

SUMMARY OF THE REASONS FOR CHINA'S INFLATION OCCUREED



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Bangkok University**

Title: SUMMARY OF THE REASONS FOR CHINA'S INFLATION OCCURRED

Author: Mr. Difan Cui

Independent Study Committee:

Advisor



---


(Dr. Sumas Wongsunopparat)

Field Specialist



---

~~(Dr. Manasi Shukla)~~



---

(Asst. Prof. Dr. Aunya Singsangob)  
Vice President for Academic Affairs  
Acting Dean of the Graduate School  
April 9, 2015

Cui, D. M.B.A., April 2015, Graduate School, Bangkok University

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Advisor: Sumas Wongsunopparat, Ph.D.

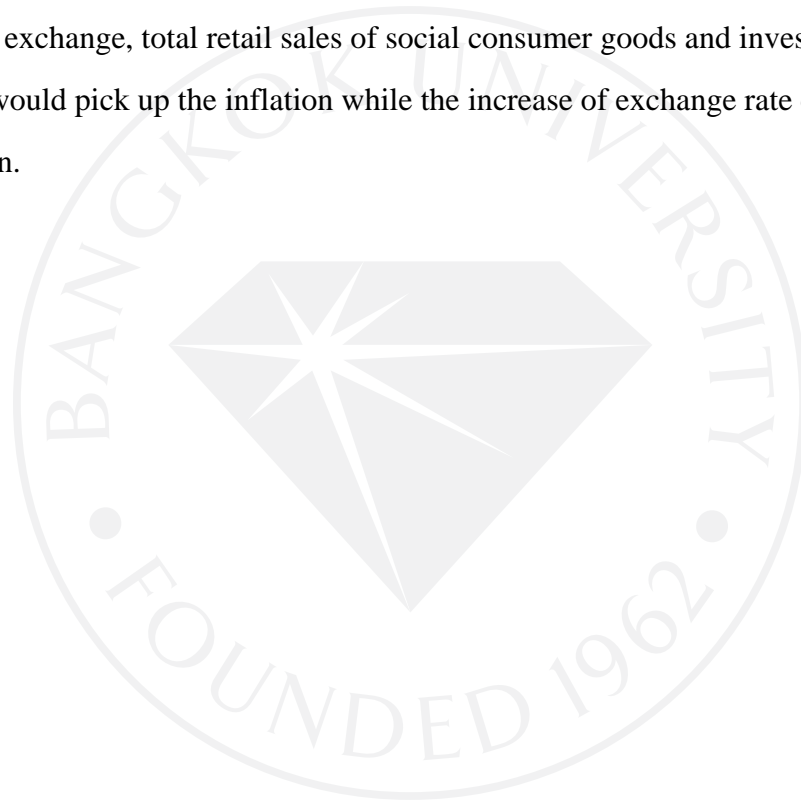
## **ABSTRACT**

For a long time, both the governments and economists are concerned with the problem of inflation, because as an important macroeconomic indicators, inflation is inextricably linked with macroeconomic operation. It is an "indicator" reflecting the market economy, it is also a "regulator" allocating the economic resources of the market. Figure 1 plots official statistics for Chinese GDP growth, urban consumption growth and inflation. Price stability has been the one of the pursuit objectives of national macroeconomic policy. In recent years, China's various types of price index showed rising, as the level of prices not only involves the livelihood of the residents, the production of enterprises, but also the direction of the macro-control policies, thus prices again become the focus of attention.

After using other scholars' study for reference, the text studies the leading factors inducing the current inflation and their impact by using stationary text, cointegrating regression, error correction model, impulse response function. The paper is divided into five chapters as follows:

Chapter 1 will be introduction of the whole paper and gives the purpose of writing the paper, current situation of international research about these problems, methods of research and probable innovation in the paper. Chapter 2 will outline classic macroeconomics theory, including Semi-Keynesian theory of inflation, New theory of the Cambridge School, Monetary theory of inflation School and Swedish School of inflation theory. Chapter 3 will deduce four macroeconomic factors which have induced effect to inflation of China based on inflation theory, and analyze the transmission mechanism that how these factors affect inflation in China. Chapter 4

will choose indicators as induced indicators of China's inflation, applying empirical research methods to test whether they are Inflation's origins and building regression model to gain their induced coefficient to inflation. Chapter 5 will put forward a couple of suggestions in four sides to solve this problem. According to the study, we can find that there is a strict relation which is reflected in exchange equation among foreign exchange, broad money supply, exchange rate, total retail sales of social consumer goods and investment in fixed assets. It's indicated that the increase of foreign exchange, total retail sales of social consumer goods and investment in fixed assets would pick up the inflation while the increase of exchange rate can reduce the inflation.



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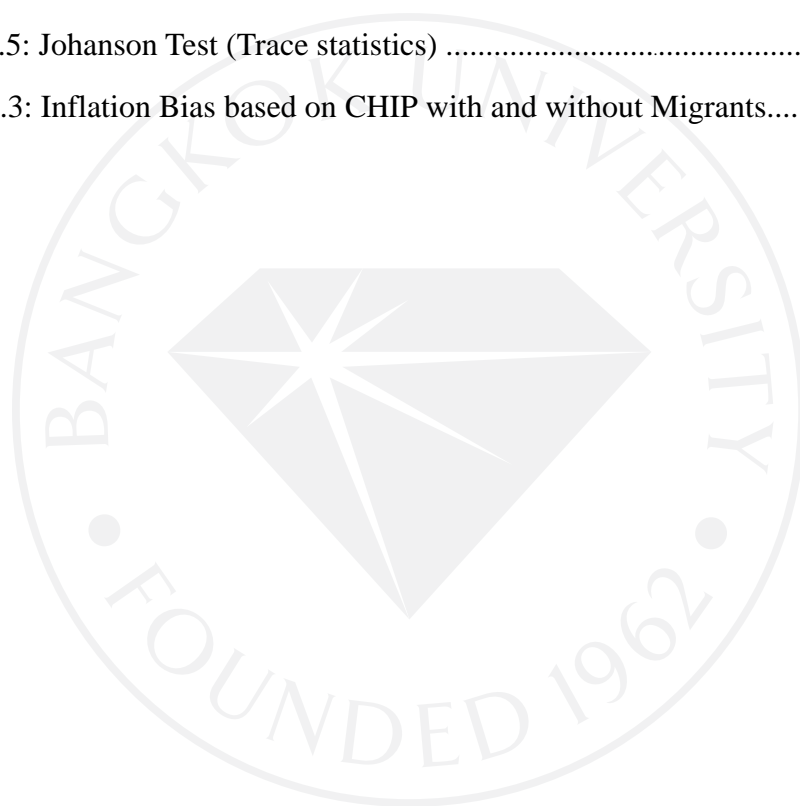
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# CHAPTER 1

## INTRODUCTION

### 1.1 Background

Inflation is a common worldwide, complex, comprehensive macroeconomic phenomenon, its definition in economics also did not achieve consensus, now the most popular definition is: Inflation is a process of rising prices, or is a process of continued depreciation of the currency value. Typically, the occurrence or absence of inflation and the size is a change to measure the magnitude of the price index, the international community generally uses the consumer price index (growth rate of CPD to observe whether a particular country or region of inflation. ) Generally believed that inflation occurs flooding caused by the currency, and the emergence or worsening of inflation will not only lead to serious distortions of the market price, but also lead to a severe depreciation of the national currency, and thus undermine the operation of the laws of the market, the inflation in the economy considerable harm(see Figure 17). Only maintain a stable price level of goods and services in order to ensure price inflation without interference, the market price mechanism in order to run smoothly, thereby improving the efficiency of resource allocation in the economy, so the world will be inflation as a macroeconomic policy important goal. From a global perspective, inflation in different countries and different periods vary widely. For example, in Germany and Japan in the past few decades, the price level rose by an average annual level of the index is only a few percentage points, while in Italy and the UK, the price level rose by an annual average of more than 10 percent margin. The US annual inflation rate during the same period increased by slow and irregular, from about 1% of the late 1950s to late 1970s, nearly 10 percent; and then quickly dropped to below 5%, and since then has remained at 2% to 5%.

China since the 1978 reform and opening up, economic development has entered a sustained 30 years of rapid growth, economic development has made achievements

that attracted worldwide attention. However, inflation in China in the process of economic reform and economic development has encountered significant challenges and the future there may be encountered. As China's economic development in the primary stage of socialism, the conversion period of economic system reform, changes in many factors are intertwined, so that there is China's inflation characteristics of multiple factors simultaneously. In several economic cycles, both serious inflation occurred, have also been mild deflation. Especially in 1984 and 1989 reached more than the average annual inflation rate of 10%, the first half of 1991 and 1993, the Chinese government adopted a policy to conform to and promote economic recovery and expansion, leading to investment and consumption demand sharp expansion, much higher than the possible social supply, resulting in the total economy imbalances lead to inflation. After the Asian financial crisis in 1997, lack of effective demand as the main factor restricting China's sustained economic growth during 1998 to 2001, it is an unprecedented phenomenon of deflation. However, beginning in the second half of 2002, China's economy began to emerge from the trough for five years, and launched a new round of growth. Since 2003, the national economy has shown a good momentum of high growth and low inflation. After entering the first quarter of 2004, China all kinds of price index showed a rising trend, inflationary pressures increasingly apparent. 2005 CPI to fall again. But in 2007, a major change in this situation, CPI index began rising momentum. 2007 China's CPI rose 4.8 percent, greatly exceeded the target of 3% or less rose early to determine, but also much higher than the 1.5% increase in 2006, the highest annual increase since 1997 the CPI. To February 2008 China's monthly CPI data has reached a record 8.5%. Of course, since 2007, this round of price increases, both the total amount of reasons, there are structural reasons; both factors in mainland China, but also international factors and influences; both internal demand-pull factors, but also the internal cost-push influence, coupled with market expectations, the wealth effect, etc., because the complex is a

result of the combined effects.

Chinese academics to cause inflation in-depth study of views. Some scholars believe that inflation is due to an excessive increase in the money supply caused; and some scholars believe that inflation and investment in fixed assets related; Some scholars believe that inflation is an essentially imported inflation. This article is to conduct research in such a context.

## **1.2 Significance of the Study**

Inflation is an economic process is spreading its influence, as long as there is inflation in the economy, every person or economic units will be affected by it. On the one hand, inflation will be virtually on the redistribution of wealth in society. First, it would be detrimental to those who rely on subsistence fixed income, while in favor of those with changes in income. Second, inflation is conducive to the detriment of creditors, debtors, debt did not increase, but the actual purchasing power reduced. Moreover, inflation is conducive to the government to the detriment of the public. First, the government is usually public debtor, the second is the tax increase as inflation increases. On the other hand, have a negative impact on economic development. Inflation, rising prices, so the price signal distortion, easy mistake to make producers who produce astray, causing the blind development of production, resulting in abnormal development of the national economy, so that industrial structure and economic structure abnormalities, leading to the proportion of the entire national economy disorders. When inflation is caused by the economic structure and to correct deformity, the state is bound to take various measures to curb inflation, the result will lead to a significant decline in production and construction, there was an economic contraction, therefore, inflation is not conducive to economic stability coordinated development.

