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The Contribution Rate of Advanced Scientific and Technological Progress and the Internal Circulation of China's Economy

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Abstract: This study observes the impact of China's advanced scientific and technological progress contribution rate on China's internal circular economy from 1958 to 2020, and formulates China's appropriate economic policies. Firstly, the method of taking logarithm by difference is used to make the variables studied stable, the VAR model is established, and the stability of the model is tested. Then, this study uses the Granger causality test to evaluate the relationship between the contribution rate of advanced science and technology, consumption, social fixed investment, and macroeconomic climate index. The impulse response function shows that in the long run, the contribution rate of advanced scientific and technological progress will not only promote the improvement of consumption but also improve the macroeconomic climate index and social fixed asset investment. Variance decomposition shows that with time, the interaction between consumption and the contribution rate of advanced scientific and technological progress gradually deepens, and the influence of other variables is relatively stable. Therefore, China needs to increase its investment in scientific research and improve the contribution rate of advanced scientific and technological progress, which will help promote China's implementation of the internal circular economy strategy.

Keywords: Contribution rate of advanced science and technology progress, Consumption, Macroeconomic prosperity index, Social fixed investment, Internal circulation of China's economy.

1. Introduction

When China began to implement reform and opening up in 1987, the development of the domestic market was still in the primary stage

The resources that can be mobilized in the economic cycle are very limited, so China focuses on the international circular strategy. At this stage, the continuous influx of processing trade and foreign capital has brought the capital, technology, management experience required for production and processing and the rules for developing the commodity market to the domestic market. Relying on its comparative advantages of surplus labor, low cost, and abundant national resources,

China has realized the accumulation of domestic raw capital and driven the rapid growth of the domestic economy. In 2001, China's accession to the WTO pushed the economic external circulation mode dominated by "export investment" to a new historical stage. During this period, China's foreign trade continued to grow at a high speed. In 2006, China's total imports and export accounted for about 64% of GDP. However, the subprime mortgage crisis in 2008 has become a watershed in China's economic policy. The economic development model based on economic external circulation has encountered various problems. After the global financial crisis in 2008, Professor Stiglitz, the Nobel Laureate in economics, once said that "the financial crisis comes from the catastrophic collapse of confidence". The outbreak of the novel coronavirus pneumonia in 2020 has seriously damaged the confidence of the participants in the market and caused the global economic recession.

General Secretary Xi has repeatedly pointed out that "we should promote the formation of a new development pattern with domestic circulation as the main body and domestic and international double circulation promoting each other". COVID-19 has brought about new changes in the pattern of international economic development. China's internal demand is constantly being released. With the breakthrough in 5G technology, big data algorithms, and medical and health fields, the domestic economy's internal circulation is becoming stronger and stronger, and its dependence on foreign markets is becoming smaller and smaller.

To build a smooth internal economic cycle, it is inseparable from the total growth and quality improvement of consumption. From the perspective of economic principles, consumption is the starting point and endpoint of the economic cycle. Consumption guides production promotes the transformation and upgrading of industrial structure and forms a benign economic internal cycle from production to consumption. Consumption is the key driving force driving economic growth. We should pay attention to giving full play to the basic role of consumption in building a new development pattern dominated by economic internal circulation. The Fifth Plenary Session of the 19th CPC Central Committee proposed to comprehensively promote consumption during the 14th Five Year Plan period, take various measures to stimulate consumption, promote consumption upgrading, and enhance the role of consumption in promoting the internal cycle of the economy.

The macroeconomic prosperity index, also known as the prosperity index, is a quantitative index, which can reflect the economic operation of each industry, such as prices, demand, and employment. Or qualitative indicators, such as the overall expectation of future economic development, stock market confidence index, etc., through comprehensive calculation of the index to reflect the current situation or development trend or socio-economic phenomenon of a specific investigation group.

Large and medium-sized enterprises continued their high boom in the second quarter. By the end of June last year, the manufacturing PMI index was 50.9%, rebounding month on month, and the outlook of the manufacturing industry continued to pick up. The PMI indexes of large and medium-sized enterprises were 52.1% and 50.2% respectively, in the expansion range.

Production activities continued to pick up in the first quarter. In June 2020, the manufacturing production index was 53.9%, rising again by 0.7 percentage points month on month. The production activities of domestic enterprises were more active, the raw material inventory and procurement index continued to rise, and the production willingness of enterprises continued to improve.

