

# Theoretical Research on Regional Financial Cooperation

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**Abstract** This paper, using the method of investigation, document data and qualitative analysis, puts forward the conditions and the models of the regional financial cooperation. The conditions are : (1)related with the intimate connection between the regional body and economy; (2) the Intra-regional bodies' financial systems can be coordinated; (3) the price linkage mechanism within the regional financial market; (4) the relations between the financial businesses have both competition and cooperation. And this thesis presents three kinds of financial cooperative models as market promoting, government dominating, and government & market promoting. To find out whether the Intra-regional bodies are eager to carry out regional financial cooperation or not, a model of Benefit analysis is formed from the view of the cost and income by using Paul Krugmen's model of GG-LL. At the end of this paper, according to the problems that China are facing in the regional financial cooperation, several suggestions are then put forward in this paper.

**Key Words** regional financial cooperation, theoretical research, financial system

## 1 Introduction

With the rapid developing of the economic globalization, the regional economic cooperation is being used in more areas than ever before. Financial, as the core of the economic cooperation, developing at the same time. There are economic cooperation running in many economic zones in the world, and the most successful mark of the regional financial cooperation is the birth of Euro. The cooperation & dispute in the financial field were paid greater and serious attentions by governments all over the world, however, fewer theories on the topic of regional financial cooperation in a country, mainly has Theory on Monetary Policy: Introduction To Game Theory Approach (Theorie Der Geldpolitik: eine spieltheoretische Einführung) By Gerhard Illing. The studies on national financial cooperation which based on different currencies, one of the most effective works is *A theory of Optimum Currency Area* (1961) By American economist Robert Alexander Mundell, and on the basis of his theory, Ingram, McKinnon, Kenen, Fleming, Corden, Kindleberger and Williamson got involved in the research of the essential conditions to establish optimum currency areas. Though no theory research or works related with regional financial cooperation was found at home, there are some academic papers dealing with problems happened in the financial cooperation. This paper tried studying the theories of domestic regional financial cooperation and offered countermeasures.

## 2 The Reasons of the Birth of Regional Financial Cooperation

### 2.1 Global and Regional Economic Integrations Are the Premises for Regional Financial Cooperation

Since the 1800s, economic globalization and domestic regional economic integration had been changing the original patterns of resources production and distribution, and different regions share the closer and closer growing economic tie day by day, developing new development trends of division of production. The market beyond national boundaries for the developing global economic integration, harmed the national monetary control and financial management. It is harder than ever before for the government to control the capital inflow and outflow. Helmut Schmidt<sup>[1]</sup> proposed that economic globalization gradually but obviously resulted in attenuation of every government's economic authority. Along with the development of globalizing of economy, governments are facing more pressures of acquiring benefits, global trade and investment liberalization are Challenging state sovereignty. In order to protect its self-benefits and to cope with influence of might in global market, every nation is seeking a kind of protection system to enhance the abilities of againsting risks and realizing benefit, so it's the

regional economic integration that naturally became the most reasonable choice to cope with economic globalization. Financial globalization is the key part of economic globalization, China is vast in territory, so the obviously differences of its natural resources, climate condition and geographical position would surely lead to the imbalance of regional economy development which showed a kind of region discrepancy from east to west. Doubtlessly, policy coordination and economic cooperation between regions would lead to double win, and Strengthening competitivenesses of nation and region at the same time. Enhanced regional financial cooperation could not only strengthen a national financial system's ability against risks, but also improve its strength in the reform of current international monetary system, and prevent big influence on home economy from a few developed countries' financial hegemony.

## **2.2 Appearance of Financial Crisis Powered the Financial Cooperation**

With the rapid development of economic globalization, especially financial globalization, financial crisis happens frequently in the emerging market economies, Specially, the financial crisis in Asia which happened in Thailand in the second half of the year 1997 and swept the whole Asia. The financial issue was to become an important phenomenon in the international political cooperation and conflict. Financial industry is an industry with high risks, its risks with a tendency of self-agglutinating during the growing process, thus form a hidden trouble of financial crisis which may overspread in the internal and external of the system, and then this would pose serious threat to the financial security of industrial system.<sup>[2]</sup> Financial crisis will make national currency and assets value drop, economy suffer a lot, banks and enterprises fall into financial distress and so on.

Financial crisis has shown the weakpoints in national financial structure. Healthy running of financial system and finance efficiency of a country both based on completed financial structure, Because the Distribution of finance structure's financial tools, financial institutions, quantity and categories of financial markets in different regions, and the structure does exist obviously differences under different economic developing stages. The state gained a good deal of enlightenment from the frequently happened financial crises: it's hardly to strengthen and improve the existing financial position for one single country, so each regional body urgently need of mutual powerful supports. Strengthen the regional financial cooperation will not only improve the capacity of resisting risk of a country, but also will enhance the comprehensive national strength to strengthen the nation in fighting against risks.

