causing population mobility is not only the income gap between urban and rural areas but also whether the floating population can successfully find a job in the city, that is, the employment probability and the expected income determined by it (Todaro, 1969; Yan et al., 2020; Yu et al., 2019).

Not only for Intercity immigrants but also transnational immigrants, employment and labor remuneration are important factors affecting transnational immigrants. The level of labor remuneration is one of the main indicators that determine the living standard of the population, people's happiness, and it has an indispensable direct impact on the

national economic and social development. Due to the differences between the level of labor remuneration and the minimum consumption of the population, there are great differences among countries, resulting in a variety of socio-economic effects with stimulating population migration (Ţurcan & Ţurcan, 2020; Yan et al., 2020).

Hare (1999) have found that the observed migration pattern is an informed result and makes a rational response to the environment full of uncertainty and incomplete market. Industrial agglomeration can improve productivity, and then promote the increase of balanced wages and employment at the same time (Moretti & Thulin, 2013). (Kuznets, 1975) have found that population mobility will lead to the optimization of resource allocation, the rise of labor productivity, and the upgrading of industrial structure so that it will promote regional economic growth. H.-J. Chen and Fang (2013) found that the per capita GDP growth rate of international immigrant economies will be higher than that of closed economies, with the increase of immigration flow, the per capita GDP growth rate will first decline and then rise, attracting more skilled immigrants will promote economic growth.

Seeborg et al. (2000) found that the policy reforms in China's rural and urban areas have reduced the division of the labor market and created employment opportunities for many rural-urban migrants, in rural areas, a series of agricultural market reforms have increased farmers' income and produced a large amount of surplus labor supply since 1978, in urban areas, the reforms started in the 1980s have created a demand for rural migrants, what is especially important are the development of the contract labor system and the emergence of the private sector.

Population inflow also brings disadvantages. Braun (1993) studied the impact of population mobility on regional economic convergence and concluded that there is a significant conditional convergence trend in economic growth, but the role of population migration in promoting economic growth convergence is limited. Moretti and Thulin (2013) conducted an empirical analysis based on the data of Jiangsu, Zhejiang, and Shanghai from 2011 to 2015 and found that the impact of floating population on per capita economic growth rate is not significant, that is, instead of relying on the dividend of population mobility, it is better to increase investment in education and strive to improve the quality of labor force to promote economic development.

At the same time, the increase of heterogeneity may undermine social cohesion, cause obstacles to coordination and communication, and have an adverse impact on economic development (Bove & Elia, 2017). A large number of the labor force in rural areas is one of the most puzzling problems faced by policymakers in China and the municipal authorities are concerned that large-scale labor migration out of rural China will have a political and social instability impact on the cities and towns to which workers migrate (Hare, 1999). The standard policy prescription for economists to create urban employment opportunities utilizing wage subsidies or direct government employment through the use of "shadow price" does not necessarily lead to the improvement of welfare it may exacerbate the problem of urban unemployment (Ţurcan & Ţurcan, 2020; Zhang & Wang, 2018). Despite a large number of urban unemployment in the city, rural-urban migration still exists, and the impact of migration and unemployment on the welfare of the whole rural sector has led to increased burden and inter-sectoral compensation requirements (Facchini et al., 2019; Kuznets, 1975; Yan et al., 2020).

At present, many scholars in the world have paid attention to the impact of population inflow and population migration on the local macro-economy. However, there is little literature on the macroeconomic and social impact of population inflow in China's coastal cities, such as Zhejiang Province and Guangdong Province. Therefore, combined with China's national conditions and the local culture along the southeast coast, this study uses the time series VAR model to analyze the impact of population inflow on the economy of Guangdong Province.

2. The Economy of Guangdong Province in China

The results of the seventh national census show that China's population mobility is 375.82 million. Compared with 2010, the population mobility increased by 69.73%. Compared with other provinces in China, Guangdong has a population mobility of 52.0662 million, far ahead of other provinces, more than the sum of Zhejiang Province and Jiangsu Province. At the end of 2015, the permanent resident population of Guangdong was 108.49 million, which will reach 115.21 million by 2019, an increase of 6.72 million. After deducting the amount of natural population growth, the population moving to Guangdong from 2016 to 2019 reached 3.04 million.

Why Guangdong ranks first in terms of population mobility is closely related to the fact that Guangdong has four major economic cities, Guangzhou, Shenzhen, Foshan, and Dongguan. In particular, Guangzhou and Shenzhen, as first-tier cities, have relatively loose settlement policies and absorb a large number of people. By 2020, the permanent resident population in the core area around Guangdong Province has accounted for about 61.91% of the total permanent resident population of the province, which is about 8.04 percentage points higher than that 10 years ago.