China in the economic challenges of globalization and the deepening of the

economic system of dual background, various contradictions and uncertainties in the economy have become increasingly prominent. Therefore, evaluation of dynamic path of inflation and why it occurs, the study of the dynamics of inflation and economic growth, relevance, explore a policy rule for China to reduce the impact of inflation on economic development, prevent and resolve financial risks and promote economic healthy and stable development are of great significance. Therefore, the purpose of this study is to identify the factors of China's macroeconomic factors have induced effects on inflation, that incentive Chinese inflation, by analyzing how the regulation of these incentives to manage and prevent inflation, and thus suppress inflation policy formulation and implementation.

### **1.3 Literature Review**

The reason for the analysis of inflation, and the relationship between inflation and macroeconomic performance, the world has many scholars from different angles conducted extensive research on the relationship developed induced inflation index between the empirical analysis whose research includes the following aspects.

#### **1.3.1 Review of Foreign Regarding the Cause of Inflation**

##### **1) Relationship between money supply and inflation**

Quantity theory of money is considered to be the theoretical basis for the academic study of the relationship between money supply and inflation of. Friedman (1968) monetarist view: that the money supply changes are caused by changes in the price level of the root cause, and that "wherever and whenever inflation is a monetary phenomenon" . Mccandless and Weber (1995) analyzed data 110 countries, concluded that: inflation and changes in the money supply has a very strong correlation, the correlation coefficient 0.9 - 0.92, almost close to 1, and in the long term, increase the money supply will ultimately lead to the same degree rise in inflation. Crowder (1998)



believes that the most important factor affecting the rate of inflation theory is the money supply, the central bank's monetary policy will naturally affect the money supply, thereby affecting the expected inflation rate and the inflation rate, money supply expansion or contraction. Finally, will be reflected in the price level of expansion or contraction. Their research has been a common conclusion: changes in the money supply will eventually reflect changes in prices.

## 2) The relationship between foreign exchange reserves and inflation

Foreign scholars are generally longer historical period with data to examine the relationship between foreign exchange reserves and inflation, and their field of study focused on the world's foreign exchange reserves to explore changes in the relationship between inflation and worldwide. Frenkel and Johnson (1976) first proposed the theory in the context of world inflation small open economy, the monetarist model generated by the balance of payments linked to the world economy, and leads to monetarism. Heller (1976) and Khan (1979) believes that a positive correlation between foreign exchange reserves and inflation, the theoretical logic is: changes in China's foreign exchange reserves of the money supply → → → price fluctuations in China's import and export price inflation worldwide → → reserves. And comprehensive consideration of their empirical research, not only on the degree of development of the country is classified discussions that developed and developing countries, but also on the two exchange rate regimes (fixed and floating exchange rate regime) were given the analysis. Analysis conclusion in particular that the fixed exchange rate period was significantly positively correlated, and the direction of Granger causality from reserves to inflation, while the reverse is not true. Dibooglu and Kibritcioglu (2004) in Turkey in 1980 using a 2002 data, research over the past two decades of output and inflation, using the structural vector autoregression econometric model empirical analysis. The results show that the impact of the international balance of payments had a significant effect on the inflation process, and

has long-term effects. Badinger (2004) using data from Austria 12 years of reserves, by studying the error correction model (ECM) concluded: excess demand for money arising from international capital inflows, thus affecting macroeconomic mainland China. Their studies have yielded similar conclusions: changes in foreign exchange reserves have a significant impact on price changes.

### 3) The relationship between the exchange rate and inflation

Although many scholars in the end is the price impact of currency exchange rates affect the price or have different views, but there is a correlation between the exchange rate and the majority of them agree with the price level in China. Krugman (1989) considered the effect of exchange rate movements on the transfer price in China is incomplete, because foreign suppliers in order to maintain market share live product, reluctant to change due to market price. Leith (1991) found that in the context of a small open economy, changes in foreign exchange rates and price levels are passed one hundred percent to the price level in Botswana and China mainland. Leigh and Rossi (2002) using the nominal effective exchange rate index (Nominal Effective Exchange Rate Index) Turkish study found: the exchange rate pass-through effect can last for a year, but in the four months preceding the most significant: the exchange rate movements on the wholesale price index WPI (impact on the consumer price index Wholesale Price Index) is greater than the impact. Burstein, Eichenbaum and Rebelo (2002) studied nine countries after the devaluation of the national currency inflation situation and found that exchange rate changes on the CPI have very weak pass-through effect. Obstfeld (2002) suggested that a large number of data indicate that the import price of imported goods in the early stages of the show is different from the consumer price index, the exchange rate of the transfer performance is very obvious. Ashok (2002) found that: In South Africa, the average exchange rate pass-through effect is relatively low, and the impact of exchange rate changes in the various intermediate links on the Chinese mainland in the production price is

absorbed. Literature from the perspective of the existence of the above exchange rate pass-through effect is analyzed, a conclusion: a certain level of exchange rate fluctuations will cause a corresponding change in the price level in China, but the extent of the problem and the impact of the length of time for further study.

#### 4) The relationship between economic growth and inflation

Inflation as an important macroeconomic indicators, one of the hot relationship between economic growth and scholars also discussed. Cairns (1937) in "The General Theory of Employment, Interest and Money," a book, proposed a "semi-inflation" and "absolute inflation" theory, more focused on economic growth, he reflected with the "semi-inflation" theory between thinking positive correlation between the rate of inflation, he believes, is through changes in the money supply affect wages and employment thereby affecting the price level, but before achieving full employment, increase the amount of money both to increase employment and output, but also improves price level, a "semi-inflation" phenomenon - accompanied by increased production prices. Structuralist theorists Taylor (1981) and Seers (1992), who also has raised inflation conducive to economic growth point of view, as "the promotion of" typical. But there are scholars hold the opposite view. Kormendi and McGuri (1985) use the 1950 to 1977 among 47 countries, empirical data shows the inflation has a negative effect on economic growth. Gillman, Harris and atyas (2004) based on panel data from 1961 to the OECD and APEC member countries of the organization between 1997, under the premise of endogenous growth, found a negative correlation between inflation and economic growth, and in the OECD this negative correlation is more pronounced than the members of the national organization in APEC member countries, this difference is mainly due to the widespread use of credit products OECD member countries.

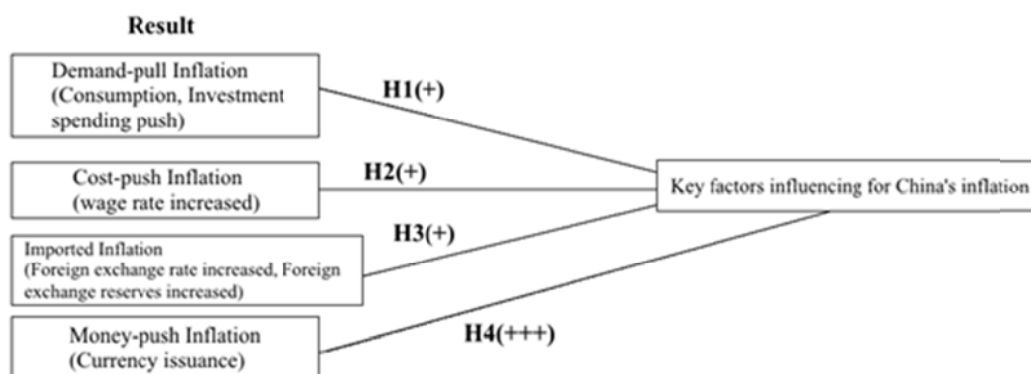


Figure 1.3 **Hypothesis Framework**

### 1.3.2 Summary of the Chinese Mainland on the Cause of Inflation

#### 1) Relationship between money supply and inflation

Mainland Chinese scholars in the study the relationship between money supply and inflation, the formation of two conclusions.

A. Money supply, there is a positive correlation between inflation and. Shaoping (2004) in 1978 and 1994 as a sample, using Granger test for empirical research to verify the basic reasons for the formation of China's inflation is excessive currency issue. ZHU Hui-ming et al (2006) by the error correction model, found at all levels of the money supply rates are positively correlated cointegration relationship between inflation rate and that China's inflation is a monetary phenomenon remains, monetary policy still has ultimately affect the price level ability.

B. Between inflation and money supply, there is no correlation. Liu Quan (2004) in 1982, during a March 2004 January Mo and M. Year growth rate of monthly data as the basis for analysis and found that there was no significant cointegration relationship between money supply growth and inflation. Inflation is not the central bank to expand the money supply results. Liu Lin (2006), Jin Yun Meeting (2006) use 1978 a 2003 analysis of the data did not find the money supply growth rate in the long

term impact of inflation evidence that the monetization process economy, money supply growth increase rates do not necessarily lead to inflation, monetization improve year by year so that the velocity of money, lots of money increment consumed by the economy.

## 2) The relationship between foreign exchange reserves and inflation

Chinese mainland scholars in the study of the relationship between growth and inflation, foreign exchange reserves, and the formation of three conclusions.

A. There is no correlation between the changes in foreign exchange reserves and inflation. Dai (1995) in 1994 for a substantial increase in China's foreign exchange reserves, high inflation, economic phenomena analysis, that there is no direct link between the increase in foreign exchange reserves and inflation, the existence of indirect links between them through the exit and to promote the 1990s is not the main reason for the high inflation of the foreign exchange reserves. Kong Liping, Zhu Zhiguo (2008) from China's recent short-term data, the increase in foreign exchange reserves would not necessarily lead to an increase money supply in the short term, the central bank can reduce the financial, government, non-financial institutions and other sectors of net debt , through the issuance of central bank bills to eliminate the growth of foreign exchange reserves increased pressure on the money supply. Therefore, the relationship between the increase in foreign exchange reserves and short-term price fluctuations are not set up.