## **2.3 Treatment on Financial Issues Objectively Demands Regional Financial Cooperation**

Along with the fast development of financial globalization, the economic power of different areas has changed a lot, the establishment of new regional economic cooperation, the change of the social economic environment, and all of these has shaken original financial system, even resulted in the breakdown of previous system, the development of finance cannot match with economic level, it's not very easy for a certain region itself to solve the complex comprehensive and systemic financial issues. This kind of situation impels the regional bodies to strengthen financial cooperation, using each other's resource advantage to widen its financial market channels, using its own power to realise efficient resource collocation, by this way, implement the limited resource sharing to face the intense competition environment hand in hand. Meanwhile, for the present domestic management system of financial institutions is "separated business and management", so in the frame of the existing separated operation system, we should strengthen the cooperation between banks and other financial firms, through advantage complementary and resources share to deepen the regional economic cooperation, the efficient way to increase domestic institutions' market competitiveness.

# **3 Condition Analysis for Regional Financial Cooperation**

## **3.1 The Intimate Connection between the Regional Body and Economy**

The birth of regional financial cooperation is based on the development and progress of the regional economic cooperation. Since the inter-regional body is a dependant for the regional economic market, no matter the regional economic development or decline that will surely effect the inter-regional bodies greatly, the tightness of the regional economic connection improves free movement of inter-regional capital and labor resources to automatic balance the regional economic disparities.

## **3.2 The Intra-regional Bodies' Financial Systems Can Be Coordinated**

Goldsmith's *Financial Structure and Development* put forward financial structure and financial development concept.<sup>[3]</sup> Goldsmith thought that a country's financial structure is made by the combination of its existing financial tools and institutions, including their relative scale, management characteristics, management modes, and the financial intermediary organization branch offices'

concentrative degree and so on. Because of the great difference of development level among the inter-regional bodies, including Natural Resources, humanism environment, geographic location, ideological concept, system policy etc. Obviously there exists financial gap, so the intra-regional bodies' financial systems can be coordinated is the one of the key factors to guarantee the regional financial connection and to mix the gap.

### **3.3 The Price Linkage Mechanism within the Regional Financial Market**

The regional financial market carries out the transaction rules that made by its bodies, so the rules tends to be uniform. When dealing with normal trade and capital transaction, the cooperative regional rate is inter-fixing exchange rate, the price linkage mechanism within the regional financial market almost keeps the rate invariant.

### **3.4 Competition and Cooperation Existing in the Relations Among the Financial Businesses**

The process of financial cooperation is also a kind of continuously course of games, so it's doubtless that the games will produce some conflicts of interest. The regional financial cooperation would bring interest for the bodies there, at the same time, the bodies have to give up certain interests, even pay something back. So all the financial institutions should create a reasonable competitive environment and strengthen the cooperation considering all the parties' common interests for the long term development of the region.

## **4 The Choice for Models of Regional Financial Cooperation**

At present, With the gradual and further theoretical researches and practice on regional financial cooperation, from a certain degree, regional financial cooperation is following the development of the regional financial cooperation theory to move forward, however, there's few studies on the model of regional financial cooperation, Practice shows that regional financial cooperation is developing step by step from low-level to high-level, microeconomic to macroeconomic, simple to complex, part to whole, deeper and further. According to the conditions for regional financial cooperation and the development status of Chian's regional financial cooperation. And this thesis presented three kinds of financial cooperative models as market promoting, government dominating and government & market promoting.

The market promoting model for regional financial cooperation means that as the developing of the regional economic integration, when the regional economic body wants to carry out trans-regional financial cooperation which would based on market demands, this kind of financial cooperation's levels and scales would grow with the growing demand of market, due to the Restriction of macro-financial administrative system, different regional financial institutions set up sharing associated organizations which is responsible for harmonizing the problems happened in the cooperation; and the regional government department just plays a supporting role to coordinate the problems.

Government dominating model refers to promote regional financial cooperation, the local governments of different regional bodies establish a associated regional financial management organization (office), the organization setting should contain the regional financial cooperation branch institutions of market, banks, capital market and Securities. These institutions will in charge of marking unified cooperation plans, coordinate cooperative subjects and supervise the process of cooperation.

