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## ► To cite this version:

| Ly Dai Hung. Interaction between Financial Economy and Real Economy. 2022. hal-03863210

**HAL Id: hal-03863210**

**<https://hal.science/hal-03863210>**

Preprint submitted on 21 Nov 2022

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# **INTERACTION BETWEEN FINANCIAL ECONOMY AND REAL ECONOMY**

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## **Abstract**

### Objective:

The paper analyzes the interaction between the financial economy and real economy on a data sample of 185 economies over 1990-2019. In particular, the financial economy mentions to the value of financial markets, including the bonds, debts, securities and related assets, while the real economy is based on the production capacity of an economy.

### Methodology:

The research methodology is based on a quantitative analysis. This method carries out the graphical and data analysis, then, derives main principle underlying the interaction between the financial and real economy.

### Findings:

The evidence shows that the financial economy can have various correlation pattern with the real economy. There exists a non-linear dependence pattern of economic growth on the stock market value per GDP and a negative correlation of domestic credit to private sector with the economic growth.

### Implications:

The empirical evidence suggests that the financial economy does not necessary illustrate the production capacity but mainly illustrates the expectation by the households and investors. Thus, an appropriated policy can be the participation of government to provide useful information to drive and stablize the financial markets, especially during the recession time period.

**Keywords:** *Financial Economy; Real Economy; Quantitative Analysis.*

## **1. Introduction.**

The interaction between the financial economy and real economy plays an important role on the macroeconomic stability of an economy. According to the neoclassical growth model (Solow, 1956; Swan, 1956), an economy tends to converge to a long-run equilibrium, also called as a steady state. The convergence process requires the economy to accumulate the capital to build up the capital stock so that the capital per effective labor ratio can be constant at the steady state. And the financial economy serves as the main engine for the capital accumulation process, so that an economy can attain its steady state.

The role of financial economy also works through various channels, besides the capital accumulation. First, the financial economy has its cycle, which can be thought with four phases, including the trough, boom, peak and recession (Rey, 2016). This cycle can be parallel to the real economy, and exerts positive or negative to the real economy. Second, the financial economy can provide the financial assets to fulfill the demand for assets by the households. The demand for assets can be divided into the demand for the safe assets and that for the risky assets. Recently, the demand for safe assets is far greater than their supply, resulting on a safe assets scarcity (Caballero et al, 2017). This safe assets conundrum reduces the effectiveness of the monetary policy even the interest rate is reduced to its zero lower bound.

The current paper proves a formal analysis of financial economy, and its interaction with the real economy. The analysis method employs a cross-section data sample which covers 185 economies, both developing and advanced economies, from 1990 to 2019. This quite long time period of over 30 years can be enough to absorb the short-run fluctuations of financial economy and real economy. This approach is also employed by recent papers such as Gourinchas and Jeanne (2013), Alfaro et al (2014) to analyze the long-run equilibrium of cross-border capital flows. With this sample, the evidence records that the financial economy can exerts a positive impact on the real economy if its scale is kept at an

appropriated value. Otherwise, the impact of financial economy on the real economy can turn to be negative, so that, an expansion of financial economy can be harmful to the real economy.

The paper contributes on the related literature on the financial economy, with a new survey can be found in Rey (2021) on the global financial cycle. An economy can have two related component, including the production component which produces the output, and the financial component which channels the savings from households to the capital investment by firms. While the production has its own business cycle, the financial one also has its own financial cycle. At the financial globalization, the financial cycle of a large open economy can also affect the financial and economic cycle of other economies through the exchange rate and cross-border capital flows (Miranda-Agrippino and Rey, 2020).

Our paper contributes to the literature by an analysis of interaction between the financial and real economy. We record that the financial economy can exert a positive impact on the real economy only when the financial economy attains an appropriated scale.

The paper is structured as following. The second section presents the analysis framework with the empirical method and associated data sample. Then, the third section shows the empirical evidence on the interaction of financial economy and real economy. Finally, the paper closes with the conclusion with a summary and policy implications.

## **2. Analysis Framework.**

For the method, we employ a quantitative analysis. Basically, we investigate the correlation between the financial economy and the real economy. The correlation provides a primary information on the interaction of these two economies. Then, it lays a ground for the discussion on the impact of financial economy on the real economy.

For the sample, we collect the data from 1990 to 2019. This is a quite long time period with over 30 years. The sample also covers about 185 economies, both

developing and advanced economies. The data is from the world development indicators, published online by the World Bank.

The financial economy is measured by the stock market value per gross domestic output (GDP) on percentage, and the domestic credit to private sector to GDP also on percentage. Recent studies can use various indicators such as the housing price index to capture the financial economy. Within our paper, we select only two key indicators which have available data.

The real economy is measured by the growth rate of real GDP in 2011 constant national price on percentage. This variable captures the expansion of production capacity of an economy.