B. There is a strong positive correlation between changes in foreign exchange reserves and inflation. Wang Hong, Tong heng qing, Mao Xinnuo (2005), the use of vector auto regression (VAR) of the impulse response function to analyze the growth of foreign exchange reserves of the consumer price index (CPI) of the dynamic effects of the relationship, based on the growth rate of foreign exchange reserves is clearly draw the consumer price index (CPI) Granger reason for the price increase and foreign exchange reserves have a significant positive correlation between the increase

and highlighted the impact of inflationary pressures in China is facing at this stage, due to foreign exchange reserves of inflation still can not be ignored. Fangxian Ming Pei Ping, Zhang Yi Hao (2006) theoretical framework quantity theory of money, reference and revision Kumhof (2004) theoretical model based on building up their own theoretical model, through the 2001 first quarter to 2005 second quarter statistics Empirical data discovery: after 2001, China's foreign exchange reserves increased inflation has obvious effects.

C. There is a causal relationship between changes in foreign exchange reserves and inflation, but this relationship is not obvious. Shao Yan, Yan Hao (2004) believes that changes in foreign exchange reserves and price changes are positively correlated, but the impact of changes in foreign reserves on the strength of price changes are not large, price changes are also affected by other factors, and therefore can not simply come as a result of scale foreign exchange reserves, inflation in China conclusions must occur. Revenue Effect, Li Wei Wei (2007) in January 2002 to April 2007 the monthly data for the sample, using econometric models to the degree of influence between the two made empirical analysis, the conclusion is: between reserves and prices cointegration, Granger cause the price of foreign exchange reserves, but the impact on the CPI is not obvious.

### 3) The relationship between the exchange rate and inflation

Xuying Feng (2000) on the basis of the relationship between exchange rate and prices in China between 1978-1997 were analyzed based on the proposed exchange rate and prices in China have a synergistic effect in the long term, China is leading to price increases before 1994 continued to depreciate the RMB exchange rate the main reason. Lin Hua Sheng (2004) believes that the RMB exchange rate appreciation, you can directly reduce speculative inflows of foreign exchange, thereby reducing Yuan accounted models, thus reducing the money supply, inhibiting the general price level. However, some scholars hold the opposite view. Yu Yongding (2004) admitted that the

RMB appreciation may indeed be reduced or decrease the growth rate of the trade surplus, lead to a decline in aggregate demand in China to reduce or increase the speed of the price level or inflation rate puts downward pressure. But he believes that empirical research does not provide conclusive evidence of RMB appreciation will lead to price increases and the rate of price decline.

#### 4) The relationship between economic growth and inflation

Lvshun Li (1996) by studying the Chinese data in the transition period that inflation on economic growth, significant role in promoting China's economic growth because not only did not spur rising inflation, but also reduce the effect of inflation. Liu whole, Xie Weidong (2003) using monthly data to quantitatively analyze the relationship between economic growth and inflation, by Granger test can be found, the trend component and fluctuation component of the inflation rate for the corresponding components of GDP growth has a significant impact Granger on the reverse affect the relationship, it is the growth of a significant trend component Granger impact on inflation trend component. There are also studies that China's economic growth does not constitute a cause of inflation. Jesus Christ flat (2001) using annual data for 1978 and 1996, upon inspection found that high inflation is not due to the economic growth, by the high economic growth does not necessarily accompanied by high inflation.

Foreign scholars on the relationship between the money supply in China, foreign exchange reserves, exchange rates, economic growth and inflation do a more detailed and comprehensive study, but reached a different conclusion, this is due to the different sections of their data using either or using a different measurement models.

## **1.4 Research and Innovation Ideas and Methods**

### **1.4.1 Research Ideas and Methods**

This paper mainly discuss the theory, a number of qualitative analysis and quantitative analysis to study the main factors affecting China's inflation problem. The basic idea is to use the theory of inflation incentives to induce China to analyze and find the reality of the inflation factor resulting problems. Trying to achieve the following three purposes: First, qualitative analysis of ways to find the main cause of inflation in China, and then analyze the conduction mechanisms of these factors; the second is the use of the measurement method to verify whether these factors such as the impact on inflation of qualitative analysis and to get the full impact of the conclusion; the third is put forward relevant policy recommendations.

Based on the above ideas, this article will be divided into four main parts of the main factors affecting inflation in China were analyzed.

The first part is the theoretical analysis of the article, which is the theoretical starting point of this study is mainly a combination of semi-Keynesian currency

Expansion theory, inflation and the theory of the new Cambridge school, monetarist theory of inflation and the Swedish School of analysis

Inflation theoretically get some of the factors affecting. Based on the above four second part summarizes the theory of inflation

Incentives, and these factors fall into four categories, namely, changes in demand factors, cost-push, push enter and currency driven.

Then derive the various factors are linked through what channels and inflation. The third part of econometric

Methods for these incentives and inflation relationship empirical research. The last part of the theoretical and empirical analysis based on the knot

On the proposed mitigation of inflationary pressures policy recommendations in four areas.

This article will be a number of factors that affect inflation more in-depth analysis. With the unit root test, Johansen test model, Granger causality test and impulse



response function (Impulse Response Function) and other methods of economic variables associated with inflation systematically analyze the factors affecting the adoption of inflation comparison chart were described methods discussions, and strive to make the entire analysis and detailed and clear.

#### **1.4.2 The Innovation of this Article**

In this paper, according to the theory, the impact of China's inflation to classify a number of factors, and derive their transmission mechanism, then this paper the method of measurement of these factors were examined one by one analysis, the ultimate long-term derived from the composition of the four factors equilibrium model. With this equation, we can clearly know the extent of the impact of various factors on inflation, and on this basis, draw a series of realistic conclusion: the short-term inflation exist "spiral" effect; China's foreign exchange reserves and CPI long-term equilibrium relationship exists between; there is a positive correlation between cointegration broad money supply growth and inflation, there is a significant correlation between them; the role of the RMB appreciation is unlikely to ease inflationary pressures; China's the increase in total retail sales will promote the growth of CPI; fluctuations in the price of fixed-asset investment has a certain impact on China-induced inflation.

## CHAPTER 2

### THEORETICAL ANALYSIS OF THE CAUSE OF INFLATION

About the cause of inflation, Western economists put forward many different interpretations and formed their own theories, which is described below in order.

#### 2.1 Keynesian Theory of Half-inflation

Keynesian Phillips published in 1936, "The General Theory of Employment, Interest, and Money", the amount of money from the analysis of the impact of price changes in the transmission mechanism of view, that the impact of price changes in the quantity of money is indirect, and the factors that affect the amount of foreign currency in addition to the price as well as the cost of the unit and employment and other factors. Keynesian did not agree to any increase in the quantity of money have inflation view that inflation is not the only explanation for the term price increases, because the quantity of money whether inflationary increase, depending on whether the economy reaches full employment may be. Keynesian argued that increasing the quantity of money after the last full employment before and after the cut-off point, the effect is different, there are two cases:

1) In the cut-off point before reaching full employment, after increasing the amount of money, employment increased with the increase in effective demand. "Because at that point before the increase in the quantity of money every time, and can still increase effective demand, so part of its role in raising the cost of the unit, part of the increase in production." Cairns: "The General Theory of Employment Interest and Money", 1936 in English, page 261. There are two reasons: First, the existence of idle labor, workers are forced to accept less than the proportion of wage increases in the prices of money wages, so the margin of increase is less than the increase in the unit cost of effective demand. The remaining two are still productive resources, supply flexibility, increasing effective demand is still stimulating

production increased role. At this point do not have the money to increase the number of full inflation, but on the one hand to increase employment and productivity, it also makes prices gradually rise, but its magnitude is less than the increase in the quantity of money, Keynesian called this situation as "semi-inflation" .

2) When you reach the point of full employment, increase the amount of money generated significant expansion effect. There was no surplus for a variety of production resources, supply inelastic, after an increase in effective demand also increased the amount of money, but the volume of employment and production has not increased, but the increase in the marginal cost of production factors remuneration per unit cost. Particularly workers enhanced resistance to falling wages, money wages will inevitably follow the same proportion of wage-goods price increase, then the price will increase with the amount of money rises, an absolute inflation. He said, "When the effective demand increases again, with no increase in the yield of the role, will make the cost of the unit with the same proportion as effective demand increases, this situation can be called a true inflation." Cairns: 'The General Theory of Employment Interest and Money "in 1936 in English, page 228. Back stating that, in the Keynesian model, the increase in the quantity of money will only be more beneficial than detrimental semi-inflation, and will not appear real inflation, which became his advocate expansive monetary policy rationale.

Here with AD-AS (Average Demand-Average Supply)model to be described.

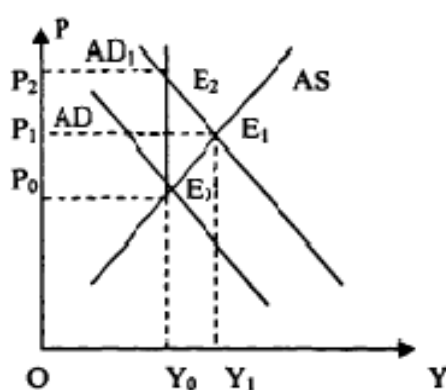


Figure 2.1 The original aggregate demand and aggregate supply curve

With Figure 2.1, AD and AS represent the original aggregate demand and aggregate supply curve, which determines the price level of the intersection of  $E_0$ ,  $P_0$ 's income level and  $Y_0$ 's national income level. Assuming  $Y_0$  has reached full employment, the total supply should remain unchanged, the aggregate supply curve becomes a straight line perpendicular to the horizontal axis; while increasing the quantity of money resulting effective when demand increases, such as the AD to  $AD_1$ , price level will by  $P_0$  rose to  $P_2$ ;  $Y_0$  does not meet the assumption of full employment, while increasing effective demand caused by the increase of the money supply, or from AD to  $AD_1$ ,  $AD_1$  and AS intersects with  $E_1$ , Then the price will rise to the level of the  $P_0$  to  $P_1$ . In short, whether in  $Y_0$ . Whether at full employment, increase effective demand caused by an increase in the quantity of money will cause inflation to produce, but different levels of prices so that the degree of inflation is different.

## 2.2 The Theory of the New Cambridge School

Inflation theory, with "orthodox" Keynesian New Cambridge school claiming itself to uphold and develop the Keynesian doctrine. Especially when inflation has become an international issue, the new Cambridge school actively participated in the debate, made some rather novel perspective. The outstanding feature of the inflation theory is:

1) New Cambridge school of thought in general price level dominated by money wage rate. Regardless of when the monetary wage rate levels are associated with historical, institutional factors. Therefore, there will be differences in wage levels of national currencies, causing the price level there are other countries in the situation. But overall, in history, money wages rise. This view makes decisions marginal productivity theory of wages and the quantity of money is determined prices lost ground.

New Cambridge school of modern quantity theory of money denounced "naive theory" that he put the amount of money and the price is directly linked to very superficial, the transmission mechanism and the formation of the root causes of inflation portrayed too simple.

