Management Science and Engineering *ISSN 1913-0341* *Vol.3 No.3 2009*
Canadian Research & Development Center of Sciences and Cultures *09/20/2009*
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The Prospects of Monetary Cooperation in Developing Countries:

Test of the World Finance Crisis

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Abstract: Since the 20th century, cooperation in financial field between many countries is getting closer with the rapid development of the world economy and trade. Some developing countries united for monetary cooperation or participated in the monetary system of developed countries. This article analyses the regional monetary system which is established by developing countries or the system they joined in, and give suggestions based on the economic development of each system during the recent decade and the global finance crisis in 2008.

Key words: monetary cooperation; exchange rate system; finance crisis; developing countries

Economic cooperation among many countries in the world develops rapidly in the context of regional economic integration after World War Ⅱ. Regional monetary integration has been a trend since the Bretton Woods system collapsed in the early 1970s. For one thing, the member states are required to strengthen monetary and financial cooperation to enhance competitiveness in the world; for another, the exchange rates between the major currencies (such as US dollars, Japanese Yen, Euro) fluctuate sharply when the floating exchange rate system prevalence's currently, which affects the stability of the international financial system. Imperfect financial systems of developing countries are vulnerable to the impact of financial risks at home and abroad. Stiglitz used to draw an analogy: Small open economies resemble boats in the big waves. Regardless of the driving skills, they will eventually be knocked down

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* Received 30 August 2009; accepted 10 September 2009

by big waves, though we don't when they were overturned.

Deficiencies in the financial system are root causes of the crisis in developing countries, such as the financial crisis in Thailand caused by international speculative capital in 1997. The U.S. financial crisis affected the economic development of the whole world in 2008, which make developing countries aware of the vulnerability of individual economies. So some developing countries increasingly desire to unite for monetary cooperation or participate in the monetary system of developed countries.

The most famous research about monetary cooperation recently is the theory of optimum currency areas proposed by Mundell (1961), which points out that the high degree of integration of factor markets of the economies in currency areas can increase the supply flexibility of the factor and product, which will make the actual price and nominal exchange rate stable when a disturbance of economy happens in the area. Mckinon (1963), Kennan(1969), Ingram (1969) and Haberler (1970) replenish the theory respectively with economic openness, diversification of products, the integration of financial markets, similarity of inflation. These standards constitute the theoretical basis for regional monetary cooperation. Mundell (1963) brings up "Impossible triangle", which means that free movement of capital, fixed exchange rate system and independent monetary policy can't exist at the same time, helpful to the establishment of operating mechanisms of monetary cooperation system.

Now, there are three main monetary cooperation systems which developing countries establish or participate in: Currency and Financial integration in Africa (CFA), Dollarization in Latin America and Central and Eastern Europe join the European Union (EU). Devarajan & De.Melo (1987) points out growth of GDP in CFA was significantly faster than other countries in Africa, but the operation of CFA flawed. Jekins & Thomas (1996) think CFA can't become a monetary union temporarily because of the macroeconomic variability in CFA members. Corbo (2001) get the conclusion from the view of the trade relations and the credibility of monetary policy that it is more suitable for Canada to implement dollarization, however, Mexico, Brazil, Chile and other Latin American emerging economies have established the inflation-oriented monetary policy frameworks, so they needn't carry out dollarization. Bian & Sun (2006) analyze a series of negative consequences after Central and Eastern European countries join EU, according to the Exchange Rate Mechanism-Ⅱ(ERM-Ⅱ). These scholars study the significance and feasibility of monetary cooperation in developing countries, but the study is one-sided. Devarajan & De.Melo (1987) and Bian & Sun (2006) only analyze the current advantages and disadvantages of monetary cooperation between developing countries, neglecting the economic development during the financial crisis at home and abroad, so the evaluation of monetary cooperation is one-sided. Jekins & Thomas (1996) think the establishment of African monetary cooperation system is very difficult and Corbo (2001) believes that Latin America don't need monetary cooperation with US in the current economic situation. They both emphasize interests of individual economies, similarly overlooking the impact that an individual may suffer under financial crisis. The above-mentioned studies can't make an objective evaluation as they don't conduct a comprehensive comparison between the three systems and lack empirical research. So, this article will study the operating mechanism of the three typical systems of monetary cooperation—CFA, dollarization in Latin America and Central and Eastern European joining EU, analyze the economic development of each system during the recent decade and the global finance crisis in 2008, evaluate the advantages and disadvantages of the three systems, and finally make recommendations to monetary cooperation of developing countries.

