

# The evolution of financial intermediary theory and the redesign of undergraduate finance course content system

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**Abstract:** *The new situation of the development of the financial system after the global financial crisis has put forward new requirements for innovation in the traditional macro finance curriculum system. This paper combs the historical process of the integration of financial and macroeconomic analysis from the perspective of the history of economic analysis, pointing out that the traditional financial course content system lags behind the development of modern economic and financial systems and financial theory, and proposes to optimize traditional financial courses system to strengthen the content construction of macro finance courses.*

**Keywords:** *finance courses; financial intermediation; curriculum construction*

## 1. Introduction

After the global financial crisis, the latest development of the financial system puts forward new requirements for the optimization of the traditional financial curriculum system. From the perspective of the history of economic analysis, this paper combs the changes of financial role in macroeconomic analysis, and points out that the traditional financial curriculum content system not only ignores the development of financial intermediary theory, but also lags behind the practice of modern economic and financial. This paper proposes to reform the traditional curriculum design of finance, and supplement and strengthen the relevant contents of financial intermediary theory and practice in the construction of undergraduate course content.

## 2. The integration of Finance and macroeconomic analysis

Gurley and Shaw (1955) made an early attempt to introduce financial factors into macroeconomic analysis. It is because of their work that the relationship between financial factors and the real economy has once again entered the research field of economists after Keynes. Their theory focuses on financial intermediation, and in particular emphasizes the role of financial intermediation in credit supply (rather than the role of money supply). Financial intermediation and the financial system promote the flow of loanable funds from savers to investors. The role of financial intermediaries in achieving effective "cross-time trade" is an important factor in determining the overall economic activity. In other words, they redefined the transition from saving to investment, which was ignored by the mainstream.

Gurley and Shaw pointed out that the real economic environment is different from that of the Arrow-Debreu world, and they also proposed illuminating insights. However, they cannot "normalize" (or "normalize") what they mean by "the world", and thus cannot rigorously argue their point, at least not as well "formalized" as the MM theorem, which emphasizes financial (structural) irrelevance. This is an important reason why Gurley and Shaw's ideas failed to further promote the development of new theories.

This deficiency of Gurley and Shaw then coincided with a "macroeconomic methodological revolution" in the 1970s. This methodological revolution laid the foundation for current economics: the work or literature that contributed to it seemed to be mostly models, not written descriptions like Keynes's or Gurley's and Shaw's. It can be said that the construction of the model has become the mainstream of modern economics research, and the normative model language is the main language of economist communication. In the end, Gurley and Shaw's ideas failed to get the recognition and attention from the mainstream of macroeconomics earlier. This revolution has created obstacles to the introduction of financial factors in macroeconomic analysis.

In fact, finance mainly involves the lender's confidence in the borrower, and describes confidence from the basis of optimization, and then introduces financial factors into a strict model framework. At that time (even after a long period of time), it was almost an impossible task, or a daunting task (the author will focus on how this problem is ultimately solved later). Therefore, the development of economics in this period was mainly to ignore the monetary economics of finance and the so-called neoclassical finance in the world of Arrow-Debreu.

### 3. The positive role of Finance in macroeconomic operation

Since the Great Depression, mankind has made great progress in understanding economics and finance, but the financial crisis is still coming. The economics community has neither predicted the crisis nor explained the phenomena in the crisis. This shows that economists and policy makers still cannot effectively manage this huge economic system, or they have not fully realized what new changes have taken place in this complex economic and financial system.

Where is the problem of economics? Prior to the crisis, macroeconomics literature with financial frictions was studied. For example, the BGG model of the masters in this area pointed out that information asymmetry leads to insufficient effective credit. However, a careful analysis reveals that BGG emphasizes the credit constraints faced by non-financial sector borrowers, that is, the information asymmetry faced by ordinary corporate financing. However, the role of financial intermediation in the economy is treated as a veil, and it is not important and does not appear in the model.

After the global financial crisis, the economics community made reflections. A mainstream trend in the current economics world is that economists should pay more attention to the role of financial intermediation. In particular, financial intermediation should be raised to an independent level. Economics after the crisis quickly gained new research progress. In this new development, research on information asymmetry remains at the core. However, economists found that information asymmetry can not only hinder the borrowing process in the non-financial sector, but also affect the access to funds of the credit supply sector, namely the financial sector, and thus affect the ability of financial sector to provide funds to the real economy. The information asymmetry in the financial intermediation sector is one of the key ways to understand the financial bubble or the credit bubble.