2) New Cambridge school that the main conveyor inflation is monetary wage rates. Inflation occurs from the rapid expansion of effective demand began. First, the performance of the price of primary products including food increased, which resulted in two outcomes: First, raw material prices; the second is the people's cost of living increases. So employees are strongly demanded money wage increase to compensate for this part of the difference, and the groan from the benefits of increased economic activity in the manufacturers can not refuse such a request, be forced to raise money wage rate, the result is to increase both the direct costs. This time manufacturers faced with two choices: either to keep prices unchanged, reducing profits; or maintain profit levels, raise prices. Obviously, the manufacturers would choose the latter, they maintain their profit levels will not drop, put this part of the increase in direct costs completely transferred to commodity prices go up, so the prices of manufactured goods. Due to higher prices of manufactured goods, so that employees below the level of real wages again before the primary product prices, they also proposed to increase the money wage demands, another round raise money wages, increased direct costs, raise prices chase each other . Therefore, the new Cambridge school of thought money wages, direct costs, prices rose spiral process can go on indefinitely diffuse. The main reason for the persistence of inflation.

In order to maintain the same industry in various industries and rising wages relative levels of different types between money wage rates will rise in an industry driven by money wage rates rising in various industries to improve workers' wages will cause part of the wages of all workers have increased, so the whole price level rise, inflation would extend from the local to the global. In an open economy, a

country's inflation will be delivered to all nations.

With rising prices and wages increased public demand for money increased, rising corporate demand for loans, the bank will expand the corresponding loan supply, forcing the money supply increased again. Although the central bank attempts to control the money supply, but always controlled and not just inflation increase, mainly due to this is it.

New Cambridge school to further consider when inflation for some time, based on a variety of currency stability and to enter into a contract to start the destruction, people will have a psychological and preventive measures for expected inflation, raising all kinds of realization prices. This is expected, once formed, which itself becomes a driving force of inflation, which in turn induced a new round of inflation.

In short, the new Cambridge school of thought is to promote a major factor wage inflation, while wages rose from unfair income distribution. Workers to keep constant real wage demand higher wages, the capitalists are willing to give up the profits and raise prices, resulting in wages - turns up prices.

### **2.3 Monetarist Theory of Inflation**

Friedman headed to the modern quantity theory of money in the analysis of the factors affecting the demand for money on the basis of in-depth study of the money demand function.

1) Money demand function of modern quantity theory of money demand for money from various factors why economic agents need money to start. Considers that the ultimate wealth holders in society, the currency as an asset, is a form of holding wealth; for the production of enterprises, money is a capital goods, is a source of productive labor, can take advantage of it and other productive services together to produce products. Based on this, the modern quantity theory of money demand theory, respectively, consumer goods and capital goods up to analyze the wealth holders and

corporate demand for money, which concluded that: the main factors affecting the economic demand for money there are three main categories, namely

Changes in income or wealth, the opportunity cost of holding money and holding currency effect.

#### A. Changes in income or wealth

Changes in income or wealth is an important factor affecting the demand for money. Modern theory that the quantity of money in general, due to current income affected by annual fluctuations in irregular and with a lot of one-sidedness, it can not use current income as a representative of wealth, but rather to show that a man has a variety of income flows wealth gained quite a long time that the concept of eternal income as representative of wealth. This eternal past income equivalent to the weighted average of the observed number of years of income that can be used to represent the symbol  $Y$ .

Meanwhile, the number of modern monetary theory of wealth for human wealth and non-human wealth categories. Human wealth is the ability to obtain income that individuals, including congenital and acquired all the talent and technology, the size and extent of education is closely related; the corresponding non-human wealth refers to material wealth, such as housing, means of production and durability various assets and other consumer goods. From a statistical point of view, only a few people (such as business owners) only have a certain number of non-human wealth, but most people only have human wealth. In general, human wealth to bring income is unstable, difficult to translate non-human wealth. Because of the wealth of human and non-human wealth of different structures in the total wealth of the constitution, which restricts the revenue they bring in different proportions, thereby affecting the demand for money.  $W$  represents a non-human wealth with total wealth ratio, ie the ratio of total revenue from the property, then the cash holdings are not linked to the total wealth, but mainly associated with the non-human wealth.

### B. The opportunity cost of holding money

The opportunity cost of holding money refers to money and the expected rate of return on other assets. The nominal rate of return on money that under normal circumstances is zero, while the nominal rate of return on other assets is generally not zero, but mainly consists of two parts: one for current income, there are the expected fixed income that rate of return on rate of return "(such as bond yields, etc.) and the expected non-fixed income that  $r$ . (such as stock returns, etc.). Second, the expected rate of change in commodity prices due to inflation when drastic changes, the various commodity price volatility will follow, static material wealth will bring gains or losses to the currency holders. Therefore, the faster price increases, the greater the opportunity cost of holding money, they reduce the demand for money. In this way, price rate of change that is  $(1/p) \cdot (dp/dt)$  is one of the factors affecting the demand for money.

### C. Economic agents hold money to bring utility

Modern monetary theory that the number of economic entities, the holders of currency trading can meet the demand, but also need to be omniscient, meet precautionary demand for money, but can also take advantage of the opportunity to earn money to profit, which is the currency for the economy body brought utility. Other relevant factors such liquidity effect and restrict the size of this effect, as economic agents preferences, interests, etc., but also one of the factors affecting the demand for money, you can use  $U$  to represent.

According to the analysis, can be one of wealth holders money demand function is as follows:

$$M = f [p, r_b, r_e, r_m, (1/p) \cdot (dp/dt), w, y, u] \quad (2.1)$$

Formula (2.1),  $M$  is the nominal amount of money personal wealth holders,  $P$  is the price level - like. Prices and assuming monetary income units changes, the demand for currency changes occur in the same proportion, then the equation (2.1) by



dividing both sides with P:

$$W / P = f [r_b, r_e, r_m, (1 / p) * (dp / dt), w, y / p, u] \quad (2.2)$$

This equation represents the actual substance of the demand for money is a function of variables, but is not affected by the name of the variable. Modern monetary amounts that: if omitted between Y and W in the distribution of personal effects, real income, W non-human wealth proportion of total wealth,

## 2) Cause of inflation

M and Y, respectively, depending on the average amount of money holdings and by population.

The above equation is applicable to the entire community.

Based on the money demand function analysis, Friedman analysis of the major economic problems encountered in the economy of developed countries, namely inflation. Friedman believes that due to changes in the money supply is the most fundamental reason for the decisive factor in the occurrence of changes in the price level and inflation performance for the sustained, universal rise in the price level, so inflation is always and everywhere a kinds of monetary phenomenon. Namely, economic development, causing prices to rise and persistence of inflation comprehensiveness of the most fundamental reason for the excessive growth of the money supply only.

Friedman believes that the direct cause of excessive money supply consists of the following three factors. One is to increase government spending. When the government increases spending numerous sources to make up for spending in two ways: one is the use of public borrowing to raise taxes or acquired origin, although this approach is due to the increase in government spending and private consumption offset by a decrease in investment and no inflation, but politically unpopular, so the vast majority of government was discarded, the other is to increase the quantity of money, the result will be inflation. Second, the government implemented a policy of

full employment. Government, through the development of inappropriate and excessive goal of full employment, while increasing the amount of money taken, expanding government spending reform to improve the level of employment. So if there are signs of a recession, the government on the implementation of inflation to stimulate the economy immediately; when measures to combat inflation can not increase employment in the short term, the government immediately abandon the stop means and the use of a higher inflation rate in exchange for employment trace increase, resulting in a vicious cycle of inflation and unemployment turns up. Third, the central bank's monetary policy implementation errors. The first is the goal of monetary policy shift. As the target of maintaining full employment, the central bank is the only means of expanding employment increase the money supply, so that commercial banks have the ability to carry out larger loans, but this result can not maintain long-term real full employment, has brought inflation. Friedman believes that another error the central bank's monetary policy is to control target set at the rate that it can not control. Central banks should be controlled, and have the ability to control the money supply, but the central bank does not put force on the control of the money supply, try to control the inability to control interest rates, the result is two aspects were defeated.

In summary, Friedman believes that the real cause of inflation is greater than the economic growth rate of money supply growth, and excessive amounts of money from the government's reason for all the wrong policies and behavior.

#### **2.4 Swedish School of Inflation Theory**

Swedish School of inflation theory to small open economy for the study, focusing on foreign inflation on the Chinese mainland to explore the impact of the economy and inflation international delivery problems. They establish a Nordic model and global inflation models were to be introduced below.

### 2.4.1 Small Open Economy Inflation Theoretical Model

Inflation small open economy model, also known as the Nordic model, is Oak Manchester first proposed in 1970, and later through G. Edgren, K. O. Faxon, C. E. Odena be expanded perfect together. In a small open economy, because the economy is inseparable with the outside world, the demand and supply functions of its tradable commodities infinitely elastic, it can only passively accept the price on the world market, and not take the initiative to influence prices on the international market. Nordic model put this economy is divided into two divisions: open and non-open division.

E department, said in an open economy; S represents a non-open sector of the economy;  $\pi$  represents the inflation rate;  $\pi_E$  denote inflation and  $\pi_S$  open sector and non-open department:  $\pi_W$  inflation rate represents the world market. The representation of labor productivity growth; enter. And enter. Denote the open sector and labor productivity growth in the non-open division;  $\alpha_E$  and  $\alpha_S$  denote the open sector and non-open their respective share of the economic sectors in proportion.

Because the price level in the open division with price changes and fluctuations in the world market, it is assumed that  $\pi_E = \pi_W$ , ie the inflation rate is equal to the open division of the world market given the inflation rate. Assuming  $\pi_E$  a  $\pi_S > 0$ , ie, the open division of labor productivity growth is greater than non-open division.

If  $\pi$  is defined as the weighted average number of  $\pi_E$  and  $\pi_S$ ,  $\alpha_E$  and  $\alpha_S$  for the weights, the Nordic model can be expressed as:

$$\pi = \pi_W + \alpha_S (\lambda_E - \lambda_S) \quad (2.2)$$

This equation shows that the inflation rate in the small open economy in the world market, the inflation rate is equal to the difference between their two departments plus non-open sector weighted share of labor productivity growth. Because  $\pi_W$ ,  $(\lambda_E - \lambda_S)$  are exogenous variables,  $\alpha_S$  are structural factors, therefore the model with characteristic openness and structural inflation model.

The main argument of the Nordic model is:

A. Under a fixed exchange rate and global inflationary conditions, when the world market prices, the price of the product open sector has also risen. Therefore, the inflation rate depends primarily on the open division world inflation.

B. Opening on the world market price of the product division rose by the exchange rate for the national currency conversion price, its growth rate of price inflation and labor productivity growth in money wages together determine the open sector.