1. DEVELOPING COUNTRIES TO ESTABLISH OR TO JOIN THE MONETARY CO-OPERATION SYSTEM

1.1 System of monetary cooperation, introduced three

1.1.1 Currency and Financial integration in Africa

CFA is composed of 15 former French colonial African countries, including 2 sub-regional alliance—the West African Monetary Union (UMOA) and the countries which have formed the Bank of the Central African States (BEAC). It is the only regional monetary system that integrates countries with different level of economic development, resulting from institutionalized cooperation of between developed and developing countries.

CFA issued African Financial Community Franc (FCFA) in the early days, which pegs Franc to maintain stabile exchange rate with it. The exchange rate of FCFA is secured by the French Treasury and they implement a unified foreign exchange policy. The exchange rate of FCFA against Franc has been stable except the issue of new Franc in 1960 and depreciation of FCFA in 1994. FCFA keeps stable exchange rate with French currency when it pegs Euro which was issued in 1999.

UMOA and BEAC respectively signed “monetary cooperation agreement” with France in 1972 and 1973 to confirm the principle of monetary cooperation between CFA and France, which provided a guarantee for the operating mechanisms of CFA, avoiding disputing for leadership and interests during the union.

1.1.2 Dollarization in Latin America

Latin American debt crisis in 1982, Mexico’s financial crisis in 1994, financial crisis in Brazil in 1999 and Argentina’s financial crisis in 2001 broke out one after another in Latin America after 1980s. International financial crisis broke out frequently at the same time. So, some small open economies in Latin America explored to establish a stable financial environment to avoid financial risks.

Ecuador, El Salvador and Guatemala announced full dollarization in 2000 and 2001. Argentina carried out currency board arrangement in 1991. The government had to allow the free fluctuation of Peso exchange rate as a serious economic crisis broke out in 2001. Floating exchange rate system improved domestic economic environment and reversed balance of payments deficit that lasted for many years. However, Peso had to peg US dollar again and began to implement dollarization when Consumer Price Index (CPI) continued to increase, which added to inflationary pressure.

1.1.3 Central and Eastern Europe joining EU

The currency value of Central and Eastern Europe (CEE) floated greatly because of sound financial systems after the Soviet Union disintegrated. They pegged the currency of developed countries in Western Europe to maintain their currency stable.

10 countries from CEE joined EU in 2004. Now they are controlling the domestic economy basing ERM-Ⅱ to transit to Eurozone. Council of EU established ERM-Ⅱ which new members have to comply with to integrate exchange rate, inflation rate, deficit, debt, long-term interest rates and relevant laws before they join Eurozone. It has 2 tasks: set up and manage exchange rate of currency of new members against Euro; supervise new members to join Eurozone. It includes 4 contents: exchange rate of currency of every member against Euro, fluctuations of 15% of currency against Euro, marginal intervention based on the principle of automatic and unlimited obligations and the effectiveness of short-term financing. The 10 countries can’t join Eurozone before satisfying ERM-Ⅱ. Slovenia met ERM-Ⅱ and joined Eurozone in 2007, and other countries are adjusting their monetary policy actively to transit to Eurozone.

If they join Eurozone, on the one hand, integration of financial markets between CEE and other members from Eurozone can accelerate, which conducives to attracting investment from allies, and enhances the stability of the financial system and the sustainability of economic development; on the other hand, a single currency can converge the price of Eurozone by making the price of a unified market transparency.

1.2 Comparison of operating mechanism between the three monetary cooperation systems

The main objective of the three systems is to make currency stable and seek for mutual development. But there are differences in cooperation model, formulation of monetary policy and management (See table 1).