Firstly, Guangdong has strong central cities, which can provide more competitive jobs. Secondly, the employment policies of Guangzhou, Shenzhen, and Hangzhou are quite loose, and talents with a college degree or above can settle down easily. Since 1989, Guangdong's GDP has ranked first in China. It has become the largest economic province in China, accounting for 1 / 8 of the country's total economic output, and has reached the level of middle and upper-income countries and the level of moderately developed countries. The comprehensive competitiveness of Guangdong's regional economy ranks first in China. Nine cities in Guangdong will join hands with Hong Kong and Macao to build Guangdong, Hong Kong, and Macao Bay area, becoming one of the four Bay areas in the world side by side with New York Bay area, San Francisco Bay area, and Tokyo Bay area. From 2007 to 2017, Guangdong's regional GDP increased from 3206.4 billion yuan to 8970.5 billion yuan, and the proportion of tertiary industry output value gradually increased, which has exceeded 50%. Affected by the adjustment of industrial structure, the proportion of labor remuneration in Guangdong's regional GDP is also gradually increasing. From 2007 to 2017, the proportion of workers' remuneration in Guangdong's GDP showed an upward trend. In 2017, the proportion of workers' remuneration has reached 48.63%. The adjustment of the industrial structure is the main reason for the rise in the proportion of workers' remuneration. Nationwide, the average wage in Guangdong Province

(108045 yuan) is higher than the national average (97379 yuan).

3. Research Method and Data Collection

3.1. Research Method

The vector autoregressive model, abbreviated as the VAR model, is a commonly used econometric model and was proposed by Christopher Sims in 1980. It is a generalization of the AR model, VAR model is used to estimate the dynamic relationship of endogenous variables, and this model has been widely used. The formula of the model is:

$Yt=c+A1(yt-1)+A2(yt-2)+....+Ap(yt-p)+et$, where c is an $n\times1$ intercept vector and Ai is an $n\times n$ matrix, which is a matrix we need to estimate. et is an $n\times1$ error vector.

3.2. Data Collection

This study collects data from the statistical yearbook of Guangdong Province, in which the data of population household movement into Guangdong is used as an indicator of population inflow. The total value of industrial development (including the sum of the total value of the primary, secondary, and tertiary industries) is used as an indicator of economic growth. The average wage of urban and rural residents' income is used to measure the per capita wage. The data in this study are from 1998 to 2020. Subsequently, the values of industrial development, average salary were adjusted by the consumer price index of Guangdong Province.

4. Empirical Model

4.1. Stationary Test

Before proceeding with the empirical analysis, to avoid pseudo-regressions, this study first smoothed each variable. (See the figure 1)

```
. dfuller dlnpopulation

Dickey-Fuller test for unit root                    Number of obs   =        21

                            ————— Interpolated Dickey-Fuller —————
               Test          1% Critical      5% Critical     10% Critical
               Statistic       Value            Value            Value

 Z(t)          -4.995         -3.750           -3.000           -2.630

MacKinnon approximate p-value for Z(t) = 0.0000

. dfuller dlnsalary

Dickey-Fuller test for unit root                    Number of obs   =        21

                            ————— Interpolated Dickey-Fuller —————
               Test          1% Critical      5% Critical     10% Critical
               Statistic       Value            Value            Value

 Z(t)          -6.527         -3.750           -3.000           -2.630

MacKinnon approximate p-value for Z(t) = 0.0000

. dfuller ddlnindustry

Dickey-Fuller test for unit root                    Number of obs   =        20

                            ————— Interpolated Dickey-Fuller —————
               Test          1% Critical      5% Critical     10% Critical
               Statistic       Value            Value            Value

 Z(t)          -6.758         -3.750           -3.000           -2.630

MacKinnon approximate p-value for Z(t) = 0.0000
```

Figure 1. Dfuller Test Result

As can be seen, population inflow, gross industry value, and per capita wage are all non-stationary data. Therefore, in this study, the three variables are log-transformed and then first-order differenced, and then the ADF test (Augmented Dickey-Fuller test) is performed to test the stationary of the variables. It can be seen that after logarithmic transformation and first-order differencing, both per capita wage and population inflow are stationary at a 1% confidence level, while gross industry value is still nonstationary. But after logarithmic transformation and second-order differencing of the gross industry variable, it is smooth at the 1% confidence level.

