

The Process of Financialization in the Industrialized Economies: In the Perspective of the Credit-money System

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Abstract. In this article, by analyzing relevant indicators of monetary finance in 20 highly industrialized countries from 1972-2022, we interpret the impact of their credit and monetary systems on the process of financialization of mature industrialized countries. Our findings suggest that in the aftermath of the 2008 global financial crisis, the core of what drives the financialization of national economies began to shift gradually from credit expansion provided by the national financial system to money supplied by the government. In response to this finding, the study further provides the following two in-depth explanations. Firstly, the financial system's requirement for capital accumulation, which is primarily reflected in the accumulation of money, has led to a tendency among mature industrialized nations to engage in financial speculation. This trend has significantly accelerated the expansion of domestic financial activities. Secondly, with the decoupling of money from precious metals and its transition to a government-backed credit system, governments have assumed corresponding responsibilities for social management. The currency pursued by the financial market is tied to both the government and the market due to its credit source, and the government supports unreasonable financial behavior in the market by injecting large amounts of currency. Therefore, if we fail to further regulate financial institutions and implement rescue measures to improve the interaction between the financial markets and the government, we may encounter greater financial risks in the future.

Keywords: Credit-monetary System, Financialization of the Economy, Government Credit.

1. Introduction

As global economic cooperation continues to deepen, the financialization of modern nations has garnered significant attention. The neoclassical economic perspective is rooted in the assumption of monetary neutrality, stating that the quantity of money solely impacts prices and not the allocation of resources. Conversely, John Maynard Keynes advocated a distinct monetary theory, emphasizing money's role in economic functioning. He regarded money as a commodity designed to enhance broader economic activities. And highlighted that the belief in Say's Law, stating that every item of production would be fully utilized, ceased to hold true with the substantial surge in productivity. This justifies the coexistence of economic booms and busts within a nation. [1]

Therefore, in the decades after the end of the Bretton Woods system, the Western countries, on the basis of neoclassical economics and New Keynesianism (as revised version of neoclassical economics), adopted the policies of trade liberalization and financial liberalization, including capital account liberalization, and gradually formed a two-pillar policy framework with the internal policy objective of maintaining the basic stability of prices (i.e., inflation targeting); and the external policy objective of achieving the balance of payments through floating exchange rates (Macro policy framework). As a result, the global financialization mainly relies on the endogenous currency derived from bank credit. Real estate, on the other hand, is the main collateral for bank credit, resulting in financial expansion and real estate prices showing strong pro-cyclical characteristics.

Historical experience has shown that this endogenous money injection will bring about asset price bubbles, especially real estate bubbles, and that financial crises are prone to occur during cyclical adjustments, such as the global financial crisis of 2008. In order to cope with these crises, the

governments of the United States, China and other major economies in the world have vigorously promote proactive fiscal policies.

This article asserts that credit, being the economic backbone of contemporary society, has emerged as the primary catalyst for economic growth across nations. Simultaneously, sovereign credit-backed currencies have contributed significantly to the extensive expansion of credit. To delve deeper into the influence of credit money on a country's economic and financial progress amidst the financialization of the industrialized world, this article will rely on empirical data and endeavor to theoretically deduce the manner in which the monetary credit system propels the financialization of industrialized economies. This article aims to offer valuable insights for policymakers, academics, and practitioners alike.

2. Article Review

There is an existing literature on the link between monetization and financialization of the economy. Firstly, there is the discussion of traditional monetary theory. The traditional monetary theory of production needs to be modified to explain contemporary capitalism, the 2007-2009 crisis, the impact of a financialized money economy on production, and the role of financialization and investment change in systemic crises. (Fumagalli & Lucarelli, S, 2011) The dominance of the US dollar in the current system has financialized the global economy, resulting in credit growth exceeding GDP and trade growth. Meanwhile, the adoption of other national currencies (e.g., monetization) may increase the dependence of the country adopting the currency on the issuing country. [3] (Role. [2] D'Arista, J, 2005) Thus, there is a close relationship between financialization and monetary policy. Financialization of the economy may contribute to the formation of credit bubbles and leads to an increase in the vulnerability of the financial system, which requires central banks to provide stable liquidity in response to financial market emergencies. So, increased financialization has implications for monetary policy, making it necessary for central banks to respond to low inflation by lowering policy rates and choosing either a supportive strategy or a headwind strategy during the policy phase.