The whole society's investment in fixed assets is the general term of the workload and related expenses of the whole society in the construction and purchase of fixed assets in a certain period. Investment in fixed assets is one of the important driving forces of economic growth and is to promote social development.

Fixed assets, expanding production scale, and developing the national economy are important means.

The contribution rate of scientific and technological progress refers to the contribution share of scientific and technological progress to economic growth. It is a comprehensive index to measure the competitive strength of regional science and technology and the transformation of science and technology into real productivity. To accurately analyze the impact of the contribution rate of scientific and technological progress on economic growth, it must be separated separately for quantitative analysis. Scientific and technological progress is of great significance to promote the change and development of the industrial structure. Therefore, this paper discusses and analyzes the contribution rate of scientific and technological progress in China.

2. Literature Review

Since the dual cycle was first proposed in 2020, there is less research literature on dual cycle and consumption. Wang Hui (2021) studied the coordinated development of residents' consumption regions under the background of the double cycle and believed that the consumption expenditure between and within the three major regions in the East, middle, and west of China showed unbalanced development. Among them, the absolute and relative differences in consumption expenditure between regions show an inverted "V" scale fluctuation trend, the average consumption propensity of residents is low, and the consumption expenditure of urban and rural residents shows unbalanced development. Wen Jinshang and Yao Zhi (2021) studied and predicted the consumption demand elasticity and structural change of rural residents under the background of a double cycle based on the AIDS model. The research shows that the Marshall self price elasticity of food, housing, daily necessities and services, transportation, and communication of rural residents is greater than 1.

Such consumption behavior is significantly affected by market price fluctuations; The income elasticity of daily necessities, services, and medical care decreased to the range of [0,1] Wang Hui（2021）. Finally, it puts forward important methods to improve the welfare level of rural residents, optimize the consumption structure and promote the "urban-rural cycle" under the "double-cycle" of the economy.

The internal and external economic cycle theory holds that there is a circular economic cycle process with the basic structure of "obtaining resources (hereinafter referred to as resources) - increasing value (i.e. production) - realizing value (i.e. consumption)" in the process of economic operation, and divides the economic cycle into internal and external economic cycles according to domestic and foreign Zeng Jianqiu and Ren Miao (2005).

The idea of internal and external economic cycle theory is consistent with the history of China's economic development. The starting point of China's rapid economic development lies in the capital advantage accumulated from the surplus of workers brought by organizational advantages Li Keqiang (2012), which drives the development of the domestic economy through the development of the export-oriented economy. After the 2008 financial crisis, China's foreign trade situation has changed. The focus of economic development has shifted to China. Opening up the domestic market to expand domestic demand has become the leading direction of development Jiang feitao and Geng Qiang (2012). One belt, one road, is the main reason for the overcapacity of some industries. The F32 has been used to solve the problem of overcapacity in some industries. Ma SA, Zhang Erzhen and Dai Xiang (2016) believe that vigorously promoting institutional opening can change the one-way dependence of the original domestic cycle on the international cycle, give better play to the service role of the open international cycle to the domestic cycle, and is an important way to improve the level and quality of the domestic cycle.

3. Research Method

VAR model is a simultaneous form of the autoregressive model. VAR model constructs the model by taking each endogenous variable in the system as a function of the lag value of all endogenous variables; Its main purpose is to study the interactive relationship between different variables, and then judge the causal relationship between variables in combination with Granger causality test, and study the influence between variables in combination with impulse response function and variance decomposition.

The mathematical expression of the VAR (P) model is:

$$y_t = A_1 y_{t-1} + A_2 y_{t2} + \ldots A_p y_{t-p} + Q x_t + e_t \quad T = 1, 2, \ldots, T \tag{1}$$

Where y_t is a 4×1-dimensional endogenous variable column vector, P is the lag order, e_t is the error column vectors of order 4 can be related to each other at the same time, but they are not related to their lag value and the variables on the right of the equation. X tis a the exogenous column vector of order 4, AP is the coefficient matrix that need to be estimated.