4.2. Determination of Lag Order and Unit Root Test

After obtaining the smooth time series, this study determines the lag order by each information criterion. As figure 2 shows below, a lagged fourth-order VAR vector autoregressive model should be used. Thus, the model becomes $Yt=c+A1(yt-1)+A2(yt-2)+A2(yt-3)+A2(yt-4)+et$, where yt is a column vector composed of population inflow, gross industry value, and per capita wage, and A is the matrix of coefficients to be estimated. After establishing the VAR model, this paper tests the stability of the VAR model, and it can be seen from figure 3 that the unit-roots of all variables

are within the unit circle so that the VAR model is smooth.

The model can be used for more research and analysis below.

```
. varsoc ddlnindustry dlnsalary dlnpopulation

   Selection-order criteria
   Sample:  2004 - 2020                            Number of obs      =        17

  ┌─────┬──────────────────────────────────────────────────────────────────────────┐
  │ lag │    LL      LR      df     p      FPE       AIC      HQIC       SBIC         │
  ├─────┼──────────────────────────────────────────────────────────────────────────┤
  │  0  │ 75.4771                          4.0e-08  -8.52671  -8.5121   -8.37968      │
  │  1  │ 81.1498  11.346    9   0.253     6.0e-08  -8.13527  -8.07681  -7.54712      │
  │  2  │ 87.2841  12.269    9   0.199     9.6e-08  -7.79813  -7.69582  -6.76886      │
  │  3  │ 105.199  35.829    9   0.000     4.9e-08   -8.8469  -8.70074  -7.37653      │
  │  4  │ 131.958  53.519*   9   0.000     1.5e-08* -10.9363* -10.7463* -9.02479*     │
  └─────┴──────────────────────────────────────────────────────────────────────────┘

  Endogenous:  ddlnindustry dlnsalary dlnpopulation
   Exogenous:  _cons
```
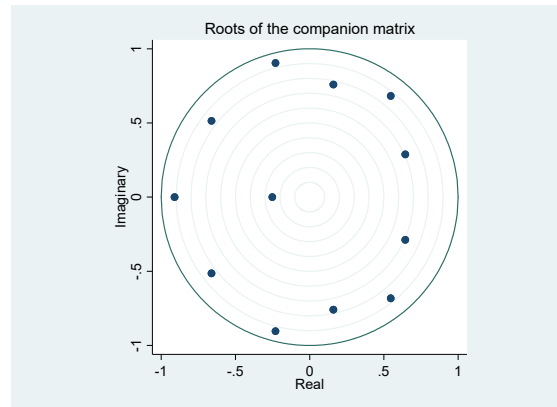
Figure 2. Lag Order Selection

Figure 3. Unit Root Test

4.3. Granger Causality Test

After estimating the VAR model, this paper uses Granger causality tests to examine which variables can help predict the future values of other variables, a causality based on "prediction" (Granger causality) was proposed by Granger in 1969. Later developed by Simmons (1972), the Granger causality test has been generally accepted and widely used by economists as the econometric method. And its main usage is to conduct hypothesis testing, to determine whether there is a causal relationship between the two variables.

The results for the fourth lag period are summarized in Figure 4. First, under a 5% confidence level, both per capita wages and gross industry value affect population mobility. It indicates that both the increase in labor wages and economic development are very attractive to the working population. Second, at the 5% confidence level, per capita wage has a significant effect on gross industry value. It shows that the increase of wages will increase the motivation of workers to produce, which will increase the gross industrial value and economic development. Third, at the 5% confidence level, population inflow has a significant effect on the per capita wage, and population inflow affects the per capita wage of workers by influencing the labor supply factor.