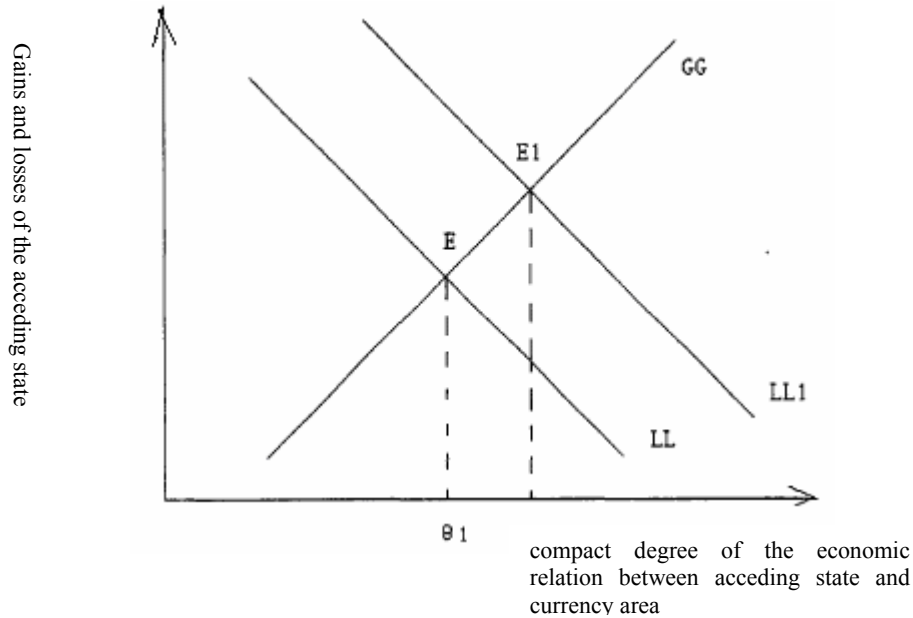
Government & market promoting model first needs the government uses its power to start the construction of regional financial cooperative zone, through the coordination and cooperation of different local governments to work out a scientific and reasonable layout of the financial cooperation, then all the regional members work together to make regulation and policy design for the regional financial cooperation so as to guide and support the cooperation and exchange between the regional financial organizations. When a internal spontaneous cooperative order preliminarily formed and an omnidirectional cooperation mechanism system to connect the financial organizations and the financial organizations' inner branches, it's time to decrease policy effect gradually and let the market force lead the continuing financial cooperation.<sup>[4]</sup>

How to choose a regional financial cooperative model depends on the regional economic bodies' concrete conditions, It is not an invariable model with the development of the cooperation.

## **5 Benefit Analysis Model of Regional Financial Cooperation**

Regional bodies' motivation or target to carry out regional financial cooperation is to gain more benefits than before, or it won't join in. Every regional body is facing the question, to join or not? To answer this question, the researches mainly have Paul Krugmen's model of GG-LL, *Exchange rate volatility and intervention: implications of the theory of optimum currency areas* by Tamim Bayoumia

and Barry Eichengreen, and *Random coefficient models: theory and applications* by Tavlas, 1993.<sup>[5]</sup> These researches mainly learn from the view of income and cost, Krugmen took European Union and Finland for example, analysis the income and cost curve of Finland to join the Union, and got the famous GG-LL model. Krugmen thought: when Finland became part of the European monetary system, its benefits based on her trading integration degree with the members of European monetary system.



**Figure 1 GG-LL Model**

GG curve in the graph for the yield curve, and LL for the cost, transverse axis represents compact degree of the economic relation between acceding state and currency area, and vertical y-axis represents gains and losses of the acceding state. Know from the map: a country's relations with its currency area where has developed an advanced economic integration, the closer, the lower cost to join the single currency area but greater benefits. The intersection for the curves GG and LL is E which is the point of balance for gains and losses, the critical point of economic integration E, also called  $\theta_1$ , will decide a country to join the currency area or not. When a country gets higher economic integration than the point  $\theta_1$  with the currency area, the country willing to join in for benefits; if lower, the joining will bring losses. Through the GG-LL model some other things could be judged, that is the change of a country's economic environment will also effect the choice for joining the currency area. For example, if some uncertain environmental changes leading to LL curve moved over to the LL1 curve, a country's willingness to join in the currency area will be cooled down since the critical point became  $\theta_2$  from  $\theta_1$ . Krugman's GG-LL model using the traditional analysis method of cost-benefit to analysis the gains and losses of joining currency area from the individual country's willingness to join currency area or not as the breakthrough point, it formed a direct and visual picture to analysis the advantages and disadvantages of individual country to join currency area, and thereby became an important analytical tool to determine a country to join currency area or not.<sup>[6]</sup>