4. Data Collection

We use LnCR, LnCO, LnEI, LnIN respectively to represent the annual data of China's scientific and technological progress contribution rate, consumption, macroeconomic climate index and social fixed asset investment. Among them, the contribution rate of China's scientific and technological progress is the ratio of scientific and technological output to scientific and technological input. The macroeconomic

prosperity index measures the enthusiasm level of the current social-economic environment. We collected the statistical data from China Statistical Yearbook and guotai'an annual data series from 1995 to 2020. In order to eliminate heteroscedasticity, we first carry out the logarithmic transformation on the above four variables. After taking the logarithm, convert the four variables intoLnCR, LnCO, LnEI, LnIN. Summary statistics are shown in Table 1.

Table 1. Data Description

Variable	Obs	Mean	Std. Dev.	Min	Max
lnCR	26	-.353888	.1816182	-.6466931	.1468635
lnCO	26	9.505313	.664435	8.469913	10.4808
lnIN	26	11.69446	1.349784	9.657824	13.36238
lnEI	26	4.595671	.0384124	4.527749	4.70583

5. Empirical Model

5.1. Stationary Test

The effectiveness of the VAR model depends on whether the time series is stable or cyclical (sing et al., 2015). This test can determine whether the trend data should first be differentiated or regressed according to the determination function of time to keep the data stable (Matsumoto et al., 2011). ADF test results show TVC, FIC, NEC.

This paper selects the VAR model to explain the dynamic relationship between different variables, and then uses ADF to test the stability of variables, Granger causality, impulse response, and variance decomposition to identify the relationship between China's scientific and technological progress contribution rate, consumption, macroeconomic climate index, and social fixed asset investment.

5.1.1. Stationary Test of Variables

Because the regression of unstable time series will cause the problem of pseudo regression, and ultimately affect the accuracy of results and judgment. Therefore, to test the stability of time series, it is necessary to carry out unit root tests, such as the enhanced Dickey-Fuller (ADF) test. Therefore, this paper carried out the augmented Dickey-Fuller (ADF) unit root test to check the stability of all four variables above. Stata is very suitable for the ADF unit root test of lncr, lnco, lnei, and lnin. The original assumption is that the existence in non-stationary time series is unstable. As shown in Table 2, ADF test results show that lncr, lnco, lnei, and lnin are non-stationary terms, but all variables of China's scientific and technological progress contribution rate, consumption and social fixed asset investment after logarithmic transformation, and quadratic difference are stable at the significance level of 1%, while the macroeconomic climate index after logarithmic transformation and the quadratic difference is stable at the confidence level of 1%. The results represent variable time series that can be analyzed using the VAR model.

Table 2. Stationary test for d2lncr, d2lncO, d2lnIN, dLNEI

Dickey-Fuller test for unit root — Number of obs = 23

	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
		Interpolated Dickey-Fuller		
Z(t)	-9.672	-3.750	-3.000	-2.630

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

Dickey-Fuller test for unit root — Number of obs = 23

	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
		Interpolated Dickey-Fuller		
Z(t)	-5.210	-3.750	-3.000	-2.630

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

Dickey-Fuller test for unit root — Number of obs = 23

	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
		Interpolated Dickey-Fuller		
Z(t)	-5.111	-3.750	-3.000	-2.630

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

Dickey-Fuller test for unit root — Number of obs = 24

	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
		Interpolated Dickey-Fuller		
Z(t)	-4.385	-3.750	-3.000	-2.630

MacKinnon approximate p-value for Z(t) = 0.0003

5.1.2. VAR Lag Order Confirmation

The VAR model is unstructured. Based on the VAR model, impulse response function, and variance decomposition, it can fully describe the dynamic relationship between variables. Before establishing the VAR model, the optimal lag order must be determined to maintain a reasonable degree of

freedom and eliminate the autocorrelation of error terms. Table 3 shows the criteria based on LR test statistics, FPE, AIC, SC, and HQ, and determines that the optimal lag of the VAR model is order 3.

Table 3. Selection of Criteria

Selection-order criteria
Sample: 2001 - 2020 Number of obs = 20

lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	132.541				3.1e-11	-12.8541	-12.8152	-12.6549
1	155.192	45.302	16	0.000	1.7e-11	-13.5192	-13.3248	-12.5235
2	168.475	26.567	16	0.047	2.7e-11	-13.2475	-12.8977	-11.4552
3	224.554	112.16*	16	0.000	1.0e-12	-17.2554*	-16.75*	-14.6665*
4	.	.	16	.	-3.9e-27*	.	.	.