CFA and CEE implement the cooperation model of a Sing Monetary Union Mechanism (SMUM). CFA issues super-sovereign currency FCFA, which pegs Euro now. CEE pegs local currency to Euro on ERM-Ⅱ, so as to transit to Eurozone. A Sing Monetary Union can formulate a unified economic planning according to the economic development of the union, which is more stable, eliminate exchange rate risk, improve the efficiency of resource allocation and lay a solid foundation for the region's economic prosperity & political stability. However, each country is forced to transfer monetary sovereignty, losing free monetary policy to control macroeconomic. Some countries in Latin America implement Regionalization of Leading Currency (RLC), which is to replace national currency with US Dollar. For one thing, this cooperation model will inhibit long-standing high inflation, reduce the risk of exchange rate fluctuations, avoid panic of currency speculation and make up for the vacancy of reform of the international monetary system; for another, these countries lost monetary sovereignty and seigniorage, central banks of which are no longer the final lenders and have to share currency risk with the Federal Reserve.

The monetary policy of CFA is formulated jointly by the member states, which represents the interests of all members. But there is no real cooperation because of the poor economic development and differences in economy among the members. Monetary policy cooperation proposed by Latin America is very difficult to start as they respectively implement monetary policy basing on US Dollar. "Maastricht treaty" states the financial discipline every member of EU must comply with, which makes the monetary policy of the union tends to integration. However, the unified monetary policy European Central Bank (ECB) formulates is based on the interests of the entire union, difficult to take CEE into account sometimes.

The stability of CFA is based on state responsibility of every member, and largely due to the support of France and EU. CFA is facing the risk of collapse once the support disappears. Dollarization in Latin America is spontaneous and loose, the institutionalization of which depends on the attitude of every state. The two systems usually implement developing strategies through meetings of heads of states and don't establish supra-national sovereignty managing mechanism. The system of EU is rather strict. The central exchange rate formed by Euro against currency of every member-like a ruler-measures fluctuations in every currency, and marks floating ranges and deviating boundaries as the basis of adjustment and intervention. EU established a series of normal & formal systems by agreements(such as "Maastricht treaty") signed between the members and supra-national sovereignty of institutions, like Council of Europe and European Commission, which ensures the equality of economic & political interests between the members and promote the unification of policy & action of the union.

2. ANALYSIS OF MACRO ECONOMY OF EACH MONETARY COOPERATION SYSTEM

FCFA began to peg Euro when it was issued in 1999. Some countries from Latin America have their currencies peg US Dollar or implement dollarization directly while CEE is transiting to Eurozone since the 21st Century. The three monetary cooperating systems of developing countries—CFA, Latin America, CEE—preliminarily form. Next we'll analyze the macro economy of each system, especially the performance in the recent world financial crisis, according to the data form 2001 to 2010[4].

2.1 Analysis of macro economy of the three systems from 2001 to 2007

2.1.1 Growth of GDP

The economy of CFA is in good condition because the currency is stable and inflation rate decreases after FACA pegged Euro in 1999. The growth of GDP of CFA remains at 4%, and fluctuates slow.

The economy of Argentina comes into order after the financial crisis in 2001. Since the strategy of dollarization started, domestic prices have reduced and export grows rapidly. Argentina reversed the balance of payments deficit in 2005 and foreign exchange reserves added up to 309 US dollars in 2006. The GDP in Argentina grows very fast, over 8% every year.

The economy of CCE begins to rally as foreign capital inflows in 21st Century. First, after joining EU in 2004, these countries get the economic aid of EU, so the economic strength is strengthened to some extent. Second, The threshold new members crosses to enter other members of EU is reduced, which promotes export expanding. Third, entering the alliance still makes the workforce flow freely, and has increased employment and income. The investment of EU in them increases greatly. Though EU's economy is whole weak, which restricts high-speed development of the economy of CCE; the GDP of these countries has still increased by 6% on average.

Source: This figure is drawn basing data from database of official site of IMF.

2.1.2 Inflation rate

Because members of CFA coordinate economic development programs & monetary policy and set up a large unified market, they reach an agreement with France and EU in monetary policy that FCFA pegs Euro, which makes the value of FCFA steady and inflation rate relatively low. The inflation of FCFA is only 3% on average from 2001 to 2007, according to the data available (See Figure 2).