C. Due to the presence of a unified national labor market, after opening up sectors of the economy growth in money wages, non-monetary sector wages inevitably open to it as a standard and a corresponding increase.

D. After the non-open monetary sector wage growth, so that business owners production costs rise, they will combine the growth of labor productivity in this sector, the decision of their products (services) of the rate of price inflation. Because labor productivity growth rate is lower than non-open departments open division, but the same proportion to the money wage growth, inflation non-open division in this sector mainly depends on the difference in money wages growth and labor productivity growth of. If not open sector in the national economy the greater proportion, and its labor productivity growth gap compared with the larger open division, the non-affected sectors open to domestic inflation rate, the greater the rate of inflation.

E. Inflation in China is equal to the weighted average number of open and non-open sector inflation. Nordic model conclusion: Inflation small open economy is determined by exogenous variables (inflation rate in the world market, their two departments of labor productivity growth) and departmental structure (their two departments share in the economy) together decision. Therefore, although the rate of inflation in the world market is unified, but countries open sector and non-open the proportion of different sectors, the growth rate of labor productivity in different

departments, leading to specific differences in national inflation rates.

#### 2.4.2 Global Inflation Theoretical Model

In the Nordic model, based on the study of the outstanding representatives of the Swedish School of Linde Hornbeck inflation expanded to the world, from the joint international and global economic forces in mainland China to analyze inflation, the international economy and the world market as a whole, research influence and mutual interdependence among national economies and the Chinese mainland inflation problem. The model can be summarized as follows:

Assumed rate of price change is a function of demand and changes in wage rates, the representative rate of price change in  $P$ ; with  $X$ , on behalf of product demand;  $W$  represents the wage rate to change, then:

$$P = f(X_p, W) \quad (2.3)$$

Assuming that price is a function of demand for labor, labor demand to  $X_n$  representative, then:

$$W = g(X_n) \quad (2.4)$$

The formula (2.4) into equation (2.3), to obtain:

$$P = f[X_p, g(X_n)] = F(X_p, X_n) \quad (2.5)$$

$X_p$  impact on  $P$  is called a direct effect, the impact on the  $P$   $X_n$  called indirect effects. Linde self grams believe these two factors vary within a range of different effects. In a country where a greater impact than the indirect effect of the direct effect. Due to the closure of a country's labor market is stronger than the market, so the labor market factors on inflation mainly in mainland China. The strong market for its openness in international economic conditions increasingly close relations, national product markets influence each other, closely related, so the effects of changes in product market inflation is not limited to China, and the impact of other States and the world market. Therefore, research should focus on major global inflation market

research products. Linde Hornbeck think the closed economy and an open line of economic research methods research methods considered together, the cost-push inflation or demand pull type would become a relative concept. Be seen as a country within the range of cost-push inflation in the global perspective is actually demand pull inflation, so he believes that "inflation should understand and be divided into demand pull type or cost driven, clear analysis of the range is very important. "Linde Hornbeck think, just a simple abstract analysis above, in fact, global inflation is a very complex economic phenomena, a variety of economic forces result of joint action. Therefore, the function of formula (2.5) includes only X. And X. The two most important variables is not enough, you should also include other factors, such as: National resource utilization, demand a combination of products and services, the cost-push factors, the global stock of money, expected factor. These factors will join global inflation model, equation (2.5) becomes:

$$vP = H [Cu, vCu, dn, dc, \alpha, \beta, m] + aP^* \quad (2.6)$$

Formula (2.6) represents the rate of change in v, Cu represent actual utilization of economic resources: dn represents the distribution of Cu in various countries: dc represents a combination of product and labor demand;  $\alpha$  indicates that the product market cost-push factor;  $\beta$  represents labor market cost-push factor; m represents the world's stock of money; a unique parameter, P \* denote the price expectations. Global inflation is a result of the above factors together.

## **CHAPTER 3**

### **THE MAIN FACTORS THAT AFFECT INFLATION IN CHINA AND CORRELATION ANALYSIS**

#### **3.1 The Main Factors Affecting Inflation in China**

Cause of inflation are many, can be divided into short and long term boils down to two factors: the long-term because of the amount of money due to the increase in demand growth, and the impact of supply-side factors such as input in the short term will lead to inflation changes in rates. Since the reform and opening of China's inflation occurred several times by a variety of causes. Including consumer population size, fixed asset scale, the scale of government consumption, money supply (M2) and the actual use of foreign capital. Cross-cutting between these factors influence each other, and work together to inflation. The following factors can be obtained according to the theory of the effects of inflation Inflation Cause second chapter, and they are: investment, consumption, wages factor, currency factors and exchange rates. In this paper, the characteristics of China's own economic development, the incentive for Chinese inflation is divided into four categories: one for demand-pull, such as economic growth; two for the cost-push, such as average wage index; three for input driven, such as the exchange rate etc; four for currency, driven by the growth rate of the money supply and other such.

##### **3.1.1 Demand-pull Inflation**

For a long time, China's economy has maintained rapid growth, investment and consumption have maintained strong growth momentum. When the supply of goods on the market is relatively stable and strong demand, the price of the commodity also steadily rising, pushing Chinese inflation.

###### **1) Economic Growth**

China's economic data to verify the existence of a certain relationship between

China's economic growth and price level.

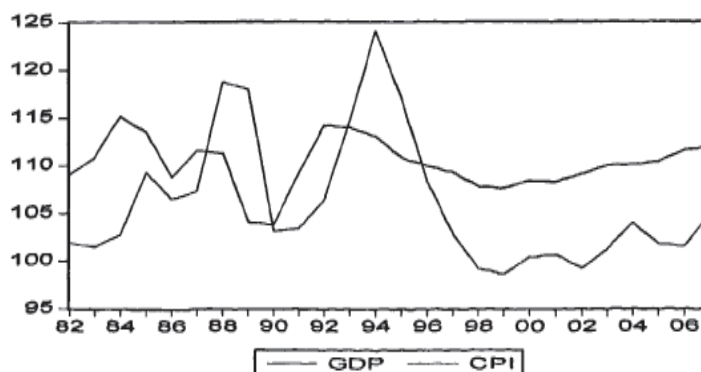


Figure 3.1: China's GDP and CPI chart from 1982 to 2007

Source: National Bureau of Statistics. (2007) *China's GDP and CPI chart from 1982 to 2007* Retrieved from [www.stats.gov.cn](http://www.stats.gov.cn)

From Figure 3.1 it can be observed in 1982 and 2007 China's GDP index and consumer price index (CPI) of these two curves fluctuations and movements have a close relationship, but according to the two curves corresponding to peaks or troughs are not synchronized and is the difference between a certain time it can be inferred that the change CPI and GDP correlation is large, but with a certain time lag. China's reform and opening up three decades of rapid economic growth in three decades, the estimated three years between 1978-2008 the average annual growth rate of China's GDP was 9.5%. Since the first quarter of 2006, China's mainland China's gross production quarter year on year growth in more than 10%.

## 2) Consumption

With the further deepening of reform and opening up, China's economy is in a boom, a substantial increase in household income. Because first of all, in recent years, the income of urban and rural residents increased rapidly. 2005 a 2007, the per capita net income of rural residents grew by 10.8%, respectively, 10.2% and 15.4%, per



capita disposable income of urban residents increased by 11.4%, respectively, 12.1% and 17.2% back its.

Second, since the wage reform administrative institutions officers for three consecutive years beginning in 2007, and will significantly promote residents' income

Growth, thus contributing to the growth of consumer demand; and finally, the social security system improved and increased incomes low staff

Increase Canada, around the minimum wage, and the implementation of the new labor law for ordinary workers to establish long-term mechanism of wage growth, etc.

But also conducive to the growth of income. According to the consumption function  $C = C(Y)$ , as income increases, consumption will increase. According to statistics, the total retail sales of social consumer goods climbed by a quarter of the average growth rate of 9.77 percent in 1999 to 22.2 percent in the second quarter of 2008, we can see that the total sales of social consumer goods, while GDP grows steadily. Growth in consumer demand will inevitably lead to rising consumer prices, which led to rising prices, causing inflation to produce.

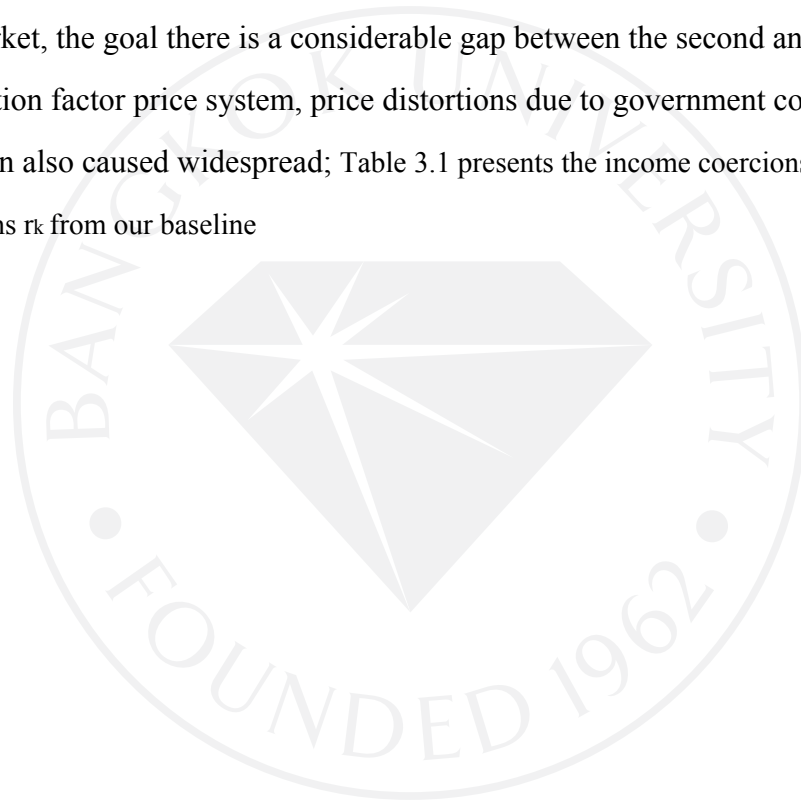
### 3) Investment

Due to China's long-established investment-driven growth model, since 2003 fixed investment overheating; and because the Chinese policy of long-term interest rates low, resulting in excessive bank lending, financial institutions and cause a lot of excess liquidity. Since 2003, China's fixed asset investment soared. Fixed asset investment in 2003 was 5.5118 trillion Yuan, up 26.7 percent over the previous year; 2004 was 7.0073 trillion Yuan, up 25.8 percent over the previous year; 2005 was 8.8604 trillion Yuan, an increase of 25.7% over the previous year : 2006 was 10.987 trillion Yuan, an increase of 24 percent over the previous year; 2007 was 13.7239 trillion Yuan, up 24.8 percent over the previous year. Continued rapid growth of fixed asset investment, exacerbated by supply and demand of raw materials and energy, resulting in pressure on the corporate goods prices is self-evident. In this state, the

high economic growth and rapid investment growth will be inflation of motivation.

