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Analysis for the Deviation Between Domestic Fictitious and Real Economy

Lin Li and Beibei Mao
School of Economics and Law,
University of Science and Technology, Liaoning, 114051, China

Abstract: The financial crisis triggered by the U.S. subprime crisis has shown the great harm of the excessive development of virtual economy. With the acceleration of market-oriented process, the virtual economy has also developed rapidly. When the development of fictitious economy are in well excess of the development of real economy, economic bubbles can be generated during the deviation between the fictitious and real economy. Once the ever-ballooning bubbles burst, the whole society would suffer from the breakdown of credit chain and the collapse of credit system, triggering financial crisis or economic crisis, thus jeopardize the development of real economy. Based on the comparisons of the indicators like stock index, Financial Interrelations Ratio and GDP after domestic market-oriented reform, this study has analyzed the changes of domestic fictitious and real economy, drawn lessons from both domestic and foreign researchers, explored the moderation between China's fictitious and real economy and proposed corresponding policies according to the real situations.

Key words: Fictitious economy, real economy, financial crisis, financial interrelations ratio

INTRODUCTION

The continuous improvement of the degree of economy virtualization is an important feature in the development of a modern market economy and a trend of this virtualization has gradual emerged independently from the real economy which is the deviation. This feature is mainly reflected in the phenomenon that the size of the fictitious economy (mainly for the fictitious capital) is in far excess of the scale of the development of the real economy and fictitious economy is on longer the appendages of the real economy, but in a dominating position of the economy (Allen, 1994).

Take the United States for example, the main force that drive the growth of the U.S. economy has endured a fundamental change from 1950s till now. The GDP of the United States is accumulated by real economy which is mainly represented by manufacturing but significantly created by fictitious economy which is represented by financial and real estate services (Beck *et al*., 2008).

We can see from the data in Table 1, from 1950s-1960s, as the world's factory, the traditional economy of American occupied 40~50% of its GDP, whereas, the share of GDP of manufacturing industry was 25~27% and the share created by the industry of financial and real asset servicing was only 11~14%. The share to GDP created by fictitious economy (finance, insurance and real estate services, vocational services) was less than 14-19%. Since, the 1970s, the share of traditional real economy presented by manufacturing has gradually declined, while the share of fictitious economy has gradually increased and rose along the way (Fig. 1). In the year of 2009, the share of GDP of American traditional real economy declined to 26.87%, the industry of manufacturing decreasing to 11.22% while the industry of financial and real asset services occupied a proportion of 21.53%. In the year of 2009, the GDP created by fictitious economy in the United States exceeded 1/3 of total GDP (33.58%). The U.S. economy was no longer supported by real economy with manufacturing as the core but to rely on the fictitious economy with financial and real estate as the core. Financial services (insurance), real estate and professional services (high-end services) became three new pillar- industries (Cramer, 1986).

As an emerging market-oriented economy entity, China has a relatively low level of economy virtualization. The traditional real economy is still our main economic support but the speed of fictitious economy's development continues to accelerate (Clarke *et al*., 2003). As can be seen from Fig. 2, the indicator of Financial Interrelation Ratio increased from 0.89-1.8 during 1991- 2011.

Sources of data: same as Table 2, based on calculation Sources of data: same as Table 2, for the convenience of calculation, the Shanghai composite index has been processed by timing the Shanghai composite index at the end of the year by 100.

Corresponding Author: Lin Li, School of Economics and Law, University of Science and Technology, Liaoning, 114051, China

Table 1: Share of GDP of each industry in the united states (year1950-2009) unit: %

	Traditional real economy						Fictitious economy				
Year	Agricultural mining public servicing	Architecture	Production	Transportation warehousing	Intelligential industry	Total	Finance real asset	Professional services	Traditional services Total	Total	Government sectors
1950	11.05	4.35	27.02	5.71	2.96	51.09	11.45	3.51	14.96	23.02	10.75
1960	7.98	4.40	25.35	4.41	3.25	45.39	14.18	4.29	18.47	22.97	13.75
1970	6.17	4.77	22.69	3.88	3.60	41.10	14.71	5.00	19.72	23.95	15.24
1980	7.67	4.72	20.02	3.68	3.89	39.98	16.03	6.21	22.23	24.03	13.75
1990	5.68	4.20	16.70	2.98	4.06	33.62	18.09	8.90	26.99	25.49	13.90
2000	3.80	4.70	14.23	3.03	4.20	29.95	20.07	11.22	31.30	26.54	12.21
2005	4.15	4.84	12.41	2.92	4.69	29.01	20.62	11.57	32.19	26.25	12.55
2006	4.39	4.86	12.33	2.95	4.43	28.96	20.73	11.73	32.46	26.14	12.45
2007	4.61	4.67	12.08	2.88	4.50	28.75	20.56	12.09	32.65	26.09	12.52
2008	5.15	4.34	11.47	2.91	4.54	28.41	20.70	12.31	33.01	26.47	12.91
2009	4.55	3.81	11.22	2.76	4.53	26.87	21.53	12.05	33.58	25.94	13.62