After pegging US Dollar again in 2002, the inflation rate of Argentine Peso dropped by a large margin, from the highest 25.9% to 4.4% in 2004. Because of the policy of export expansion, Argentinean foreign exchange reserve increased, which put upward pressure on the home currency. In order to keep the fixed exchange rate with US Dollar, Argentinean central bank purchased foreign exchange in a large amount, which caused basic currency to increase passively and promoted stagflation. The average inflation is up to 9.8% in Argentina from 2005 to 2007.

Because of the remaining problems in system of Soviet Union and fault reform at home, galloping inflation has existed in CEE all the time before joining EU. CCE standardized the financial system according to ERM-Ⅱ to put into Eurozone as soon as possible, and with the help of EU the inflation dropped greatly, less than 6% after joining EU.

2.1.3 Balance of current account

CFA strengthens to restructure the financial market and has created a good investment environment recent years. At the same time, unfavourable balance of the current account of CFA is reduced gradually when the international market is in great demand to traditional export commodities—petroleum and mineral products, etc.—of Africa. Because the home currency is underestimated, the export of Argentina

[4] The data of 2009 and 2010 are forecasted by IMF. As there are large differences among the economies of Latin America, which are impacted by U.S. politics and economy separately; Argentina plays an important role in Latin America, the currency of whom is transiting to dollarization and representative, the context below only analyses macro economy in Argentina from Latin America.

increases in a large amount. Though US's economy is depressed in recent years, the favorable balance of current account of Argentina accounts for GDP at about 2%. It is difficult for Central banks of CCE which is limited by ERM-Ⅱ to make the monetary policy to narrow unfavourable balance. Import of these countries mainly comes from Eurozone, but Euro has been appreciated in recent years, so the import cost of CEE countries increases, causing the unfavourable balance of the current account to expand.

2.2 Analysis of macro economy of the three systems since US's financial crisis

US broke into financial crisis in 2008 and involved to the whole world gradually, attacking the economy of many countries seriously. Behavior of the macro economy among CFA, Argentina and CEE differs greatly because of differences in cooperation modes, monetary policy and management.

2.2.1 CFA's economy increases steadily

The meeting of financial minister of CFA in 2008 issued a statement that financial & currency systems were still steady in the area, but reducing in global demand and low oil price at present may cause negative effects on economy and employment. Comparatively speaking, CFA had not suffered direct impact of the financial crisis yet.

FCFA pegging Euro helps the currency value and financial systems keep stability. Under the background of the financial turmoil of the whole world, this cooperation model has lightened the impact of financial crisis on CFA effectively, while facing the unstable international raw material market.

According to the data(See table 2), after the world financial crisis breaked out in an all-round way in 2008, the growth rate of GDP unexpectedly increased to some extent than several years ago, the inflation rate slightly raised and the situation of balance of current account is better than 2007.

2.2.2 Argentinean economy fluctuated violently

The financial crisis caused serious influence on Argentina. The turbulence of Argentinean financial market was aggravated, besides, the economic growth rate obviously slowed down during the second half of 2008.

Argentinean government took measures to deal with the crisis actively. First of all, in order to guarantee foreign trade and public finance to realize "one pair of surpluses" and avoid a large amount of unemployment, Argentinean custom has taken a series of measures to restrict on imported products. The government raises the price of coal gas and electricity and reduces the subsidy to public products progressively. These measures have increased the pressure of price rise greatly. In addition, Argentinean central bank has devoted more efforts to intervening in foreign exchange market to prevent Peso from devaluing on a large scale. In order to stabilize the stock market, the government buys stocks through the national social insurance bureau on condition that the stock index slumps continuously.