Therefore, it can be concluded from the above that the increase in per capita wages will increase the enthusiasm of workers, thereby improving production efficiency and industrial development, and industrial development. The economic prosperity will attract more labor workers from other provinces to come to Guangdong to seek job opportunities, and the increase in the labor force will increase the supply of labor force and therefore effects the workers' wages.

```
vargranger

Granger causality Wald tests

  ┌──────────────┬──────────────┬─────────┬────┬─────────────┐
  │   Equation   │   Excluded   │  chi2   │ df │ Prob > chi2 │
  ├──────────────┼──────────────┼─────────┼────┼─────────────┤
  │ ddlnindustry │    dlnsalary │ 21.325  │ 4  │    0.000    │
  │ ddlnindustry │ dlnpopulation│ 7.1883  │ 4  │    0.126    │
  │ ddlnindustry │          ALL │ 47.178  │ 8  │    0.000    │
  ├──────────────┼──────────────┼─────────┼────┼─────────────┤
  │    dlnsalary │ ddlnindustry │ 8.4079  │ 4  │    0.078    │
  │    dlnsalary │ dlnpopulation│ 17.366  │ 4  │    0.002    │
  │    dlnsalary │          ALL │ 18.746  │ 8  │    0.016    │
  ├──────────────┼──────────────┼─────────┼────┼─────────────┤
  │ dlnpopulation│ ddlnindustry │ 95.878  │ 4  │    0.000    │
  │ dlnpopulation│    dlnsalary │ 80.802  │ 4  │    0.000    │
  │ dlnpopulation│          ALL │ 148.67  │ 8  │    0.000    │
  └──────────────┴──────────────┴─────────┴────┴─────────────┘
```

Figure 4. Granger Test Result

4.4. Impulse Response Analysis

Next, this study performs an impulse response analysis, where the impulse response plot depicts the response of an endogenous variable to an error shock, i.e., the effect on the current and future values of the endogenous variable after a shock is applied to the random error term. (See the figure 5)
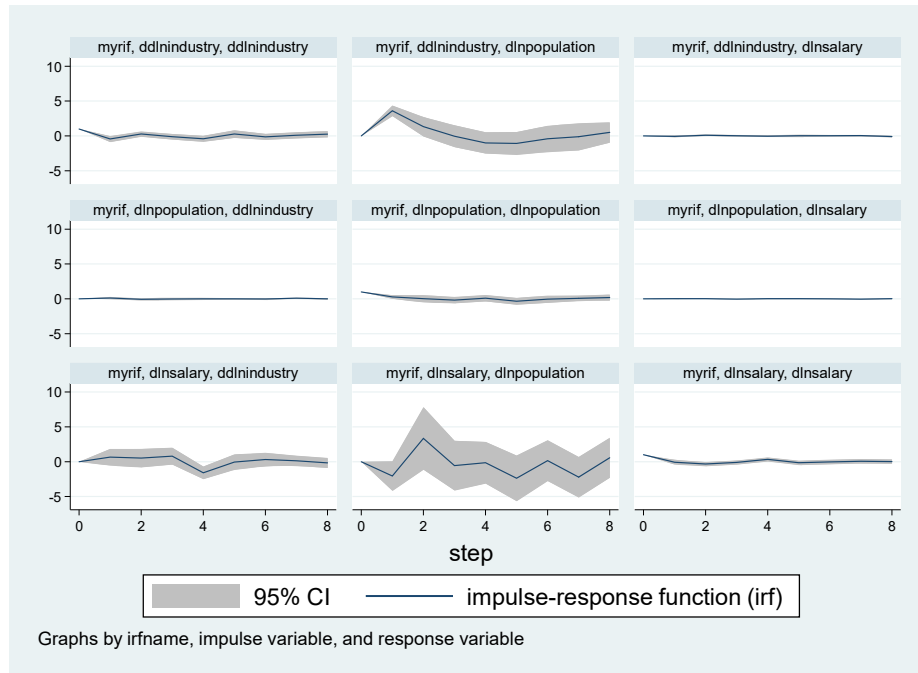

Figure 5. Impulse Response Function

First of all, the figure shows the impact of the total value of the industry on population inflows. In the beginning, when the total value of the industry increased and the economy improved, it had a positive impact on the inflow of the population. In the second period, the impact of the total value of the industry on the population inflow gradually decreased. Then the population inflow has had a slightly negative impact on population inflow. After a while, at the 95 confidence level, the impact of the total value of the industry on the population will no longer be particularly significant.

Secondly, concerning the impact of per capita wages on the total value of the industry. As per capita wages rise, the total value of the industry also rises until the third period. However, from the third period to the fifth period, per capita wages have a negative impact on the total value of the industry. After the fifth period, at the 95% confidence level, the impact gradually tends to be insignificant.

Third, at the 95% confidence level, as per capita wages rise, population inflows show negative growth in a short period.

Since the second period, the population inflow has shown a very obvious positive growth, and then it has been fluctuating up and down around this horizontal axis until the impact slowly subsided with time.