The relationship between finance, money and the state, which highlights the different perspectives in economics on the financial sector and its interaction with the real economy and the state. Firms are generally more likely to recognize that free competition produces the best outcomes when they are profit-oriented and tend to support the interests of the financial sector. The state in hindering harmful market forces while supporting beneficial ones is very important (Dow, S., Mader et al, 2020). [4].

In the process of China's study of the monetary credit system and the trend of economic financialization in industrialized countries, scholars have also made some key findings through different research methods and perspectives. The factor of commodity financialization should be included in the process of monetary policy formulation and implementation, which can help to better understand and control the price level fluctuations [5]. (Zheng Zunxin et al, 2020) On one hand, moderate financialization is conducive to economic growth, while excessive financialization leads to a slowdown in capital accumulation, a decline in productivity, and a widening of the gap between the rich and the poor [6]. (Fangfang & Huang Runan, 2019) On the other hand, the financialization of the economy and industrial structural adjustment, the privatization of the economy and the financialization of the private economy, and the structural adjustment of the economy and the risk management function of the modern financial system. The basic conclusions that the long-term development of finance must rely on improving the quality and efficiency of the financial and economic operation, and the soundness of the financial system and its service function [7]. (Wangfang,2004) The demand for money in the financial market caused a currency diversion that disrupted the causal relationship between money supply and inflation, which posed a new challenge to macro policy [8]. (Mou Dunguo, 2013) By sorting out the classification and definition criteria of economic financialization, Zhang Chengsi and Zhang Butane (2015) proposed to use the equilibrium financial leverage ratio as one of the benchmarks for judging the advantages and disadvantages of financialization on economic development [9].

Overall, the financialization of the economy has led to an increase in financial fragility, requiring central banks to take measures to provide liquidity. And this behavior will further increased years later, such as the Obama administration's massive bailout after 2008 and the Chinese government's \$4 trillion bailout. Countries around the world have reacted. So, this article will take 2008 as the time point before and after, from 1972-2007 and 2008-2022 two time periods respectively to regression empirical evidence, the possible contributions are as follows:

① To point out that the credit system, from within the financial system, having been freed from the bondage of the gold standard, is freer to price every financial transaction, so that the money used for pricing is often not tied to the amount of money actually demanded.

② To reveal that the monetary credit system and capital's need for money accumulation allows both government and market to be linked, and that the central government can inject liquidity to drive the financialization of an economy through, for example, quantitative easing, thus deriving a tendency for the overdraft of the national credit by the central government to drive the further financialization of the economy.

③ To combine Keynesian monetary theory, analyze the non-neutral role of money in economic operation and its impact on aggregate demand and employment and provide a new perspective for understanding macroeconomic fluctuations.

3. Results

In the initial analysis of Keynes, it was postulated that currency is not neutral, and the medium of exchange used for pricing goods no longer offers a perfect and precise reflection of the entire trading system. Consequently, there may exist an imbalance between the supply and demand of money in the market. This imbalance creates a favorable environment for the government to intervene and regulate monetary flows. Nevertheless, the intrinsic value of currency as a store of wealth encourages society's focus on accumulating money, which further propels the expansion of financial system market behavior aligned with the pursuit of wealth accumulation. Since the establishment of the Bretton Woods system, a monetary system rooted in national sovereign credit has gradually emerged. In practice, the currency used for pricing is primarily circulated through the operations of financial institutions. However, as the issuance of money has never been able to align with the production of goods resulting from economic and social activity, this mismatch often leads to inflationary or deflationary pressures. Based on these observations, we introduce the first hypothesis.

Hypothesis H1: The size of domestic credit can inhibit the financialization of the economy.

Secondly, the supervision and management of credit funds by the state government is an integral component of any credit fund system. This government-backed credit is widely available in the market and can be utilized for overdraft purposes. Consequently, the government has the capability to carry out monetary policies through a diverse range of credit instruments, effectively adjusting the volume of money circulating in the market. This, in turn, serves as a crucial lever for stabilizing economic fluctuations.