Endogenous: d2lnCR d2lnCO d2lnIN dlnEI
Exogenous: _cons

5.2. VAR Model

VAR model estimation result shows in Table 4.

Table 4. Var model estimation

	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
d2lnCR						
d2lnCR						
L1.	-.5288589	.2289618	-2.31	0.021	-.9776159	-.080102
L2.	-.20032	.2776817	-0.72	0.471	-.7445662	.3439262
L3.	-.3179282	.2307276	-1.38	0.168	-.770146	.1342895
d2lnCO						
L1.	-.4064752	.5321679	-0.76	0.445	-1.449505	.6365547
L2.	-.4766895	.3978223	-1.20	0.231	-1.256407	.3030278
L3.	-.1300316	.3791766	-0.34	0.732	-.8732041	.613141
d2lnIN						
L1.	-.0803347	.330148	-0.24	0.808	-.7274128	.5667434
L2.	-.783449	.2916456	-2.69	0.007	-1.355064	-.2118342
L3.	.7257095	.4225475	1.72	0.086	-.1024684	1.553888
dlnEI						
L1.	.3524002	.4846002	0.73	0.467	-.5973988	1.302199
L2.	.4330233	.4034085	1.07	0.283	-.3576428	1.223689
L3.	-.1109243	.3843607	-0.29	0.773	-.8642574	.6424088
_cons	.0086813	.0107377	0.81	0.419	-.0123643	.0297269
d2lnCO						
d2lnCR						
L1.	.0572344	.0939773	0.61	0.543	-.1269579	.2414266
L2.	-.3761121	.1139744	-3.30	0.001	-.5994979	-.1527264
L3.	-.3836306	.0947021	-4.05	0.000	-.5692432	-.1980179
d2lnCO						
L1.	-.669707	.2184282	-3.07	0.002	-1.097818	-.2415956
L2.	-.6234188	.1632861	-3.82	0.000	-.9434536	-.3033839
L3.	-.2409282	.155633	-1.55	0.122	-.5459633	.0641068
d2lnIN						
L1.	-.1626835	.1355092	-1.20	0.230	-.4282766	.1029096
L2.	.3434184	.1197059	2.87	0.004	.1087992	.5780376
L3.	.4257408	.1734346	2.45	0.014	.0858153	.7656663
dlnEI						
L1.	.3790273	.1989041	1.91	0.057	-.0108175	.7688722
L2.	.2878075	.1655789	1.74	0.082	-.0367212	.6123363
L3.	-.0743222	.1577608	-0.47	0.638	-.3835277	.2348832
_cons	-.0002153	.0044073	-0.05	0.961	-.0088535	.0084228
d2lnIN						
d2lnCR						
L1.	-.3227256	.1857752	-1.74	0.082	-.6868383	.0413872
L2.	-.1498002	.2253056	-0.66	0.506	-.5913911	.2917907
L3.	-.070815	.1872079	-0.38	0.705	-.4377357	.2961058
d2lnCO						
L1.	.4165782	.4317908	0.96	0.335	-.4297162	1.262872
L2.	.3433506	.3227853	1.06	0.287	-.289297	.9759983
L3.	.3297659	.3076566	1.07	0.284	-.27323	.9327617
d2lnIN						
L1.	.06829	.2678757	0.25	0.799	-.4567367	.5933167
L2.	.3068974	.2366356	1.30	0.195	-.1568998	.7706946
L3.	-.1219619	.3428469	-0.36	0.722	-.7939296	.5500057
dlnEI						
L1.	-.2651891	.3931953	-0.67	0.500	-1.035838	.5054595
L2.	-.4790549	.3273179	-1.46	0.143	-1.120586	.1624763
L3.	-.8670302	.3118628	-2.78	0.005	-1.47827	-.2557903
_cons	.0016522	.0087124	0.19	0.850	-.0154238	.0187282
dlnEI						
d2lnCR						
L1.	.1820015	.1503122	1.21	0.226	-.112605	.4766079
L2.	-.1494105	.1822965	-0.82	0.412	-.5067051	.2078841
L3.	-.2960029	.1514714	-1.95	0.051	-.5928813	.0008755
d2lnCO						
L1.	.0716624	.3493652	0.21	0.837	-.6130809	.7564057
L2.	.1163317	.2611681	0.45	0.656	-.3955484	.6282118
L3.	.0989154	.2489273	0.40	0.691	-.3889732	.586804
d2lnIN						
L1.	-.4711561	.2167403	-2.17	0.030	-.8959593	-.046353
L2.	-.0436162	.1914637	-0.23	0.820	-.4188781	.3316457
L3.	.2409878	.2774001	0.87	0.385	-.3027064	.784682
dlnEI						
L1.	.0902986	.3181374	0.28	0.777	-.5332392	.7138364
L2.	-.4256843	.2648354	-1.61	0.108	-.9447521	.0933836
L3.	-.2131579	.2523306	-0.84	0.398	-.7077169	.281401
_cons	.0037505	.0070493	0.53	0.595	-.0100658	.0175668