However, several great risks that Argentina is facing have not been dissolved. First, Argentina needs to pay the debt of about 28.4 billion US Dollar altogether in the following 3 years. IMF refuses to offer the urgent loan and help Argentina at present, because the "pouring the debt" crisis used to happen in Argentina and, after has repaid the loan of IMF, Argentina rejected IMF's intervention and supervision on its economy policy. Second, export & investment of Argentina comes down seriously. International financial institutions generally expect that global economy will keep low-speed growth, and may even stops or declines in 2009, so the demand for raw materials including agricultural products will drops thereupon, which will lead to the drop of the price. In addition, the confidence in market is deficient seriously. Argentina central bank has already consumed a large number of foreign exchange reserves to keep the exchange rate steady, so once the exchange rate is out of control, greater turbulence of

Argentinean financial market will be inevitable.

It is estimated by IMF that, in the following two years, the growth rate of Argentina are nearly 0. Because the inflation goes up continuously and fluctuates in 7% from side to side, its economy will falls back.

2.2.3 The economy of CEE is pessimistic

Since the financial crisis broke out, CEE, which depends on foreign debt unduly, are facing the risk of home currency devaluing and economy declining.

The following problems exist in these countries. First, it depends on foreign debt unduly. The net foreign debt accounted for nearly 50% of GDP. After the financial crisis breaks out, the proportion is rising. The proportion is 55% in 2008, and will reach 67% in 2009. According to statistics, the total debt of CEE is 1,700 billion US Dollars by the end of February 2009. Second, local governments lack essential policies to the crisis. On one hand, the countries do not have enough wealth to implement financial scheme; on the other, the governments can't adopt the monetary policy of cutting rates by a wide margin to stimulate economy in consideration of ERM-Ⅱ. Third, banks of western Europe take loans & fund away from CEE in the course of saving themselves, which causes financial systems of these countries to go worse, for example, the value of currency drops, the price differentials expand and every economic indicator slows down, etc. As the economic situation of CEE turns worse, the growth rate of GDP is rather low. But the financial market is rectified and the financial policies of various countries prone to unifying, so the inflation drops year by year, the balance of payments deficit of the current account shrinks gradually.

3. CURRENCY COOPERATIVE TACTICS OF DEVELOPING COUNTRIES

3.1 Pros and cons analysis of the three systems

The context above analyses macro economy development of the three systems at the beginning of the 21st Century and financial crisis. Though have suffered this crisis, the GDP of CFA and CEE still increases steadily, and fluctuates relatively small. Although Argentinean economy grows rapidly, the high inflation has offset interests of economic growth. Argentina has been influenced by US badly, its economy even presents negative growth during the crisis and Peso is facing inflation and devaluing, so the economy fluctuates greatly.

There are three reasons for the success of monetary cooperation and steady growth of economy in CFA & CEE. Firstly, it is the guarantee of steady operation in monetary cooperation that makes the macro economy policy coordinated. Practice of regional monetary in Europe and CFA makes the monetary cooperation transit from cooperation of exchange rate to unified currency management. Convergent economy and coordinated policy is the key to the success of the two systems. Secondly, institutional improvement is a key to success of regional monetary cooperation. The operation of CFA and CEE relies on a series of tight systems and norms so as to regulate each member's right and obligation. For example, CFA signed "Agreement of Monetary cooperation" with France in 1970s, and 27 members of EU signed "Lisbon Agreement" in 2004. Thirdly, Euro is the regional currency, which is managed by European System of Central Banks (ESCB) , made up by central banks of every member in Eurozone. On the one hand, the monetary policy made for it should give consideration to all members' interests, so the development of each country is comparatively balanced. On the other hand, all members carry on strict control to its operation, so the value of Euro can keep relatively stable and avoid exchange rate and inflation.

Compared with Euro, UD Dollar is issued by American Federal Reserve Committee (AFRC) and regards realizing the benefit of US as the first goal. The monetary policy of self-insurance which AFRC makes will probably cause great havoc to dollarization countries. I get the following conclusions according to the above-mentioned analysis (See Table 3):

Single Monetary Union Mechanism can't promote rapid growth of economy of developing countries, but ensures the steady operation of economy. No matter during normal years or financial crisis, GDP, value of currency and balance of current account can be in good state. Regionalization of Leading Currency has guaranteed the high growth of GDP in normal years, but is unable to solve its inherent financial problems, such as high inflation and risk of exchange rate. Once financial crisis breaks out, macro economy of these countries will fall into stagnation.