The rise in the total value of industry and economy will bring more attraction to Guangdong Province, which will be able to attract more population from other provinces, and therefore will bring a rise in population. And after the crowd gathering, it will cause a series of social problems, such as security problems, environmental pollution problems, road congestion problems, etc. Therefore, around the fourth period, the impact will be slightly negative. Until it slowly becomes insignificant. (Figure 5)

Rising wages will make workers more motivated to work for a certain period, thus increasing the efficiency of work and therefore boosting the economy and industry. However, in the third period, people gradually perceive that the wage increase is due to their own experience and knowledge level, so after some time, motivation decreases or even becomes slightly negative. In the end, people slowly get used to the rise in wages, and the effect of the rise in per capita wages on the inflow of labor slowly becomes insignificant.

The rise in wages in Guangdong cities takes some time for people to become aware of the rise in wages, so for a short period, in the beginning, the attractiveness to people is negative, but in the first period, people realize that wages in Guangdong province have risen, which will have a very significant increase in the inflow of labor.

But the economy of each province in China is also developing at the same time, and wages are also rising at the same time, so the attractiveness of other provinces to people will also increase, so the line keeps fluctuating up and down around this horizontal axis until the impact slowly fades over time.

4.5. Variance Decomposition Analysis

Then, this study uses variance decomposition analysis (see Figure 6) to analyze the dynamic impact among each variable. Figure 6 shows the variance decomposition of industrial development, population inflow, and per capita wage. Three conclusions can be drawn from the figure. First, it can be seen from the second column that the main reason for the change of population inflow comes from industrial development. From phase two to phase eight, industrial development has a great contribution and impact on population inflow. In addition, the change of wages also has a certain contribution to the change of population inflow. Second, from the third column, we could see that the impact of industrial development on the per capita wage is gradually increasing,

and the impact of per capita wage on itself is very strong at the beginning, and gradually weakening with time, which shows that the development of industry contributes to the increase of per capita wage. Third, the impact of per capita wage on industrial development is gradually increasing, which proves that wages can promote the enthusiasm of workers' production, so as to improve productivity and promote industrial development. The direct contribution of population inflow to industrial development is insignificant, which proves that population inflow could only promote the economy by improving the production power at work.

The three conclusions of variance decomposition analysis are consistent with the conclusions of the Granger causality test and impulse response function above.
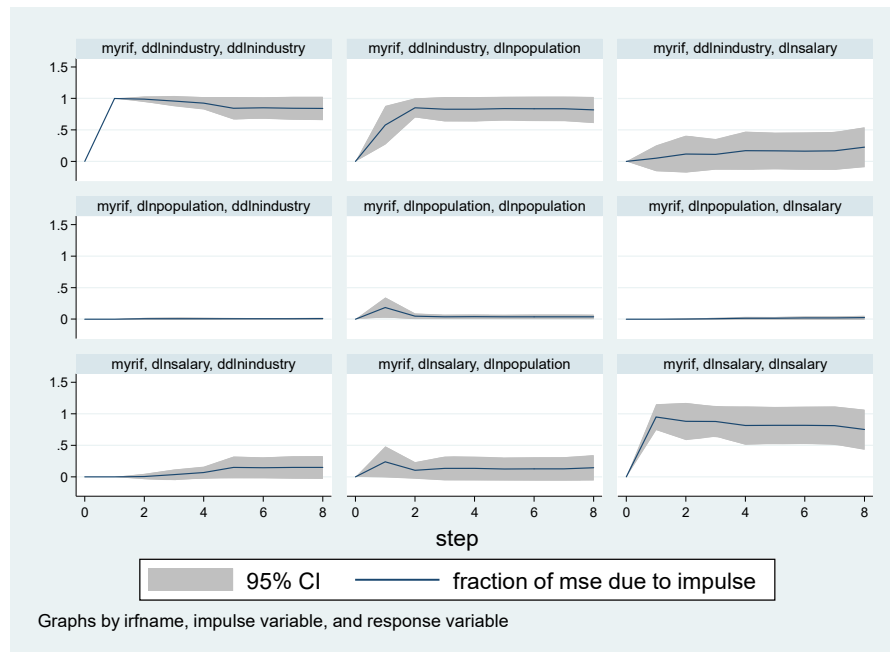

Figure 6. Variance Decomposition Function

5. Conclusion

Population wages and economic development in Guangdong Province are closely related to population inflow.

Granger causality shows that under the 5% confidence level, per capita wage has a significant impact on population flow and gross industrial value, and gross industrial value has a significant impact on population inflow. This shows that the increased per capita wage can encourage the enthusiasm of work, so as to improve the gross industrial value, and the improvement of gross industrial value and economic development attract more labor workers from other provinces to work in Guangdong. On the other hand, per capita wage and population inflow have a mutual influence on each other.