The optimum currency area theory also focus on the standard of cost-benefit caused by the choice of joining single currency area. The method of cost-benefit analysing thought: the comparative study on cost and benefit will determine a country or area to integrate into regional economic integration or not. When income is greater than cost, the choice to join the currency area would be more useful, well, it's better to keep out of the currency area if lower. This principle can be applied to a country or a region for the regional economic cooperation by the following mathematical equations:

$$R_N = \sum_{i=1}^n R_i - \sum_{j=1}^m C_j$$

$R_N$  stands for the net income after joining the regional financial cooperation;  $R_1$  for the total revenue earned from the cooperation;  $C_j$  is the cost and losses due to joined the cooperation for a country or region.<sup>[7]</sup>

Of these, the total revenue earned mainly include: the benefit  $R_1$  due to the reduced transaction costs; Due to the elimination of all barriers,  $R_2$  is the income benefit from the increased volume of trade and transactions; the benefit  $R_3$  comes from the lowered financial risks; and  $R_n$  represents all the changed factors which would lead to income.

$$\text{So, } \sum_{i=1}^n R_i = R_1 + R_2 + R_3 + Rn$$

$C_j$  is the cost and losses, mainly includes:  $C_1$ , the cost caused by giving up the freedom of choice for the loss of national or regional inflation rate and unemployment rate to regulate economy;  $C_2$  is the loss caused by the frequent current-account imbalances due to national or regional uncertain demands; Because of different financial and market systems, the loss  $C_3$  is from the weakening of central bank functions and market supervision;  $C_4$ , the loss caused by financial risks; and  $C_n$  represents all the changed factors which would lead to loss.

$$\text{So, } \sum_{j=1}^n C_j = C_1 + C_2 + C_3 + C_4 + Cn$$

These principles could apply to the regional financial cooperation in various stages.

As  $R_N > 0$ , the regional body will join the regional financial cooperation for interests.

$$\begin{aligned} \text{It is: } & \sum_{i=1}^n R_i - \sum_{j=1}^n C_j \\ & = (R_1 + R_2 + R_3 + Rn) - (C_1 + C_2 + C_3 + C_4 + Cn) > 0 \end{aligned}$$

As  $R_N < 0$ , the regional body won't join the regional financial cooperation for losses.

$$\begin{aligned} \text{It is: } & \sum_{i=1}^n R_i - \sum_{j=1}^n C_j \\ & = (R_1 + R_2 + R_3 + Rn) - (C_1 + C_2 + C_3 + C_4 + Cn) < 0 \end{aligned}$$

The risks of regional financial cooperation are different in different stages of cooperation, economic development levels, countries or regions, The higher level of economic development, the lower risk of cooperation; however, the lower, the higher. If the regional financial cooperation among the imbalanced developed regional bodies, gain and loss complementary ways should be took to make the regions more willing to carry out the regional financial cooperation. So in the cooperation, the core regional areas should come up with more capital as regional fund develop the backward areas' economy, then every party will benefit greater long-term gains from the improved level of regional economic development.

## 6 Conclusions

Regional financial cooperation could promote the free flow and rational allocation of financial resources, mitigate the contradictions caused by regional imbalance between supply and demand of funds, promote regional integration of financial and industrial capital, and then promote the regional economic development. The phenomena of financial repression is serious in China, for example, it is hard for the non-state-owned enterprises to finance, but the rate of return on investment of state-owned enterprises needs to be improved; the levels of financial development of China's eastern and western parts, the Yangtze River Delta and the Boa Rim are striking, Some regional differences between the financial systems, financial development is unbalanced; China is still in the early creation of regional financial cooperation, the biggest problem is the barriers for financial resources free flow caused by the administrative divisions.

To remove the constraints of the regional financial cooperation, of course, the regional government could not solve the problems alone, must rely on the strength of national government, through its reform, and then the constraints could be broke. First of all, according to the regional divisions with

coordination of the government, establish regional financial development committees of the Yangtze River Delta, the Pearl River Delta and Bohai Sea Rim. Its members should consist of the provincial local government, the central bank branches, three financial supervisory departments dispatched, and the provincial financial trade associations together, it is mainly responsible for planning process, the process of cooperation, financing transfers, risk prevention fund management to coordinate the regional financial cooperation. Secondly, use the internet management to set up the financial information exchange platform through the regional financial development committee, then provinces and municipalities have the access to various financial information, at the same time, the platform could be used for information communication, publishing and consulting. Third, establish regional joint-stock commercial banks. The regional joint-stock commercial banks will transform its attracted funds into local investment. As independent commercial banks, the banks can get a share of re-lending from central bank, and offer credit in the capital market, promoting capital flow and the rational distribution of resources. This will support the development of SMEs and small & medium-sized private enterprises in the region. The last one, improve the credit system and establish regional currency market. The first step to establish regional currency market is establish credit system, through intervention and regulation of government, the government and central bank should gradually participate in the currency market to enhance the credibility of the regional currency market, and rich credit tools to attract capital demand and providers to participate in the currency market.

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