Table 1 shows the descriptive statistics for the data sample. The economic growth rate has a mean of 3.58%, with a quite high standard deviation of 2.0%. In comparison with this variable, the stock market value per GDP has a lower mean at 1.94 but a higher standard deviation at 2.17. And the domestic credit to private sector per GDP also exerts a standard deviation at 0.90. In brief, the data sample offers a quite large variation to explore the interaction between the financial economy and the real economy.

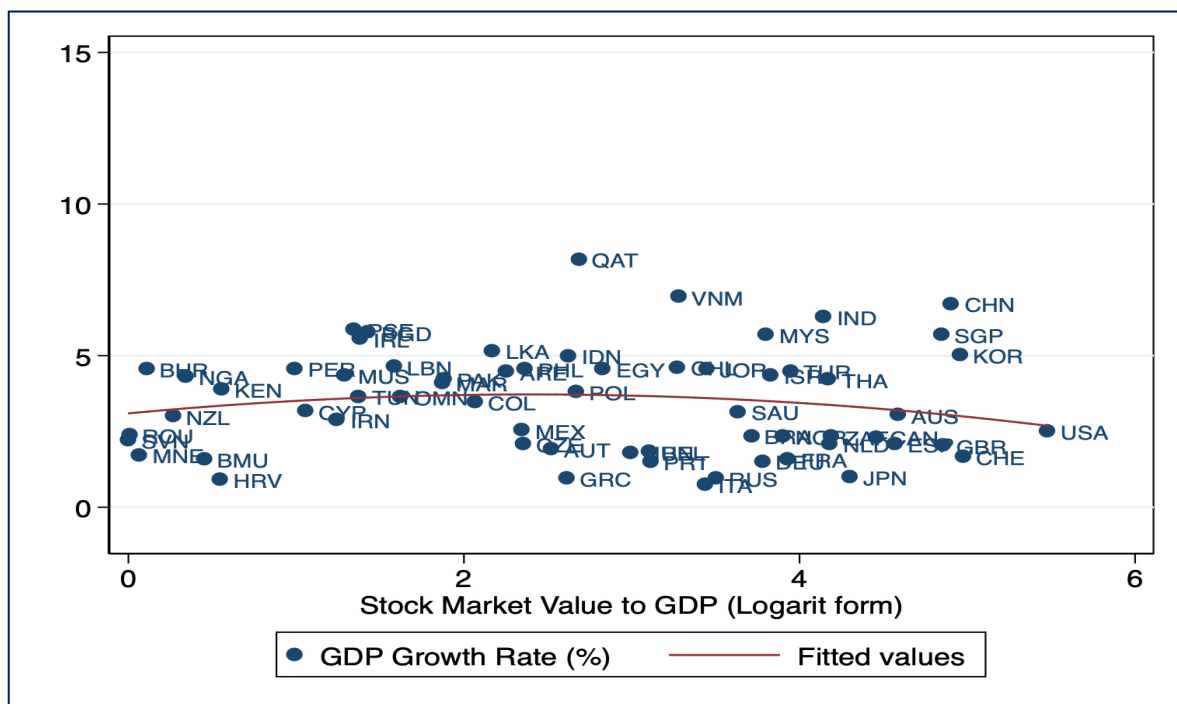
Table 1: Descriptive Statistics

Variables	Observations	Mean	Standard Deviation	Min	Max
Economic Growth Rate (aGDPgrowth) (%)	178	3.58	2.00	-1.17	12.72
Stock Market Value per GDP (LnaVal2y)	81	1.94	2.17	-3.72	6.47
Credit to Private Sector (LnaCredit)	185	3.51	0.90	0.59	5.23

### 3. Empirical Evidence.

Figure 1 shows the correlation between the stock market value per GDP with the economic growth rate. The data seems to uncover an inverted-U-shaped curve on the dependence pattern of economic growth rate on the stock market value. In particular, when the stock market value per GDP is low, an expansion of stock market may go along with a higher economic growth rate. But when the stock market value per GDP is large, a greater stock market may be associated with a lower economic growth rate. The turning point of stock market value per GDP by logarithm form could be at 2.4, which is equivalent to the stock market value per GDP to be 11.0 percentage on average over 1990-2019. This is equivalent to the stock market value per GDP of Mexico.

Figure 1: Stock Market Value and Economic Growth



Source: World Development Indicators (2022).