According to the parameter estimation results in Table 8, the regression equation can be written as:

D2LNCR = 0.419-0.5288 * D2LNCR(-1)-0.7834* D2LNIN(-2) +0.7257* D2LNIN(-3)

D2LNCO=0.3761*D2LNCR (-2)-0.3836*D2LNCR (-3)-0.6697 *D2LNCO(-1) - 0.6234 *D2LNCO(-2)+0.3434* D2LNIN(-2) +0.4257* D2LNIN(-3)+0.3790 * DLNEI(-1)+0.2878 * DLNEI(-2)

D2LNIN=0.002-0.322* D2LNCR(-1)-0.867* DLNEI(-3)

DLNEI=-0.296* DLNEI(-3)-0.471*D2LNIN(-1)

5.3. Stationary Test of VAR Model

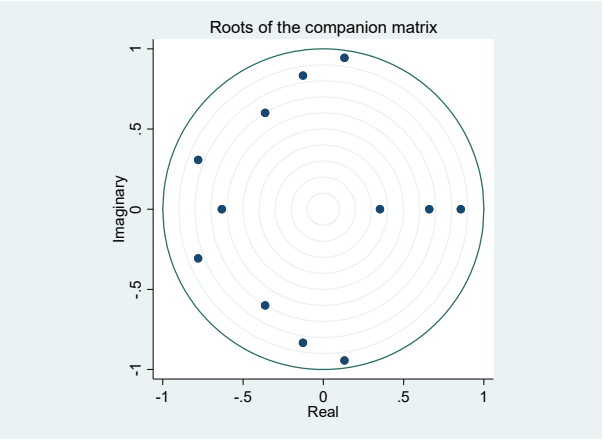

Figure 1. Unit root test

Table 5. Unit root test

Eigenvalue stability condition

Eigenvalue	Modulus
.131634 + .9436855*i*	.952822
.131634 - .9436855*i*	.952822
.8562062	.856206
-.1269188 + .8334203*i*	.843029
-.1269188 - .8334203*i*	.843029
-.7798941 + .3070791*i*	.838172
-.7798941 - .3070791*i*	.838172
-.3627737 + .6003419*i*	.701438
-.3627737 - .6003419*i*	.701438
.6592211	.659221
-.6320123	.632012
.3525129	.352513

All the eigenvalues lie inside the unit circle.
VAR satisfies stability condition.

To determine the stability of the model, we conducted a VAR stability test. To more accurately identify the dynamic relationship among the four variables of China's scientific and technological progress contribution rate, consumption, macroeconomic climate index, and social fixed asset investment, we first use the Granger causality test to test

whether the impact of variables can explain the future changes of other variables. Then, we construct an impulse response function to see how one variable receives the impact and affects other variables in the future. Finally, We performed variance decomposition analysis for observation.

The test results are shown in Table 5 and Figure 1. We confirm that no root is outside the unit circle, so it means that the VAR model meets the stability condition.

5.4. Granger Causality Test

The Granger causality test is a causal method to estimate the relationship between variables. The results of the Granger causality test are shown in table 6. The results show that social fixed investment is the Granger of the contribution rate of scientific and technological progress, and the contribution rate of scientific and technological progress, social fixed investment and macroeconomic prosperity index are the Granger of consumption. The macro-economic prosperity index is the Granger of social fixed investment.