As a result, the domestic market, which has completed its industrial development and has accumulated a certain amount of capital, tends to favor this form of further replication of capital as financial transactions as well as the production process can be priced continuously. Purely monetary or purely speculative economic behavior was run, requiring more regime-backed currency, thus binding the government's credit to the market and the financial system to function. Since the government issues and manages its own currency, it thus assumes the responsibility of ensuring its stability. Therefore, we argue that central banks play a crucial role in the monetary system and can increase the stability and credibility of the currency. In order to examine how a country's government influences the financialization trend of the economy under a credit monetary system, we propose a second hypothesis.

Hypothesis H2: The amount of money issued inhibits the financialization of the economy.

4. Empirical Process

4.1. Source of Data

The source of the data is the World Bank and the International Monetary Fund, which selected relevant indicators for twenty industrialized countries[List of selected countries: the People's Republic of China, United States of America, Germany, Republic of Korea, India, Italy, United Kingdom of Great Britain, France, Russia, Mexico, Indonesia, Turkey, Ireland, Spain, Brazil, Switzerland, Thailand, Poland, Netherlands, Saudi, Arabia] from 1972 to 2022, by dividing them into two time periods, namely, 2008 as the cut-off point. That is, indicators relating to the size of domestic financial credit and the quantity of currency issued, respectively, are used to illustrate the impact of financial volatility brought about by the criticism of money on a real productive capacity.

Meanwhile, we refer to the idea put forward by the American economist Raymond W. Goldsmith to measure the degree of financialization of a country's economy in terms of the ratio of the value of all financial assets to the country's total economic activity.

4.2. Model Setting and Description of Variables

In order to study the impact of the financial system established by the sovereign currency credit system on the manufacturing industry, we set up the following model:

$$\begin{aligned} \text{FIR}_{i,t} = & \beta_0 + \beta_1 \text{nationalloan} - \text{by} - \text{finance}_{i,t} + \beta_2 \text{currency} - \text{increase}_{i,t} + \beta_3 \text{Rael} - \text{interest}_{i,t} + \\ & \beta_4 \text{LnDebt}_{i,t} + \beta_5 \text{IRS}_{i,t} + \beta_6 \text{GDP} - \text{Grow}_{i,t} + \beta_7 \text{Exchange} - \text{rate}_{i,t} + \mu \end{aligned} \quad (1)$$

Where subscript i denotes the firm, t denotes the year, and μ is the disturbance term. National-loan-by-finance reflects the participation of financial institutions in the domestic credit market, measured as domestic credit provided by the financial sector (as a percentage of GDP); Currency-increase (%) is broad money growth (annual %), measured as the annual growth of M2 ratio; Real-interest reflects the creditworthiness of a country's currency, measured by the real interest rate; LnDebt is government debt, measured logarithmically with a base of 10; IRS reflects a country's financial institution's profitability and efficiency in operating its assets, measured by the interest rate on loans less the interest rate on deposits; GDP-grow reflects the value of a country's gross domestic product (GDP) growth; Exchange-rate-to-2010 reflects the purchasing power of a country's currency, measured by the real effective exchange rate index based on an indicator of 100 in 2010. The core coefficients of interest in this article are β_1 , β_2 , one to refer to the impact of the domestic financial market on the development of the manufacturing sector and the other to refer to the impact of the government's monetary policy on the manufacturing sector. The results are shown in Table 1. below.

Table 1. Description of the variables

Variable Name	Notation	Variable Description
Financial Interrelations Ratio	FIR	Proposed by the American economist Raymond.W.Goldsmith (Raymond.W.Goldsmith), it refers to the ratio of the value of all financial assets of a country to the total economic activity of the country in a certain period. Calculation: (broad money (M2) + total value of traded stocks)/GDP
Domestic Credit Provided by the Financial Sector	National-loan-by-finance	Reflects the participation of financial institutions in the domestic credit market Calculation: a share of GDP
Broad money growth (annual %)	Currency-increase (%)	Used to measure the amount of a country's currency in circulation. Calculation: a percentage increase per year
Real interest rates	Real-interest	Reflects the creditworthiness of a country's currency. Calculation: nominal interest rate - inflation rate
Government debt	LnDebt	Amount of government debt per year. Calculation: logarithmic base of 10
Interest rate spread (IRS)	IRS	A measure of the profitability of financial institutions and the efficiency of their asset operations,. Calculation: loan spreads - deposit spreads
Value of GDP growth	GDP-grow	Used to measure a country's value of output
Real effective exchange rate index (2010=100)	Exchange-rate-to-2010	Reflects the purchasing power of a country's currency, calculated as a weighted average of the bilateral nominal exchange rates between a country's currency and the currencies of all its trading partners.