### **3.1.2 Cost-push inflation**

Western scholars believe that the rise in the price level is determined by the increase in production costs driven. From the entire macro level, China is entering a cyclical rise in the cost of factors of production stages, the cost-push pressure tends to increase. Specifically, look at the following three aspects: First, labor costs rise; from the market, the goal there is a considerable gap between the second and part of the production factor price system, price distortions due to government control the situation also caused widespread; Table 3.1 presents the income coercions  $B_k$  and the price coercions  $r_k$  from our baseline



	Average Share	Income ( $\beta^k$ )	Price ( $g^k$ )
Food	0.40	-0.135 (0.01)	0.077 (0.027)
Grain	0.10	-0.052 (0.005)	0.083 (0.015)
Meat	0.21	-0.034 (0.003)	0.102 (0.005)
Bean	0.01	-0.005 (0.0005)	0.004 (0.0001)
Starch	0.01	-0.003 (0.0004)	-0.001 (0.0001)
Egg	0.03	-0.012 (0.0007)	0.008 (0.003)
Oil	0.03	-0.004 (0.0003)	0.028 (0.0003)
Milk	0.04	0.021 (0.002)	0.021 (0.003)
Baked Goods	0.02	-0.001 (0.00006)	0.003 (0.0001)
Condiments	0.01	-0.001 (0.0001)	0.003 (0.0001)
Sugar	0.01	0.001 (0.0001)	0.004 (0.00007)
Vegetable	0.10	-0.026 (0.002)	0.030 (0.003)
Fruit	0.07	0.004 (0.0004)	0.021 (0.0004)
Fish	0.07	-0.007 (0.0008)	0.006 (0.0004)
Eating Out	0.17	0.104 (0.005)	0.010 (0.03)

Table 3.1: Coefficients from Baseline Pooled Specification

Pooled estimation of equation Thirdly, the impact of volatility in global commodity prices on China's increasing. Also, because the market is not perfectly competitive, the production costs will increase the enterprise to raise prices, causing inflation occurs. Since the reform and opening up, China's economy has made great achievements, the direction of market-oriented reforms have been established and made no small progress, but the extent of the Chinese market in terms of both breadth

and depth to be further developed, on the one hand China in in many areas, especially agricultural products, energy, communications and other fields oligopoly exists; on the other hand, even if the field is already open and so there are conspiracy. Therefore, once the production costs increase, tend not to internalize, but to shift the burden by raising prices. With a variety of products competing prices, the inflation rate will gradually rise.

Wages as a major part of the production costs, wage inflation is bound to make production costs. China's economy can be seen from the data, there is some correlation between wages and inflation. As shown in Figure 3.2

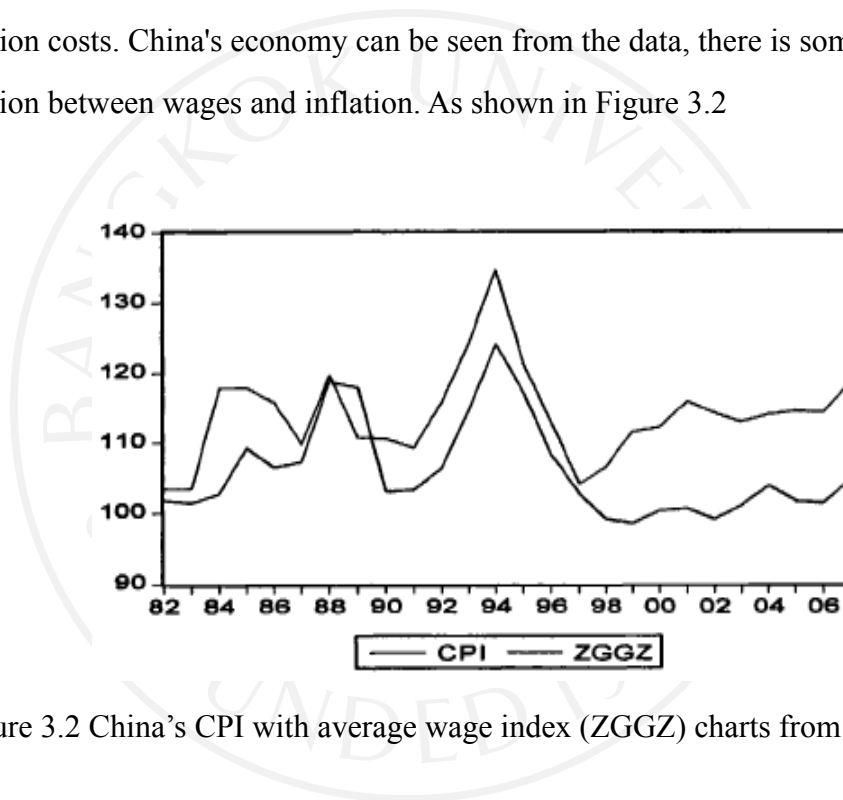


Figure 3.2 China's CPI with average wage index (ZGGZ) charts from 1982 to 2007

Source: National Bureau of Statistics. (2007). *China's CPI with average wage index (ZGGZ) charts from 1982 to 2007* Retrieved from [www.stats.gov.cn](http://www.stats.gov.cn)

### 3.1.3 Imported Inflation

Contact domestic and foreign exchange rate is the price of the bond, is an important part of a country's system of prices, exchange rate changes are bound to affect change in a country's price level. Cassel (1922) theory of purchasing power

parity revealed "law of one price" that a country's real exchange rate is always smaller fluctuations in the price of the nominal exchange rate adjustment will bring the same amount in the opposite direction: on the contrary, the nominal exchange rate fluctuations will bring the opposite direction of the price adjustment equal amounts, which makes the exchange rate and the price of two variables directly linked. Since the 1970s, the collapse of the Bretton Woods system, the international currency market volatility to make a large number of economists to focus the analysis on the impact of exchange rate changes on the price level in China, Maedonald (1993) using multivariate Association Johanson the whole law, concluded that there is a long-term equilibrium relationship between the number of currencies against the US dollar compared to the US and their relative prices.

In recent years, as the Fed continued to cut interest rates, accelerated depreciation of the dollar, the dollar-denominated commodity prices rise rapidly. Especially in 2007, the international market oil, iron ore, grain and other commodity prices continued to soar. Because China needs to import large quantities of primary resources from the international market, the international market commodity prices delivered to China through international trade, which led to China at the time of the Chinese mainland prices continued to rise, inflation continued to rise.

#### **3.1.4 Money-push Inflation**

We consider the money supply should be divided into two categories: one is the central bank's money supply directly: the other is the foreign exchange reserves. Since the implementation of China's current foreign exchange system, in addition to the inner part of the industrial and commercial enterprises to hold a certain prescribed limits in foreign exchange, other entities and individuals in the hands of foreign exchange to be sold to the designated bank statements which actually increases the money supply invisible .

### 1) Broad money supply growth

Over the years, many economists believe that inflation is always a monetary phenomenon, more strictly speaking, banknotes phenomenon, namely in the case of notes in circulation, when the circulation of banknotes in circulation exceeds the amount of money needed for each value Units represented bill would reduce the purchasing power of paper money will fall, showed price increases, and not just one or a few commodities prices rise, but the overall level of prices rising, leading to inflation. Therefore, the excess supply of money is a major incentive Chinese inflation. Chinese currency liquidity in accordance with the strength of the money supply is divided into four levels:

$M0 = \text{cash in circulation};$

$M1 = M0 + \text{corporate demand deposits} + \text{deposit} + \text{agencies and organizations in rural deposit} + \text{credit card deposits held by individuals};$

$M2 = M1 + \text{corporate bodies and rural residents' savings deposits} + \text{foreign currency deposits} + \text{trust} + \text{deposit} + \text{class customer margin securities companies}$

$M3 = M2 + \text{financial bonds} + \text{commercial paper} + \text{negotiable certificates of deposit}$

Considering the M2 measure of money supply is one of the most important indicators of monetary policy objectives are highly correlated, and relatively wider diameter, therefore, choose the annual growth rate and inflation rate of M2 graphical comparison.

By Figure 3.3. - / To illustrate the relationship between the money supply and inflation, China's expanding between the more intuitive. China's inflation rate and the money supply growth rate in the figure 3.3 has a strong tendency to synchronize changes in 1982 between a 2007 and a similar volatility.

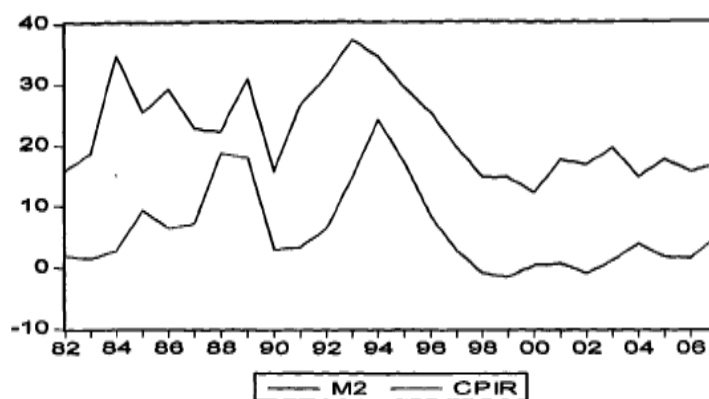


Figure 3.3 China's M2 and CPIR chart from 1982 to 2007

Source: National Bureau of Statistics. (2007). *China's M2 and CPIR chart from 1982 to 2007* Retrieved from [www.stats.gov.cn](http://www.stats.gov.cn)

## 2) Foreign exchange reserves

As China continues to increase openness, foreign trade surplus in successive years, the rapid growth of foreign exchange reserves. The State Administration of Foreign Exchange data show that in 2003 China's foreign exchange reserves over 400 billion US dollars, by the end of February 2006 surpassed Japan to become the world's largest foreign exchange reserves. Increase in foreign exchange reserves to enhance China's comprehensive national strength and improve China's ability to cope with the international financial risks, the ability to increase the country's external payments and other aspects have a positive effect, but at the same time the central bank in order to recover the growing foreign exchange had to invest more money in the multiplier effect, which will lead to greatly increase the money supply in China, and thus pose a direct inflationary pressures in China.

## 3.2 Mechanism of the Main Factors Affecting Inflation

Through analysis of the previous section, we get a lot of factors that induce inflation, in order to further understand the relationship between various factors and

inflation, the following factors affect inflation through what channels to make more clear, clear explanation.