For the stock market value, recent evidence records mixed results. Hou and Cheng (2017) records the evidence on a sample of 31 countries over the 1981-2008

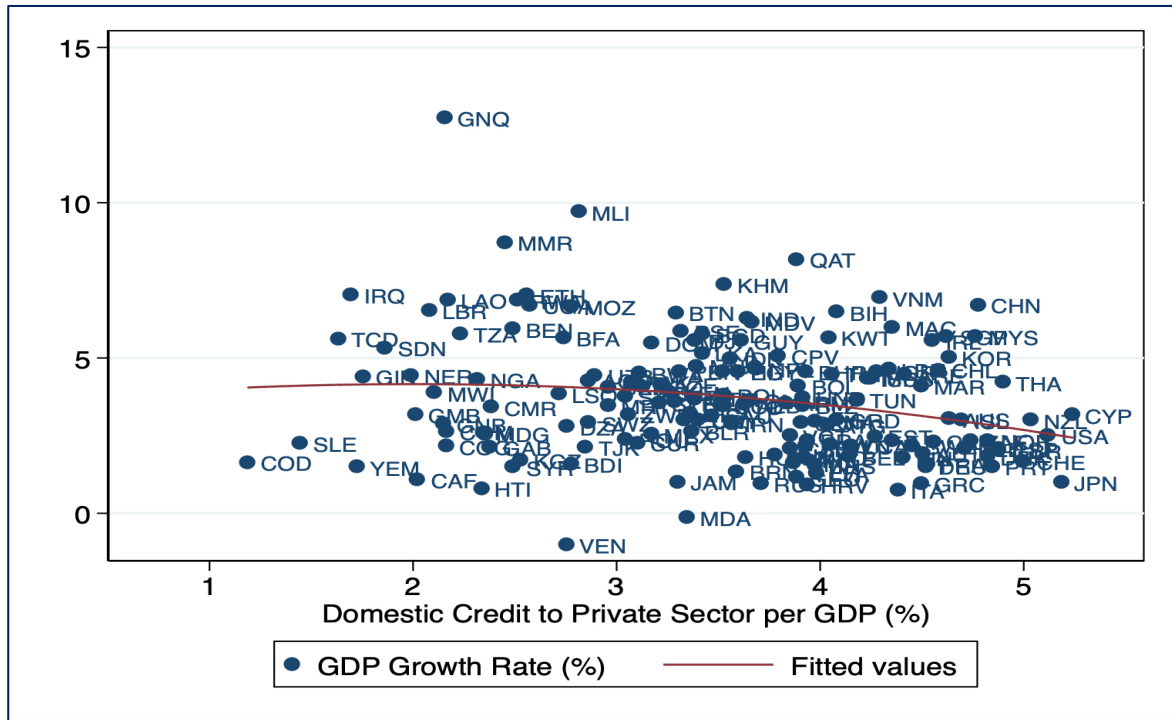
period that the effect of stock market on the economic growth varies with the time period, income level and financial development. Levine and Zervos (1998), by using a data sample of 49 economies from 1976 to 1993, find that the stock market value per GDP, as a measure of stock market liquidity, is positively and significantly correlated with the current and future rates of economic growth, on controlling for the economic and political factors. This evidence is also consistent with the results by Cooray (2010), who shows that the stock market, including its size, liquidity and activity, can enhance the economic growth. In another paper, Arestis et al (2001) show that both stock and banks markets may be able to promote the economic growth. And the effect of stock market is less powerful than the latter.

Figure 2 illustrates the correlation between the domestic credit to private sector with the economic growth rate. The evidence shows that the domestic credit may be negatively correlated with the economic growth rate. This implies that an expansion of credit to private sector may go along with a lower growth rate.

For the domestic credit to private sector, the traditional literature usually considers this variable as a measure for the financial development. A higher financial development level can result in more credit to private sector per GDP ratio. According to this line of research, the domestic credit to private sector can exert a positive effect on the economic growth rate. Wold-Rufael (2009) provides evidence, based on a time-series sample of Kenya over 1966-2005, that there exists a two-way Granger causality between the domestic credit provided by the banking sector and economic growth. This implies that the economic growth and financial development are jointly determined or they complement each other, rather than just one way positive effect from the financial development to the economic growth. Adu et al (2013) records that the domestic credit to private sector per GDP is conducive for the economic growth in the case of Ghana.



Figure 2: Domestic Credit to Private Sector and Economic Growth



Source: World Development Indicators (2022).

In brief, the non-linear dependence pattern of economic growth on the stock market value per GDP and the negative correlation of domestic credit to private sector with the economic growth can uncover new directions on the literature on the interaction between the financial economy and the real economy.

#### 4. Conclusion.

The paper analyzes the interaction between the financial economy and real economy. In particular, the financial economy mentions to the value of financial markets, including the bonds, debts, securities and related assets, while the real economy is based on the production capacity of an economy. The research methodology is based on a quantitative analysis over a cross-section data sample of 185 economies over 1990-2019.

The evidence shows that the financial economy can have various correlation pattern with the real economy. There exists a non-linear dependence pattern of

economic growth on the stock market value per GDP and a negative correlation of domestic credit to private sector with the economic growth.

For the policy implication, the empirical evidence suggests that the financial economy does not necessary go along with the expansion of production capacity but may illustrates the expectation by the households and investors. Thus, an appropriated policy can be the participation of government to provide useful information to drive and stablize the financial markets, especially during the recession time period.

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