5. Empirical Results

Table 2. below reports the results of our benchmark regression of the model in two periods. From the results of the Hausman test. The RE model is chosen for the regression model for both time periods. From the above table, it can be seen that: between 1972 and 2007, the independent variable national loan by finance shows significance at the 0.01 level ($t=6.400$, $p=0.000<0.01$) and the value of the regression coefficient is $0.667>0$, which indicates that until 2008, it was mainly the size of domestic financial credit that drove the domestic economy's financialization process. The variable currency increase (%), on the other hand, shows significance at the 0.01 level ($t=-2.961$, $p=0.003<0.01$) and the regression coefficients are all greater than zero after 2008, indicating that the increase in the issuance of domestic currency became a positive influence on the further financialization of the economy after 2007. Credit provided by domestic finance no longer significantly contributed to the financialization of the economy.

In addition, for the control variables, before 2007, the indicator exchange-rate ($t=-3.724$, $p=0.000<0.01$) shows significance at the 0.01 level and the regression coefficients are all less than zero, indicating that the purchasing power of the currency has a significant negative effect on the financialization of the economy. However, in 2008 and thereafter, this factor ceased to be significant and instead GDP growth and debt increase began to further influence the process. A plausible explanation for this is that GDP is calculated primarily as the sum of the final value of goods. Thus, the development of the real economy is actually a side effect on the trend of financialized economies. At the same time, the exchange rate of a currency affects the international flow of funds. Therefore, when the fluctuation of this indicator no longer significantly affects the trend of financialization of the economy, it is more due to the national macro-control, which corresponds to the increase of money and government debt mentioned in the model, indicating that the main influence on the country's economy and finance in this period of time is the favorable environment brought about by the national policies.

Table 2. Benchmark regression results

Independent Variable: FIR	Period: 1972-2007		Period: 2008-2022	
	(1) FE Model	(2) RE Model	(3) FE Model	(4) RE Model
Intercept	11.247 (0.192)	15.079 (0.274)	-232.068 (-1.265)	-110.718 (-0.940)
National-loan-by-finance	0.669** (6.237)	0.667** (6.400)	0.035 (0.221)	0.200 (1.376)
Currency-increase (%)	0.012 (1.281)	0.011 (1.159)	-0.313** (-2.679)	-0.349** (-2.961)
Real-interest (%)	0.625 (1.450)	0.399 (0.973)	-1.147 (-1.450)	-1.111 (-1.406)
LnDebt	4.572 (0.974)	4.294 (0.995)	31.370* (2.129)	20.624* (2.211)
IRS	0.150 (1.913)	0.142 (1.817)	1.831 (1.372)	1.016 (0.817)
GDP-grow	-0.082 (-0.184)	-0.089 (-0.203)	-1.857** (-2.892)	-1.793** (-2.745)
Exchange-rate-to 2010	-0.273** (-3.872)	-0.261** (-3.724)	-0.178 (-1.022)	-0.132 (-0.744)
R 2	0.003	0.024	-0.008	0.105
R 2 (within)	0.082	0.081	0.089	0.083
Sample size	719	719	300	300
inspection	F (7, 692)=8.789 p=0.000	χ^2 (7)=60.914 p=0.000	F (7, 273)=3.823 p=0.001	χ^2 (7)=27.442 p=0.000
Hausman test	χ^2 (6)=4.009, p=0.676		χ^2 (6)=5.908,p=0.434	
* p<0.05 ** p<0.01 t-values in parentheses				

From the above, we can see that different dominant trends of financialization did emerge around 2008. Our analysis suggests that the intuitive manifestation of corporate earnings, driven by market rules, is monetary accumulation. Consequently, in a mature, well-capitalized economy, capital accumulation has become more and more available, and unless the earnings of the entity can be maintained at a high level, the opportunities for further investment become less attractive. Whereas the tendency to hoard money as a financial speculative scheme of capital formation begins to be generated by the content of the financial system under a monetary credit system, the increase in a country's currency and the availability of domestic credit reinforces the process of financialization of the economy.