Source of data: Website of the American bureau of economic analysis (http://www.bea.gov./industry/gdpbyind) with processed data

Table 2: Data of the M_2 and GDP from 1991 to 2011 in China Unit: 100 million yuan

Year	1991	1992	1993	1994	1995	1996
M_2	19349.90	25402.200	34879.8	46923.50	60750.5	76094.900
The Nominal GDP	21781.50	26923.500	35333.9	48197.90	60793.7	71176.600
The Shanghai Index	292.75	780.390	833.8	647.87	555.3	917.020
Year	1998.00	1999.00	2000.0	2001.00	2002.0	2003.000
M_2	104498.50	119897.90	134610.3	158301.90	185007.0	221222.800
The Nominal GDP	84402.30	89677.10	99214.6	109655.20	120332.7	135822.800
The Shanghai Index	1146.70	1366.60	2073.5	1645.97	1357.7	1497.000
Year	2005.00	2006.00	2007.0	2008.00	2009.0	2010.000
M_2	298755.70	345603.60	403442.2	475166.60	606225.0	725851.800
The Nominal GDP	184937.40	216314.40	265810.3	314045.40	340902.8	401512.800

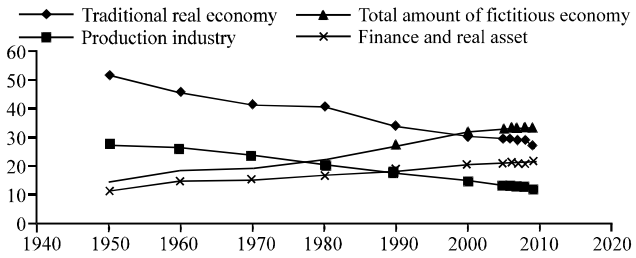

Fig. 1: Indexes of the traditional real economy, production industry, fictitious economy and finance and real asset in USA

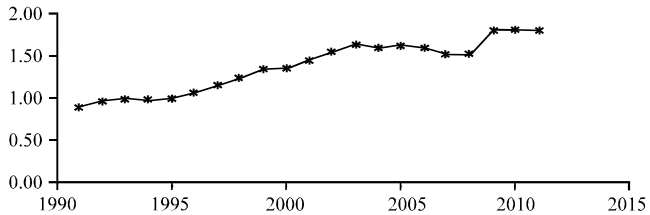

Fig. 2: Financial interrelation ratios. Sources of data: Same as Table 2, based on calculation

ANALYSIS FOR THE CURRENT PATTERN OF CHINESE FICTITIOUS REAL ECONOMY

Based on the data of domestic current statistics, in order to facilitate the collection of data, this study has adopted the relationship between M2 and GDP to illustrate the degree of deviation between fictitious economy and real economy, using the indicators of financial interrelation ratio to measure the fictitious economy and the GDP indicators to measure the real

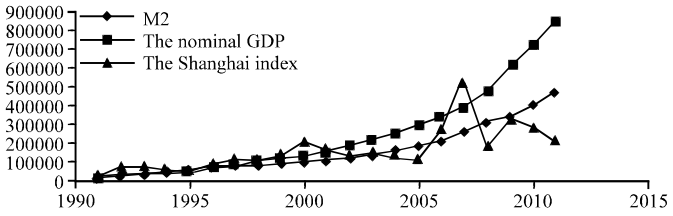

Fig. 3: M2, GDP and shanghai composite index from 1991 to 2011 in China. Sources of data: Same as Table 2, for the convenience of calculation, the Shanghai composite index has been processed by timing the Shanghai composite index at the end of the year by 100

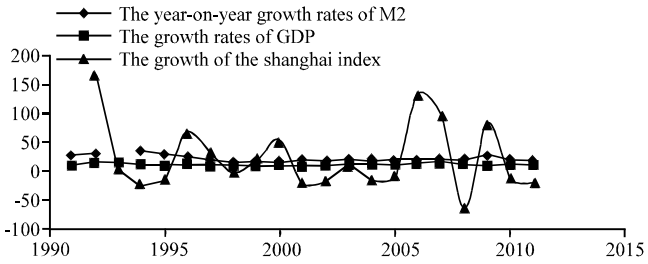

Fig. 4: M2's and GDP's growth rate and shanghai composite index from 1991 to 2011 in China. Sources of data: Same as Table 2, <China Statistical Yearbooks>, the rate of change of Shanghai composite index are processed by calculation

economy (Spindt, 1987). Based on the actual situation of market economic development in China, this study has selected the indicators such as broad money supply (M2) in 1991- 2011 and its growth rate, GDP and its growth rate and Shanghai Closing Composite Index to analyze the quantitative relationship of fictitious and real economy after the progressive development of China's capital market (Pollin,1996).