Table 6. Granger Test

vargranger

Granger causality Wald tests

Equation	Excluded	chi2	df	Prob > chi2
d2lnCR	d2lnCO	1.5647	3	0.667
d2lnCR	d2lnIN	8.7696	3	0.033
d2lnCR	dlnEI	1.9277	3	0.588
d2lnCR	ALL	12.915	9	0.166
d2lnCO	d2lnCR	22.56	3	0.000
d2lnCO	d2lnIN	18.186	3	0.000
d2lnCO	dlnEI	7.7392	3	0.052
d2lnCO	ALL	57.518	9	0.000
d2lnIN	d2lnCR	3.6233	3	0.305
d2lnIN	d2lnCO	1.7248	3	0.631
d2lnIN	dlnEI	9.5286	3	0.023
d2lnIN	ALL	16.636	9	0.055
dlnEI	d2lnCR	5.7528	3	0.124
dlnEI	d2lnCO	.28091	3	0.964
dlnEI	d2lnIN	5.1653	3	0.160
dlnEI	ALL	11.235	9	0.260

5.5. Impulse Response Analysis

Granger causality test reveals the causal relationship between the contribution rate of advanced scientific and technological progress and the internal economic cycle. This study further studies the interaction between economic variables and the response of intensity and duration. Then, the dynamic influence process is discussed. Based on the VAR model, this paper uses the impulse response function. The horizontal axis represents the tracking period, the vertical axis represents the response degree of the dependent variable to the impact of the independent variable, the middle line represents the impulse response function, and the shaded part represents the 95% confidence interval. The results of the Cholesky pulse function are shown in figures 2.

From the above response curves, we can see that the responses tend to be zero, indicating that the VAR model is stable. The contribution rate of advanced scientific and technological progress harms consumption in phases 0-2 and then becomes a positive impact. This is because, in the beginning, the state and the government invest scientific research funds in the research and development of high-tech technology, which will squeeze internal consumption. However, with the progress of science and technology, it will increase the economy, which will, in turn, increase social consumption. After the contribution rate of advanced scientific and technological progress is positively impacted by a unit, it will improve the macroeconomic prosperity index, which will also increase social fixed asset investment. Therefore, the improvement of the contribution rate of advanced scientific and technological progress will promote the implementation of China's internal economic cycle.

5.6. Variance Decomposition Analysis

Variance decomposition is used to further evaluate the importance of different shocks by analyzing the contribution of each unit's shock to the change of endogenous variables. Therefore, variance decomposition can describe the relative importance of different shocks to lncr, lnco, lnei, and lnin. Based on the above VAR model, we apply variance decomposition. The results are shown in Table 11.

Variance decomposition can be used to evaluate the variance contribution of endogenous variables. Based on the analysis of the relative importance and change of endogenous variables, the VAR model estimates the response degree and lag effect. The results of variance decomposition are as follows figures 3.