So, we can see the tendency to shift gradually from the endogenous monetary nature of the financial system to the exogenous government's monetary policy. Thereby, when real interest rates rise, we do not solve the problem. At the same time, it is a significant increase in government debt, which is consistent with the behavior we observe in the quantitative easing policies that countries started after 2008. That is, there is a shift from endogenous to exogenous money to make the shift. This suggests that governments, as stewards of public affairs, can lead to financial crises when financial speculation becomes more prevalent as corporations seek to make monetary profits, and herd behavior among investors becomes more pronounced, engaging in speculation on more popular financial products, artificially inflating the price of assets, and pricing their currencies above their fundamental value. At this point we need a monetary policy bailout to solve the problems exposed in the functioning of the economy. Central banks around the world thus stabilize the financial system by pursuing various monetary policies that allow the central bank to act as a lender of last resort. Whereas the currency issued by the central bank is a credit endorsed by a country's government, whether it is an increase in interest rates or a decrease in interest rates, ultimately, the operations carried out by the government through market behavior will be accumulated in the form of debt and so on. Credit-based monetary policy can be viewed as a sedative that can boost the economy and morale in the short term in a situation of generalized stagnation. However, this process will inevitably lead to a subtle market

expectation of government bailout peddling in the event of a larger financial crisis. Thus, we have seen the government purchase large quantities of government bonds and other assets from financial institutions through quantitative easing or disguised quantitative easing monetary policy, injecting liquidity funds into the financial system, which has helped to alleviate the liquidity shortage and improve the functioning of the credit market, but the rise in the government's debt has also brought about a further deterioration of the government's creditworthiness.

6. Robustness Testing

① Replace the indicator of spread (IRS) with the variable Loan-spread, i.e. loan spread. In order to ensure the robustness of the findings, this article chooses loan spreads to replace spreads from the perspective of financial investment profitability. It turns out that the level of financial institutions' profitability does not significantly affect a country's economic financialization trend before 1972, while it is mainly the additional money issued that has an impact on this after 2008. The regression results are generally consistent with expectations.

② The variable real effective exchange rate Exchange-rate -to-2010 was replaced by the variable Cost of exchange. Generally speaking, the strong purchasing power of a country's currency indicates that the cost of flows from other countries to that country will rise. Therefore, it is suitable for reflecting the propensity of the country's financial flows. So, we chose the average transaction cost of remittances to a given country as a proxy for currency purchasing power, and the regression results remain largely unchanged. The following figure reports the results of this robustness test:

Meanwhile, we refer to the idea put forward by the American economist Raymond W. Goldsmith to measure the degree of financialization of a country's economy in terms of the ratio of the value of all financial assets to the country's total economic activity. The Table.3 is the regression results.

Table 3. Robustness testing results

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R 2 (within)	0.082	0.081	0.089	0.083
Sample size	719	719	300	300
inspection	F (7, 692)=8.789 p=0.000	χ^2 (7)=60.914 p=0.000	F (7, 273)=3.823 p=0.001	χ^2 (7)=27.442 p=0.000
Hausman test	χ^2 (6)=4.009, p=0.676		χ^2 (6)=5.908,p=0.434	
* p<0.05 ** p<0.01 t-values in parentheses				

7. Conclusion

In summary, this article, through theoretical analysis and empirical evidence, demonstrates the varying factors that influenced the financialization of a nation's economy prior to and following the year 2008. It highlights the inherent linkage between credit money and financialization. Consequently, for a country that has attained industrialization, it is crucial to consistently support financial institutions and investors, encompassing both corporate and individual entities, via the central bank and alternative mechanisms. This support is complemented by the need for stringent financial institution regulation, enhanced risk management practices, and greater transparency in financial markets. Over recent decades, the augmentation of profits has coincided with expanded balance sheets and operational restructuring. Growth in employment and profits within the financial insurance and real estate sectors has been instrumental in stimulating the economy. However, it primarily results in wealth effects. While the central bank can bolster the financial system's stability by providing emergency loans and liquidity support, thereby enhancing the currency's stability and credibility. However, if we fail to further regulate financial institutions and implement rescue measures to improve the interaction between the financial markets and the government, we may encounter greater financial risks in the future.

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