### **3.2.1 Consumption, Investment and Inflation**

Under certain conditions, the supply is bound to increase consumer demand by increasing aggregate demand resulting in the commodity market demand is greater than supply, causing the rise in commodity prices. Since the reform and opening up, China has maintained rapid economic growth, urbanization has been a significant development, the income of urban residents grew faster than the speed of economic development. Steadily improve the quality of people's lives, enhance consumer confidence and improve the consumers' expectations, which led to rising prices, causing inflation to produce.

On the other hand, the total supply in the established between investment and consumption, there is a shift in the relationship. While much can be invested in long-term formation of new production capacity, thereby increasing the supply, but in the short term, the investment rate is too large is bound to make the consumption ratio is too small, so inadequate supply of goods on the consumer market, causing the prices of consumer goods and promoting other commodity prices. At the same time, investment demand is bound to make excessive supply of investment goods, consumer goods, on the one hand the direct cause crowding consumer prices rose, on the other hand by the rising prices of investment goods, consumer goods companies converting to induce some production, reducing the supply of consumer goods, which led to rising prices of consumer goods.

### **3.2.2 Wage Costs and Inflation**

In Friedman (1968) and Phelps (1970) advocated additional expectations Phillips curve, after the price according to the adjusted wage labor productivity generated by



addition, nominal wages are set according to inflation expectations, rising wage costs push costs and prices, has led to a continuous rise in the price of inflation expectations, thus promoting further increases in nominal wages. Thus the formation of the so-called "wage-price" spiral of vicious circle. Specifically, if the inflation rate has risen every year, especially the government use the Phillips curve discretionary, with a low unemployment rate of return of high inflation, it will form inflation expectations. If inflation is expected to workers will be asked to raise the living standards of the money wage to avoid erosion by inflation. And business owners will also be willing to give these workers higher wages because they believe they can sell at a higher price their products. In this case, wages will increase production costs, will inevitably lead to higher commodity prices, and prices has forced workers to demand higher wages, which in turn lead to business owners and the national response to the workers' pressure "and" protective "of a make commodity prices, wage and price spiral so swell rising cycle is not already. "Wage-price" spiral or similar cost-push inflation theory is the need for the establishment of conditions. Ackley (1959) with special emphasis in the cost-plus pricing, cost-push price increases are necessary conditions for short-term demand is not sensitive to price changes, otherwise the decline in demand will cut the cost of transmission channels. Machlup (1960) distinguishes between responsiveness, defensive and offensive responsive, rising defensive and aggressive) costs, and further discuss the meaning of cost-push inflation, and noted that the rise in effective demand is a necessary condition for conduction of cost-push inflation.

### **3.2.3 Exchange Rate and Inflation**

Exchange rate refers to the depreciation of the delivery mechanism and the appreciation of the exchange rate through direct and indirect channels affect the price of the Chinese mainland. The basic principle is: the change in the exchange rate of a

country's imports and exports will lead to changes in commodity prices, in turn will affect the price level in China. For example, the depreciation of the national currency, the price of imported goods will rise, thus increasing the demand for commodities in China, leading to an increase in the price level in China, especially when there is an actual wage targets in mainland China, the rise in import prices will lead to rising wages thus further pushing into the Chinese mainland - the price level and wages spiral.

(1) Direct channels

Exchange rate changes caused by the import of raw materials price changes, causing changes in cost, and ultimately by the final consumer and the impact of imports of intermediate goods prices affect the price of the Chinese mainland. Specifically, the national currency devaluation led to rising prices of imported goods,

The domestic currency appreciation led to lower prices of imported goods.

(2) Indirect channel

According to the theory of supply and demand, the impact of exchange rate movements in net exports, the corresponding effective supply of goods in China to change, thereby affecting the overall demand for the formation of prices rising or falling pressure, resulting in price ups and downs. Specifically, in the notes in circulation system, the exchange rate between two currencies, fundamentally is represented by the respective currency relativities Magnitude decision. Therefore, when the currency exchange rate fell, the mechanism may be through monetary wages, cost of production mechanisms, the money supply mechanism and revenue mechanisms, leading to wage and price levels in China rising cycle.

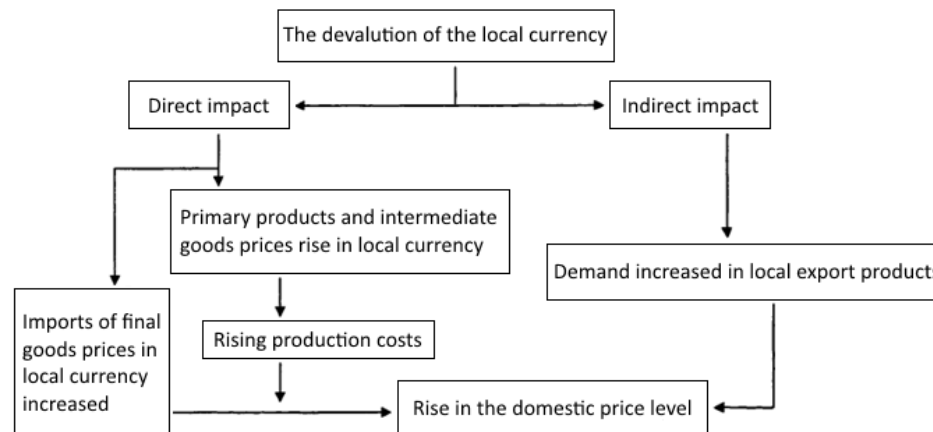


Figure 3.3: Exchange rate pass-through effect mechanism

### 3.2.4 Foreign Exchange Reserves, Money Supply and Inflation

(1) Increase in foreign exchange reserves to expand the money supply

In order to be more intuitive and more accurate analysis of the impact of foreign exchange reserves and the monetary base money supply, now the central bank's balance sheet in the form of written summary table 3.2 below:

Assets	Liability
Rediscount and refinancing ①	Cash in circulation C
Financial loan or overdraft ②	Bank reserves R
Financial securities ③	Fiscal deposits ⑥
Silver and gold and foreign exchange reserves ④	Other liabilities (including capital) ⑦
Other assets ⑤	

Table 3.2 Written summary form of central bank's balance sheet

Use B represents the monetary base, C on behalf of cash in circulation, R on behalf of the bank deposit reserve, according to the central bank's balance sheet to get accounting identity:

$$B = C + R = \square + \square + \square + \square + \square \text{ a one } \square \quad (3.1)$$

$$B = \square + (\square \text{ a } \square) + \square + \square + (\square \text{ a } \square) \quad (3.2)$$

Is easy to see from (3.2), the factors affecting the monetary base has five:

First, the central bank rediscount and refinancing of commercial banks and other financial institutions (□);

Second, the central bank's net loans to the government (□ a □);

Third, the central bank on the open market sale of various securities (□);

Fourth, the central bank buying and selling gold and foreign exchange reserves (□):

Fifth, the central bank's net loans to other sectors (□ a □).

So come, approach the central bank base money are: refinancing and rediscount, the government and the central bank's overdraft loans, open market operations the central bank operations, gold and foreign exchange. Due to the rapid growth of foreign exchange reserves in recent years, foreign exchange is becoming a very important way.

Through the above analysis, the conclusion: the base currency is the same direction as a function of foreign exchange reserves, under the assumption that all other variables constant, the increase in foreign exchange reserves increased as a direct result of the monetary base. The relationship between the monetary base and the money supply between and can be expressed as:  $M = K * B$ , where K represents the money multiplier. Because of the money multiplier, increasing the monetary base money supply grow exponentially, thus forming:

First, an increase in foreign exchange reserves increased by an increase in the monetary base money supply increased by one;

Second, a reduction in foreign exchange reserves dropped a base currency to reduce a decline in the money supply.

Money supply, foreign exchange generated by China has become the main channel of the base currency, the central bank sterilized intervention under limited conditions, the formation of an increase or decrease with a dominant way currency.

## (2) Increase the money supply and inflation

Increase in base money will make the Chinese mainland economy expansion trend. In the short term impact of increased money supply on prices include the following three aspects:

First, in the commodity market, in other conditions remain unchanged, the price level or the monetary value is determined by the quantity of money. The quantity of money increases, the value of the monetary unit decreases, the price subsequently rises in direct proportion. Therefore, increasing the money supply, making the amount of money in circulation caused by excessive monetary unit decline in purchasing power, prompting the general commodity prices.

Second, in the currency market, the demand for money in the same conditions, so that interest rates fall, leading residents in certain monetary savings to consumption, consumer goods market pressure eventually lead to price rise.

Third, in the capital markets, due to the increased money supply, making the money supply is increased so that the interest rates make borrowing funds fall caused the stock prices, bond prices rise, and finally to increase investment in physical assets, investment goods prices, leading to increased demand for labor so that wages rise in prices.

According to Keynesian discussion about the price level determined in the long term, the impact of increasing the money supply on the price level can be passed through the following chain of causation to the price level up: the money supply increases caused by lower interest rates; lower interest rates caused after the investment scale the increase, the size of the increase depends on the size of the marginal efficiency of capital; after changes caused by increased investment in employment, output and income; employment, output and income after changes cause an increase in production costs; after the price changes caused by the increase in production costs after the increase in production costs, the price is bound to make

automatic adjustments to adapt to changes in the productivity, even before I reach full employment, and prices began to rise, so the market is able to observe the phenomenon of rising commodity prices caused inflation.



**CHAPTER 4**  
**EMPIRICAL STUDY OF THE MAJOR FACTORS AFFECTING CHINA**  
**INFLATION**

**4.1 Processing indicator selection and data**

**4.1.1 Selected indicators**

According to the analysis in Chapter III, empirical tests of the main factors influencing the selection of inflation and the corresponding induced inflation indicators are as follows in Table 4.1:

Incentives	Index selection	Symbol
Demand-pull		
Economic Growth	GDP index	GDP
Consumption	The growth rate of total retail sales of social consumer goods	RSCG
Investment	Fixed-assets investment price index	I
Cost-push		
Labor costs	Workers average money wage index	ZGG
Imported CPI push		
Forex trading costs	Exchange rate	ER
Currency push		
Money Supply	Broad money supply growth	M2
International trade surplus	Reserves growth	FR

Table 4.1 Symbols of the main factors influencing the selection of inflation and the corresponding induced inflation indicators

**4.1.2 Processing data**

Taking into account the availability of data and representative data sample used in the study was from 1982 to 2007 a total of 26 years, 26 years of data, statistical data mainly from the National Bureau of Statistics website, People's Bank of China website, the State Administration of Foreign Exchange website, in through databases.

In addition, due to the price index of fixed asset investment data I starting point for 1991, so only make causality between it and the CPI.