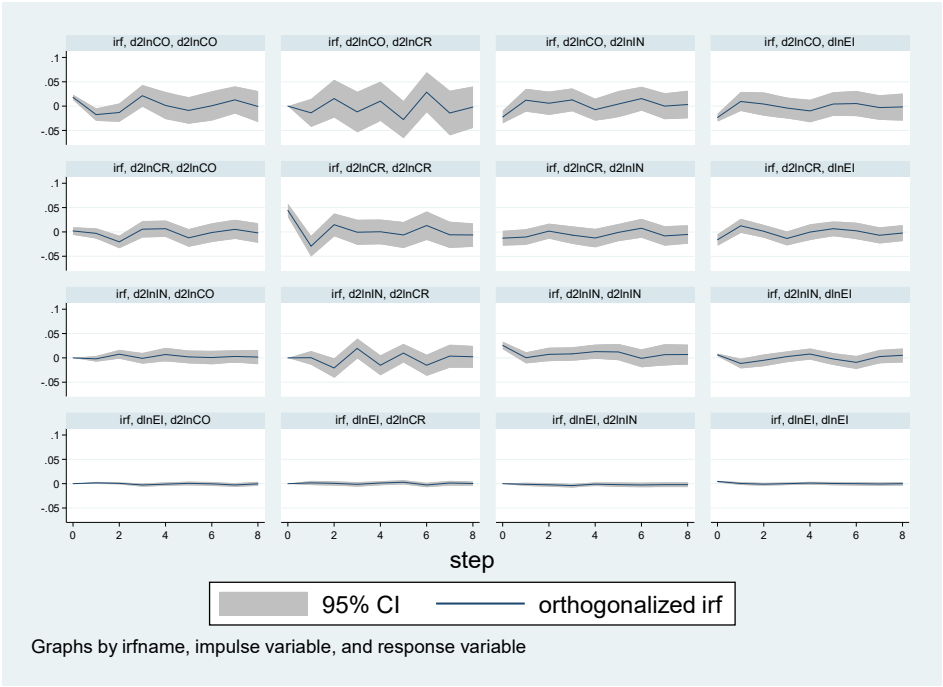

Figure 2. Impulse Response Analysis

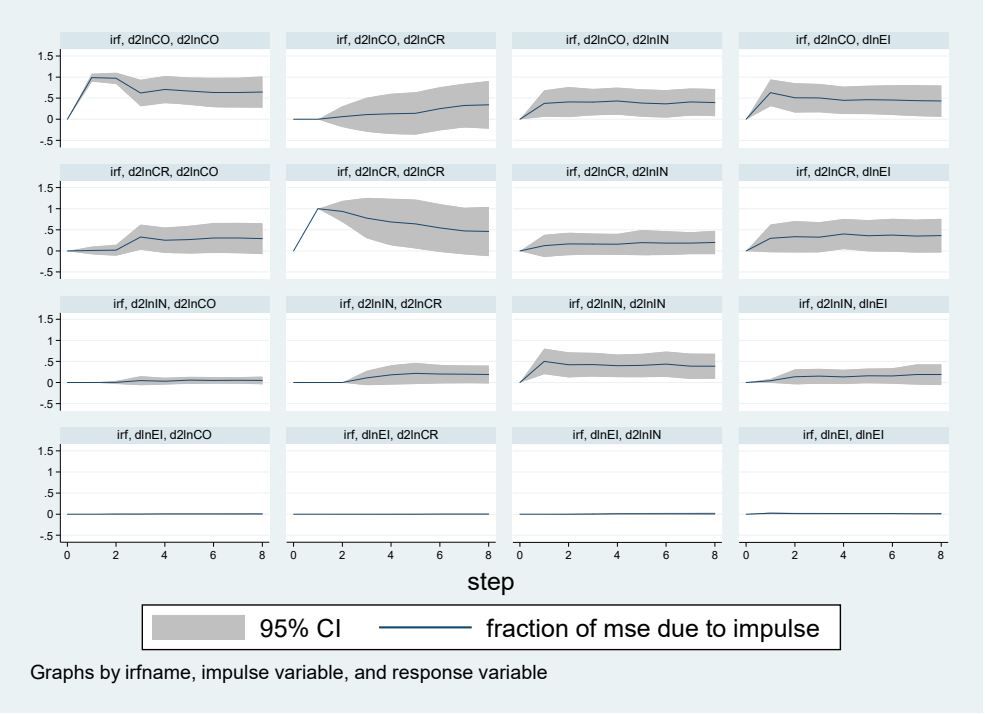

Figure 3. Variance Decomposition Analysis

As for the contribution rate of advanced scientific and technological progress, it can be seen from the figure in the second column that it has the highest contribution to the change of the contribution rate of advanced scientific and technological progress. With time, its impact is gradually decreasing, while the impact of consumption on the change of the contribution rate of advanced scientific and technological progress is zero from the beginning and gradually increases. This proves that the impact of consumption on the contribution rate of advanced scientific and technological progress is gradually strengthening. As for domestic consumption, it can be seen from the first column that the impact of consumption on itself is the most obvious at the beginning, and then gradually becomes less obvious, while the contribution rate of advanced scientific and technological progress gradually deepens its impact on consumption. For social fixed investment and macroeconomic prosperity index, the impact of various variables on them is relatively stable. This is the same as the previous conclusion of the impulse response function.

6. Conclusion and Economic Strategy

6.1. Conclusion

Taking China from 1995 to 2020 as the research object, this study examines the relationship between the contribution rate

of China's advanced scientific and technological progress and the development of China's internal circular economy. The impulse response function shows that in the long run, the contribution rate of advanced scientific and technological progress will not only promote the improvement of consumption but also improve the macroeconomic climate index and social fixed asset investment. Variance decomposition shows that with time, the interaction between consumption and the contribution rate of advanced scientific and technological progress gradually deepens, and the influence of other variables is relatively stable.

Therefore, in general, increasing China's investment in scientific research and increasing the contribution rate of advanced scientific and technological progress will help promote China's implementation of the internal recycling economic strategy.