Impulse response shows that the rise of industrial value and economy can enable Guangdong Province to attract more migrant population, but this impact gradually becomes insignificant over time. Rising wages can promote the industrial development of Guangdong Province. However, over time, this effect gradually becomes insignificant. Although the rise of wages in cities in Guangdong Province had a negative impact on population inflow at the beginning, it soon had a strong attraction to population inflow, and population inflow fluctuated greatly over time.

Guangdong provincial government should protect the interests of the migrant population and workers, and promote social equity and employment equity, so as to attract more labor workers from other provinces to work in Guangdong. And it should try to introduce high-tech talents to promote scientific and technological innovation and the development of a knowledge-based economy and promote the market economy and economic prosperity.

References

[1] Bove, V., & Elia, L. (2017). Migration, diversity, and economic growth. World Development, 89, 227-239.

[2] Braun, J. (1993). Essays on economic growth and migration. Harvard University.

[3] Chen, A., & Coulson, N. E. (2002). Determinants of urban migration: Evidence from Chinese cities. Urban Studies, 39(12), 2189-2197.

[4] Chen, H.-J., & Fang, I.-H. (2013). Migration, social security, and economic growth. Economic Modelling, 32, 386-399.

[5] Decressin, J. W. (1994). Internal migration in West Germany and implications for East-West salary convergence. Review of World Economics, 130(2), 231-257.

[6] Facchini, G., Liu, M. Y., Mayda, A. M., & Zhou, M. (2019). China's "Great Migration": The impact of the reduction in trade policy uncertainty. Journal of International Economics, 120, 126-144.

[7] Glaeser, E. L., Scheinkman, J., & Shleifer, A. (1995). Economic growth in a cross-section of cities. Journal of monetary economics, 36(1), 117-143.

[8] Hare, D. (1999). 'Push'versus 'pull'factors in migration outflows and returns: Determinants of migration status and spell duration among China's rural population. The Journal of Development Studies, 35(3), 45-72.

[9] Kuznets, S. (1975). Fertility differentials between less developed and developed regions: Components and implications. Proceedings of the American Philosophical Society, 119(5), 363-396.

[10] Marrucci, L., Daddi, T., & Iraldo, F. (2021). The contribution of green human resource management to the circular economy

and performance of environmental certified organisations. Journal of Cleaner Production, 319, 128859.

[11] Meijerink, J., & Keegan, A. (2019). Conceptualizing human resource management in the gig economy: Toward a platform ecosystem perspective. Journal of managerial psychology.

[12] Moody, C. (2006). Migration and economic growth: A 21st century perspective (

[13] Moretti, E., & Thulin, P. (2013). Local multipliers and human capital in the United States and Sweden. Industrial and Corporate Change, 22(1), 339-362.

[14] Salvatore, D. (2020). Growth and trade in the United States and the world economy: Overview. Journal of Policy Modeling, 42(4), 750-759.

[15] Seeborg, M. C., Jin, Z., & Zhu, Y. (2000). The new rural-urban labor mobility in China: Causes and implications. The Journal of Socio-Economics, 29(1), 39-56.

[16] Todaro, M. P. (1969). A model of labor migration and urban unemployment in less developed countries. The American economic review, 59(1), 138-148.

[17] Tupa, M. (2016). Impacts of labour migration on development and amount of salary. (Ed.),^(Eds.). 3rd International Multidisciplinary Scientific Conference on Social Sciences and Arts SGEM 2016.

[18] Țurcan, R., & Țurcan, I. (2020). Salary–an important tool for ensuring sustainable development and economic growth. (Ed.),^(Eds.). Competitiveness and sustainable development.

[19] Wang, X., Tao, Z., Liang, L., & Gou, Q. (2019). An analysis of salary mechanisms in the sharing economy: The interaction between streamers and unions. International Journal of Production Economics, 214, 106-124.

[20] Yan, J., Feng, L., Denisov, A., Steblyanskaya, A., & Oosterom, J.-P. (2020). Correction: Complexity theory for the modern Chinese economy from an information entropy perspective: Modeling of economic efficiency and growth potential. Plos one, 15(3), e0230165.

[21] Yu, J., Shi, X., & Laurenceson, J. (2019). Will the Chinese economy be more volatile in the future? Insights from urban household survey data. International Journal of Emerging Markets.

[22] Zhang, Q., & Wang, X. (2018). Internal and international migration dynamics in China (Handbook of Migration and Globalisation. Edward Elgar Publishing.