Since, China's capital market (primarily the stock market) gradually entered the stage of standard development in the early 1990s, this study has collected the data from 1991-2011 to process comparative analysis.

We can see from Fig. 3, Fig. 4 and Table 2 that, the relationship between fictitious and real economy in China from 1991-2011 shows the following characteristics.

Firstly, there is an obvious deviation between the fictitious economy and real economy. As we can see from Fig. 3, M2 and the total amount of GDP shows a yearly increasing trend but the amount of money supply growth is in well excess of the level of GDP growth. The Shanghai Composite Index also shows an overall trend of increasing but as demonstrated in Fig. 3 and Fig. 4, there is a sever deviation between the fluctuation of Shanghai Composite Index and GDP growth. During the three stages of 2000-2005, 2007-2008 and 2009-2011, the broad money supply and GDP index increased significantly while the Shanghai Composite Index suffered a sharp decrease.

Secondly, the fictitious economy fluctuates around the real economy, with a much wider range than the real economy and the phenomenon of big ups and downs (Fig. 4). The average rate of change of Shanghai index is 22.66%, the average rate of growth of M2 is 20.25% and the average rate of growth of GDP is10.41%. Since, the statistical methods of domestic money supply were adjusted respectively in 1993 and 1997, the data before 1997 was not comparable. During the 15 years between 1997 and 2011, the highest growth rate of M2 is 27.68% in 2009 and the lowest is 12.3% in 2000; during the 21year between 1991 and 2011, the highest growth rate of GDP is14.2% in 1992 and 2007 and the lowest is 7.6% in 1999. The years with highest growth rate of the Shanghai Composite Index are: 1992 by 166.57%, 1996 by 65.15%, 2000 by 51.73%, 2006 by 130.43%, 2007 by 96.66% and 2009 by 79.98%; the years with huge decline are: 1994 and 1995, respectively by 22.3% and 14.29%, 2001, 2001, 2004, respectively by 20.62, 17.52 and 15.40%, 2009, 2010, 2011, respectively by 65.39, 14.31 and 21.68%. The lowest GDP growth rate during the same period is 7.6%. The variances of the three indicators are: 3436.22, 41.79 and 4.32. We can conclude that the fluctuation range of fictitious economy is in well excess of real economy.

Thirdly, the fictitious economy lacks the reflecting features of real economy. For example, in 2008, GDP increased by 9.6% when the he Shanghai Composite Index

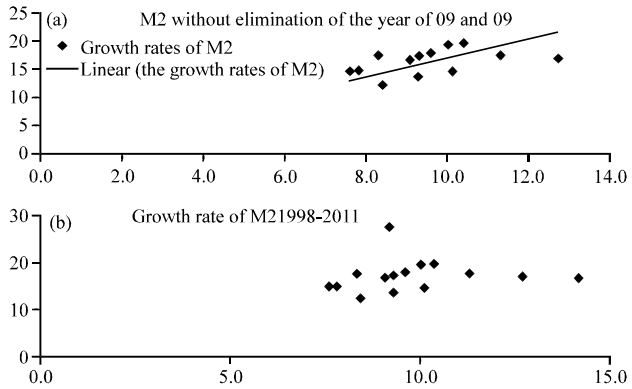

Fig. 5(a-b): Growth rates of Chinese monetary supply and economy. Sources of data: <China's Statistical Year Book>, based on the calculation of the fluctuations of Shanghai indexes

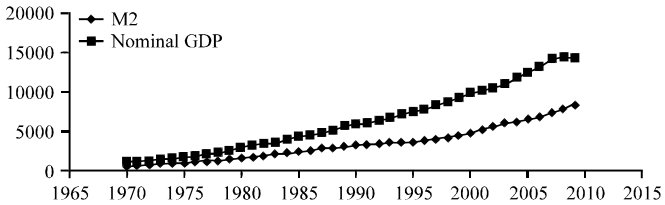

Fig. 6: M2 and GDP from 1970 to 2009 in the United States. Sources of data: The article of <Quantitative Analysis of Real Economy and Fictitious Economic in All Previous Economic Crisis> by Day Xulan and Zhang Yongqiang (Unit: 100 million dollars)

declined by 65.39% while the broad money supply increased by 17.82% during the same time. In 2011, GDP increased by 9.3%, ranking on the top of the world list while the he Shanghai Composite Index declined by 21.68%, ranking the second to last. In 2009, GDP increased by 9.2%, slower than other years but the Shanghai Composite Index achieved a year-on-year growth of 79.98 %. The weakening reflecting function of financial market for economy has become more prominent since the economic crisis in 2008.