CFA and CEE both take the form of Single Monetary Union to enter monetary cooperation. Because CFA keep the relatively independent monetary policy, it can make relevant policies to cope with in time when internal economy goes wrong. CEE has to keep monetary policy the same with EU and it can't solve the problems which happen suddenly in time for lack of flexibility. Because of lacking the restraint of tight system, CFA is not as steady as EU.

3.2 Currency cooperation tactics of developing countries

The ensuing chapters will put forward suggestions on the three monetary cooperation systems of developing countries and carry on provide tactics to monetary cooperation of other developing countries.

Formulation of monetary policy and system management of CFA have been unified tentatively, but its operation is based on state responsibility and support of European developed countries, so there is no system to guarantee and it is difficult to realize unification in an all-around way. Therefore, on one hand, CFA should strengthen cooperation of economic policy, give ultra state sovereignty organizations—like central banks of the union—rights to supervise and coordinate monetary policy of the members; on another, CFA must make a series of tight systems to regulate each member's right and obligation. Because every member of CFA matches each other in strength and scale, so it lacks an axis country which leads the monetary cooperation. CFA should still strengthen the cooperation with large countries of Europe such as France, to guarantee the steady operation of the union.

The economy among Latin American differs greatly, and US is in the financial crisis, unable to support a lot, so establishment of real monetary union among dollarization countries is beset with difficulties. Primary goal of Latin American countries' dollarization tactics is to inhibit the inflation and reduce the risk of exchange rate. Because it is limited to peg US Dollar or dollarization to resist the risk, and they will seldom obtain support of US while suffering the risk, these countries should choose the package monetary scheme according to the distribution of foreign trade. This will reduce the impact of fluctuations of some important currency on native exchange rate and help to advance the trade and investment in the union.

Monetary policy and management systems of EU are unitized, which has created a good environment for steady growth of CEE. But these still need to strengthen internal cooperation to strive for more interests in participating in the formulation of EU.

Economic benefits are important goals of monetary cooperation, but we should not neglect the ability to resist risks, which is the prerequisite of a steady economy. Developing countries can adopt the following steps in monetary cooperation:

First, countries whose scale of economy and markets are similar and make up the monetary union, like CFA. On one side, it helps each country to cooperate in economy and politics; on another, countries can supervise each other and prevent internal financial risks. The union can strengthen the ability to resist external risk by relatively strong economy.

Second, the union should launch monetary cooperation with developed countries actively. It can avoid the contradiction which is initiated by fighting for leadership of the union and impel the realization of unified policy and cooperative harmony.

Third, the union had better issue unified currency or keeps the exchange rates between the members highly steady, which help to unify the monetary policies, and strengthen the stability of the union's currency. While cooperating with developed countries, the union should avoid pegging to single currency and choose to peg to package currency to evade the Argentina-like exchange rate risk.

Last, the union should realize systematism of currency cooperation. Since EU was established, the members grow from 6 to 27. Until the operation of Euro, the whole course is devoted to treaties made during various stages. These treaties not only guarantee the operation of each country's economy, but also coordinate the monetary policy. So, the union should conclude the protocol that every country must observe to make the obligations of each country to the union legal. No matter facing external economy crisis or internal financial problems, the union can take actions in unis to impel losses to minimum.

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Table 1: Comparison of operating mechanisms of the three systems

System	CFA	Latin America	CEE
Cooperation model	Sing Monetary Union Mechanism	Regionalization of Leading Currency	Sing Monetary Union Mechanism
Formulation of monetary policy	Primary Monetary Cooperation	Independent Monetary Policy basing on US Dollar	Integrated Monetary Policy
Management	High Dependability	Loose	Normal and Formal

Source: This table is drawn basing on content of the hereinbefore.

Table 2: Macro economy of the three systems in financial crisis

System	Growth rate of GDP			Inflation rate			Balance of current account		
	2008	2009	2010	2008	2009	2010	2008	2009	2010
CFA	4.1	2.6	3.4	7.0	3.9	3.1	-1.1	-6.8	-5.4
Argentina	7.0	-1.5	0.7	8.6	6.7	7.3	1.4	1.0	1.8
CEE	3.8	-1.3	0.9	4.6	2.4	2.6	-6.1	-4.3	-3.8

Source: This table is drawn basing data from database of official site of IMF.
Note: 1. the data in 2009 and 2010 are predicted values of IMF.
2. "Balance of current account" means it takes the rate of GDP that year.