Credit, to a borrower, is to take tomorrow's money and use it today. As for consumer credit, it is to take "tomorrow's income" to consume today. As for corporate credit, that is to invest today with "tomorrow's output". Therefore, credit is taking things from tomorrow to spend or invest today. But what are the characteristics of "things of tomorrow"? The characteristic of "things of tomorrow" is that it may not exist at all or that one part of it cannot be achieved. Taking the non-existent tomorrow to consume today is excessive consumption, while taking today to invest is excessive investment, which will eventually cause waste. That is to say, finance is not an effective mechanism for inter-temporal allocation of resources. Such overdraft for the future will also have the next step. When there is a large-scale breach of contract, the confidence of financial transactions will soon be swept away, the information asymmetry will worsen, and financial transactions will tend to stagnate. This means that even a reasonable allocation of resources across the period cannot be achieved, so there is a situation in which companies in the society cannot maintain normal investment levels, and economic recession and depression have followed.

As a result, the total amount of credit itself may incur excessive prosperity and collapse. So what is the cause of excessive prosperity and collapse of credit? There are at least two explanations for this problem. One is the interpretation of behavioral finance (not discussed in this article), and the other explanation is that financial intermediaries play a key role. The entire economy can be divided into three sectors: the family sector that provides funding, the corporate sector that has borrowing needs for funds, and the third sector that is the financial intermediation sector (primarily financial intermediaries or financial institutions).

One of the essential functions of financial intermediation is to discover the "real" income of tomorrow. Because it can discover "real" future income, or more precisely, it can have a reasonable estimate of the risk of future income, financial transactions can be successfully concluded on the basis of risk and return, directing capital flow to the most efficient uses. Gertler and Kiyotaki (2011, 2015) applied the agency problem caused by information asymmetry to the analysis of financial intermediation behavior, and studied the role of financial intermediation in credit cycle fluctuation or excessive credit boom and collapse. Adrian and Shin (2014) argue that financial intermediation is the driver of the boom-bust cycle, not just a negative actor.

#### 4. Financial intermediary behavior and its role in macroeconomic operation

Nowadays, research in this area has gradually become one of the most important research directions of macro finance. Without further discussion, let's just go back and see what progress the introduction of financial intermediation into macroeconomic analysis means.

Before the global financial crisis, mainstream economics only recognized the role of financial products (e.g., stocks, bonds, debts, etc.) in the inter-temporal allocation of resources in financial transactions. However, all financial products (neither simple nor complex forms of financial contracts), no matter existing old products or innovative products, can be regarded as products "produced" by financial intermediaries. Just as a garment factory produces clothes, financial intermediaries launch financial products. The purpose of this product is to achieve effective inter-temporal allocation of resources. Thus, if the service system fails, the financial transaction will not be completed. Therefore, the role of financial intermediation must be valued to truly explain the role of finance in macroeconomic cycle volatility.

The analysis of financial intermediation behavior is of great significance. For the macro level, it is related to how to regulate the financial system and achieve macroeconomic stability, while for China, it is related to the construction of China's financial system. The construction of China's financial system is just in its infancy. From a micro point of view, the behavior of financial intermediaries is related to the price of financial assets, the individual investment income and the innovative design of financial products.

#### 5. The redesign of undergraduate finance course content system

The essence of finance lies in the inter-temporal allocation of resources, and inter-temporal trading implies uncertainty and confidence in the future. Information asymmetry is at the core of all financial activities, and it serves as an important perspective for analyzing financial activities. The activities of financial intermediaries directly affect the supply of financial products, including the price and quantity of finance, and thus become an independent factor affecting the operation of the macro economy. The analysis of financial intermediation behavior from the perspective of information asymmetry is an important entry point to reveal the impact of financial impact on macroeconomic operations.

At present, the hysteresis of the design of the content system of finance course is manifested in the following aspects: firstly, in terms of the theme, it stays at the stage of monetary economics of macro finance and ignores the analysis of financial intermediary behaviors. Second, in terms of methods, it is still in the stage of neoclassical marginal analysis methodology, and there is still a lack of introduction to the theoretical tools and methods needed for economic behavior analysis from the perspective of information asymmetry. Third, in terms of the functional positioning of finance, it still stays in the passive role, but does not analyze the active role of finance and its impact on macro economy.

#### 6. Conclusion

Therefore, in the course content design of finance, the course content structure should be optimized in several aspects. Firstly, the course content of mathematical model should be added to strengthen the cultivation of students' ability of formal expression and reasoning of economic problems. Secondly, the course content of contract theory and game theory with information asymmetry as the core should be supplemented to provide necessary analysis tools for students to analyze the essential characteristics of financial transactions. Thirdly, special courses on financial intermediation should be added to adapt to the latest development of the financial system, especially the role of financial intermediation in influencing the operation of macro-economy, and be placed at the core of the content of macro-finance courses.

In short, the design of the curriculum system of finance should adapt to the development of modern economic and financial system, meet the training objectives of finance major, and improve students' ability to analyze various financial phenomena and problems.

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