Fourthly, the coefficient of money supply (Financial Interrelations Ratio) is too high and there is a huge gap when compared with the United States (Field, 1984). According to the theory of single-phase hook of money demand theory, the relational model of the growth rate of the money supply and economic growth rate can be simplified as: $RMS = aR_E$. In this equation, RMS represents the growth rate of the money supply, RE represents the economic growth rate (GDP growth indicators) and a represents the coefficient of money supply (Judd and Scadding, 1982). China has a high M2 growth rate. If we only analyze the data after 1997's adjustment, the year of 2009 has the highest M2 of 27.68% while the year of 2000 has the lowest, as much as 12.3%. After a calculation for simple arithmetic average, when a reaches 1.99, that is, the GDP increases by 1%, the broad money supply has to rise at least by 1.99%.

If we use the previous formula to do simple regression analysis of all samples, we can get the result that a's value is 1.96. If we remove abnormal data samples in accordance with the basic requirements of the statistical measurement, using the data between 2007 and 2009 and eliminating the data of 2007 and 2009, we can conclude that a = 1.70 (Fig. 5). No matter which calculation method we use, the fit is relatively low, the correlation between the growth rate of money supply and the growth rate of gross domestic product (GDP) is not obvious and the sample data substantially deviates from the trend line, suggesting a relatively low credibility (Gordon, 1984). If we ignore the previous problems, the value of a should be approximately 1.7-2.0.

This study has quoted some analysis and data from the article of <Quantitative Analysis of Real Economy and Fictitious Economic in All Previous Economic Crisis> by Day Xulan and Zhang Yongqiang and Fig. 6 is based on previous sorted data (1970-2009). It can be seen from Fig. 7 that, the total GDP of the United States is higher than the total amount of M2 but the average value of M2 growth is about 7.04 while the average GDP growth rate is

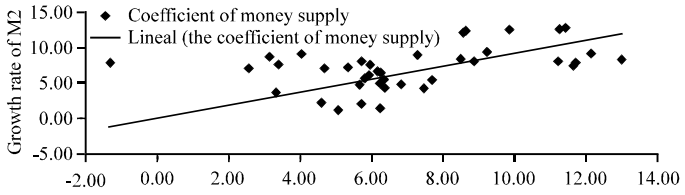

Fig. 7: Growth rates of M2 and GDP from 1970-2009 in the United States

6.99, with a coefficient of money supply (previous Financial Interrelations Ratio) (Fig. 7). In contrast,the money supply of China grows too fast. The level of the indicator of Financial Interrelations Ratio (previous money supply coefficient) directly suggests the degree of deviation between fictitious and real economy (Harvey, 1999). A relatively high money supply coefficient might indicates a high degree of virtualization in economy, meaning high possibility of bubbles and crises in economy (Wenninger and Radeckill, 1986).

CONCLUSION AND SUGGESTIONS

Although, the deviation between fictitious and real economy renders the constant and universal characteristics, the fictitious economy still has a "double-edged sword" impact on real economy. Besides offering interest and promoting development, there are also possibilities of hidden huge bubbles and crises.

Firstly, identify and determine the policy destinations included the measurements of fictitious economic indicators through research. The fictitious economy has occupied the dominating position in economy and the pace of development of fictitious economy and its relationship with real economy has become the basis of economic and social stability (Krippner, 2003), therefor, previous economic policies that restrained to the adjustments of real economy can no longer coordinate with the developing status of modern market economy and we must expand the regulation targets of monetary policy and adopting fictitious economy into the target system of economic policies. This could improve the effectiveness and relevance of the policy and ensure the stable and coordinated development of the economy as a whole (Lim, 2010). For example, we may adopting the stock market indicators into the statistical and regulating indexes of Central Bank.

Secondly, determine the fluctuation range of the deviation between fictitious and real economy. Based on the previous analysis, the financial correlation rate should be used as the indicator to measure the deviation range between fictitious and real economy (Frankel, 2009). For the positive reaction and healthy development of fictitious and real economy, the indicator of finance-related rate should be fixed within an acceptable range.

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