Table 3: Impact of operation mechanism of monetary cooperation on macro economy

Table 3-a

Monetary policy	Single Monetary Union					
	GDP (N)	GDP (C)	Inflation (N)	Inflation (C)	BCA (N)	BCA (C)
Independent	Slow	Slow	Low	Low	F	F
Integration	Slow	Slow	Low	Low	U	U

Table 3-b

Monetary policy	Regionalization of Leading Currency					
	GDP (N)	GDP (C)	Inflation (N)	Inflation (C)	BCA (N)	BCA (C)
Independent	Fast	N	High	High	F	U
Integration	-	-	-	-	-	-

Source: This table is drawn basing on content of the hereinbefore.
Note: 1. (N) means normal years, for example: 2001-2007; (C) means the period of financial crisis; "N", "F", "U" and "BCA" are abbreviation of negative, favorable, unfavorable and Balance of currency account respectively.

2."Independent" means monetary policy of developing countries is independent to that of developed countries in the cooperation system, like CFA; "Integration" means unified monetary policy between developing and developed countries.

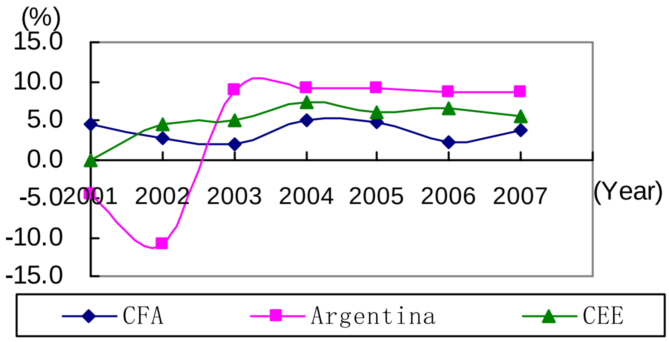
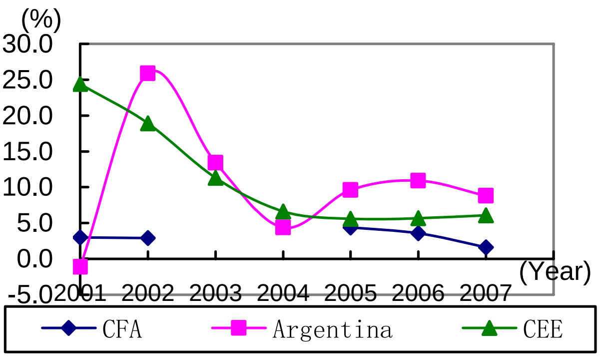
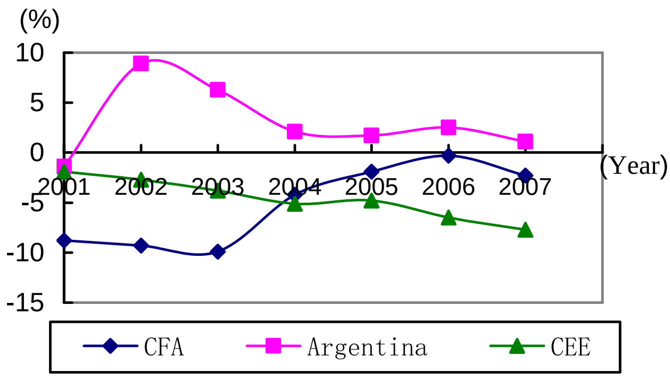


Figure 1: Growth rate of GDP among the three systems from 2001 to 2007



Source: This figure is drawn basing data from database of official site of IMF.

Figure 2: Inflation rates of the three systems from 2001 to 2007



Source: This figure is drawn basing data from database of official site of IMF.

Figure 3: The percentage of balance of current accounting in GDP from 2001 to 2007