6.2. Economic Strategy

1. Strengthen R & D investment and R & D and promotion of science and technology. A basic condition for the contribution rate of scientific and technological progress is the ability of scientific and technological innovation. Chinese enterprises and governments need to increase R & D investment, enhance scientific and technological innovation, improve scientific and technological support capacity and improve the science and technology promotion and diffusion system by introducing new technologies, new products, and new varieties related to R & D.

2. Strengthen the construction of a scientific and technological innovation talent team. With the deepening of human resource theory and human capital research, more and more attention is paid to the role of human resources in economic development. The construction of a scientific and technological talent team should not only have quantity but also pay attention to quality. At present, the number and quality of scientific and technological talents in industrial enterprises in Henan province need to be improved. Strengthening the construction of scientific and technological talents plays an important role in promoting the economic development of Henan Province.

4. Tap consumption potential and promote consumption upgrading. As the driving force of economic growth, consumption is also the core force to realize economic internal circulation. We should build consumer markets at different levels and improve the supply structure of consumer goods in the market, to tap consumer groups at different levels and promote consumption upgrading. The internal circulation of the economy is to balance the supply and demand of consumption, improve high-quality and high-price commodities through demand-side reform, meet the people's increasingly diversified and high-quality commodity supply, and provide more levels of consumer goods choices for residents' consumption.

At the same time, we should give full play to the reverse cycle role of the national economy, use consumer demand to drive production and supply, strengthen demand guidance, open up the blocking points of production, distribution, circulation, and consumption, speed up the construction of a complete domestic demand system, deeply tap the potential of domestic demand, and form a virtuous cycle advantage under the guidance of internal circular economy.

3. Adjust the distribution structure, increase the income of people, improve the macroeconomic prosperity index, and cultivate new consumer groups. Marx's consumption power theory points out that individual consumption power depends on their income level, while social consumption power depends on the distribution proportion of social capital factors. Therefore, we should improve people's income, tap consumption potential, cultivate new consumer groups, and improve the macroeconomic prosperity index.

References

[1] Ma SA, Zhang Erzhen Promote the formation of a new development pattern with a higher level of opening up [n] China Social Science Journal, October 13, 2020 (008) DOI:10.28131/n.cnki. ncshk. 2020.004144. [12. Zhang Erzhen, Dai Xiang. Promoting the integration of East Asia's "small cycle" into the international "big cycle" [J]. Group Zhong, 2020 (10): 12-16.

[2] Liu Zhibiao, Ling Yonghui China's economy: a new pattern of global development from away to home [J] Journal of Chongqing University (SOCIAL SCIENCE EDITION), 2020,26 (06): 1-9.

[3] Liu Zhibiao Demand side reform: a new mission to promote the dual cycle development

[4] Wang Hui Research on regional coordinated development of residents' consumption under the background of double cycle new pattern [J] Business economics research, 2021 (04): 51-54.

[5] Ask Jin Shang, Yao Zhi, Zheng Zhihao Calculation of consumption demand elasticity and prediction of structural change of rural residents under double cycle -- Application Based on Quaids model [J] Exploration of economic problems, 2021 (03): 61-70.

[6] Zeng Jianqiu, Ren Miao Internal and external economic cycle theory and its application in China's economy [J] Economic issues, 2005 (04): 5-8 DOI:10.16011/j.cnki. jjwt. 2005.04.002.

[7] Wen Tiejun, Qiu Jiansheng, Zhang Junna Treat the global crisis rationally and consciously turn to ecological civilization [J] Journal of Fujian agriculture and Forestry University (PHILOSOPHY AND SOCIAL SCIENCES EDITION), 2015,18 (04): 1-4 DOI:10.13322/j.cnki. fjsk. 2015.04.001.

[8] Li Keqiang Further implement the strategy of expanding domestic demand in the process of reform and opening up [J] Qiushi, 2012 (04): 3-10.

[9] Jiang feitao, Geng Qiang, LV Daduo, Li Xiaoping Formation mechanism of excess capacity and regional competition [J] China industrial economy, 2012 (06): 44-56 DOI:10.19581/j.cnki. ciejournal. 2012.06.004.

[10] Liu Rui, Gao Feng Location routing of "one belt, one road" strategy and resolving the excess capacity of traditional industries [J]. Social science research, 2016 (01): 45-56.