Due to the use of econometric models in the growth rate of total retail sales of social consumer goods, the broad money supply growth rate and foreign exchange reserves of these three variables, and therefore the original data processing, specifically calculated as follows:

Retail sales growth rate = (total this year a total retail sales of social consumer goods retail sales year on) / The total retail sales last year.

Broad money supply growth rate = (broad money supply this year a year on the broad money supply) / year on the broad money supply

Reserves growth rate = (reserves a year on year foreign exchange reserves) / foreign exchange reserves last year

## 4.2 Empirical Process

In selecting the data sample interval and data processing, with metering software empirical analysis, this study applied to the measurement software for Eviews5.0, smooth line metering process involves testing the variables, cointegration, Granger causality test, impulse response analysis. Here are the details of the measurement process.

### 4.2.1 Stationary test

Before econometric analysis of time series data, we must examine the data stability, stability testing methods used in the study is the ADF unit root test, before making the unit root test, by observing the timing diagram of each of the original variables can be determined whether the items and the intercept with the trend. See Figure 4.1.



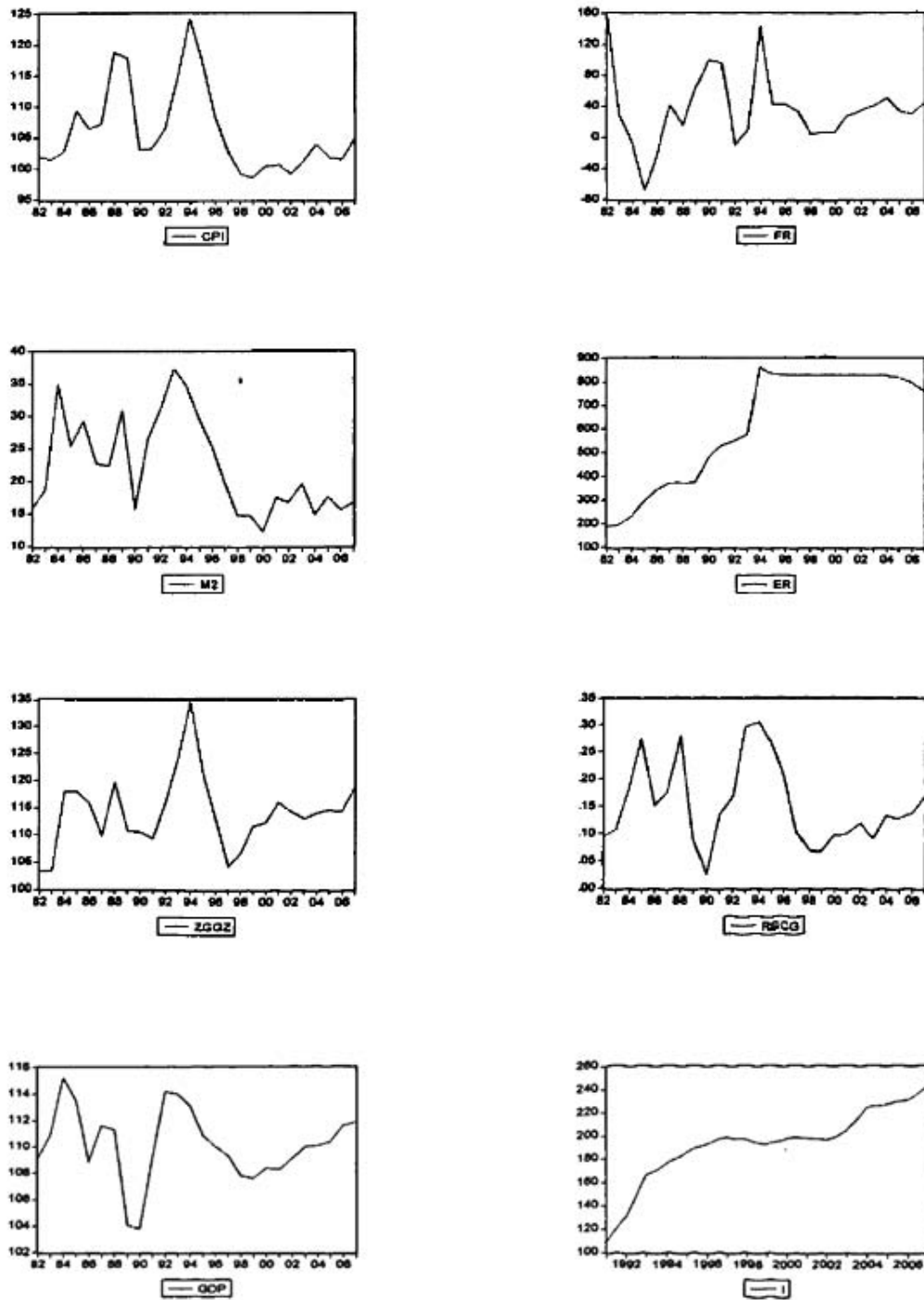


Figure 4.1: Each variable time series chart

From the above chart we can see that some of the variables have obvious time trend, in addition, in determining the autoregression coefficient, root.

According to the SIC rules determine autoregressive lag order for 0-3, with Eviews5.0 software, ADF unit root of each of the original variables

Test results are as follows:

Variable	Inspection Type	ADF Test value	1% critical value	5% critical value	10%critical value
CPI	(c, t, 1)	-3.578847	-4.394309	-3.612199	-3.243079
FR	(c, t, 2)	-1.278229	-2.708094	-1.962813	-1.606129
M2	(c, t, 0)	-2.450496	-3.724070	-2.986225	-2.632604
ER	(c, t, 0)	-1.809047	-3.724070	-2.986225	-2.632604
ZGGZ	(c, t, 2)	-3.617029	-4.416345	-3.622033	-3.248592
RSCG	(c, t, 3)	-3.388628	-4.440739	-3.632896	-3.254671
GDP	(c, t, 3)	-4.028664	-3.769597	-3.004861	-2.642242
I	(c, t, 3)	-2.515280	-4.886426	-3.828975	-3.362984

note:Inspection type in c,t,p denote the constant term, the time trend and lag order

Table 4.2: Unit root test results for each of the original variables

From the above table it can be seen that only 1% of GDP at a significant level, ADF test value is less than the critical value, the null hypothesis is rejected,

Namely GDP series is stationary. ADF test value at significance level of 1% and the other variables are 5% greater than the critical value,

Can not reject the unit root hypothesis. The following D (CPI), D (FR), D (M2), D (ER), D (ZGGZ), D (RSCG), D (I),

Representation of the original first-order differential variable, according to the law to determine SIC autoregressive lag order. ADF single first-order differential variables

From the above table it can be seen, at the 5% significance level, a first-order variables ADF test values listed differential variables can refuse

Absolute unit root hypothesis, so CPI, FR, M<sub>2</sub>, ER, ZGGZ, RSCG, I were I (1) process. Therefore, the above Chinese Time series 6-induced indicator of inflation and the CPI are consistent with Granger causality test prerequisite, can be tested.

#### 4.2.2 Granger causality test

In order to test the growth rate of foreign exchange reserves, long-term relationship between the broad money supply growth, exchange rates, workers average money wage index, the growth rate of total retail sales of social consumer goods, the price index of fixed asset investment and inflation, where the use of CPI sequence other sequences Granger causality test, the test results in the following table:

The null hypothesis H0	F Statistics	P value	Whether to accept H0
FR is not the Granger causality to CPI	4.10955	0.05493	Refusal
CPI is not the Granger causality to FR	1.10869	0.30380	Accept
M2 is not the Granger causality to CPI	4.83269	0.02010	Refusal
CPI is not the Granger causality to M2	1.12761	0.34454	Accept
ER is not the Granger causality to CPI	1.97133	0.17427	Refusal
CPI is not the Granger causality to ER	1.59754	0.21948	Accept
ZGGZ is not the Granger causality to CPI	0.49211	0.74179	Accept
CPI is not the Granger causality to ZGGZ	0.18072	0.94432	Accept
RSCG is not the Granger causality to CPI	2.77525	0.07224	Refusal
CPI is not the Granger causality to RSCG	1.33143	0.31008	Accept

Table 4.3: Granger causality test results

According to the test results in front of the tables, we can draw the following conclusions:

- (1) the growth rate of foreign exchange reserves is the reason Granger price index,

while the Granger is not a reason for the price of foreign exchange reserves.

Excessive foreign exchange reserves will bring pressure on prices, this conclusion with the third chapter analyzes the transmission mechanism is consistent with that of a money supply increase in foreign exchange reserves increased a rise in the price level (inflation): The price is not the Exchange Granger cause of reserves, namely the rapid growth of foreign exchange reserves is not due to the price level rises caused.

(2) the money supply M. CPI growth rate is the reason Granger, and the price is not the money supply M. Granger reason for growth. Excessive currency issue is the Granger cause of inflation, the basic idea is consistent with the quantity theory of money, which affects the amount of change in the money supply resulting ultimately reflected in the change in the price level; whereas the price of money is not the Granger reason, that money supply growth can not be attributed to the rise in the inflation rate, which shows the characteristics of exogenous China's money supply is relatively obvious.

(3) the exchange rate is the price index Granger reasons, but the price is not the reason for the exchange rate of the Granger. While China and the US dollar exchange rate remained stable, but showed a significant inverse relationship between the exchange rate and prices, that the devaluation of the Chinese currency, the price level will lead to China rose; and currency appreciation, would inhibit China's currency expansion level, which is the third chapter of the analysis the conclusion is - consistent.

(4) Granger reason the average wage employees are not CPI index, but the price is not the reason Granger average wage index. This negates the wage increase is caused by the third chapter analyzes the cost-push inflation inflation this assertion. From the empirical results, the role of the many factors that affect the cost of wages inflation in China is small, its traction on inflation is small. One reason is that the proportion of the total cost of wages is not: On the other hand, China basically does not exist strong

unions, wage-price spiral in China would not exist.

(5) The total retail sales of social consumer goods price index growth rate is Granger reason, but not the price of the total retail sales growth Granger reasons. In the long term, rapid economic growth, consumer demand, price stability has a lot of pressure, so the growth of total retail sales will promote the growth of CPI, which is in front of the AD-AS model is consistent with the conclusions of the theoretical analysis a.

In addition, subject to data availability constraints, China's fixed asset investment price index CPI data Granger causality test interval year from 1991 to 2007, the Granger test results are as follows:

The null hypothesis $h_0$	F statistics	P Value	Whether to accept $H_0$
I is not the Granger causality to CPI	6.31577	0.01684	Refused
CPI is not the Granger causality to I	0.27614	0.076431	Accepted

Table 4.4: Granger causality test results

Test results can be seen from Table 4.4, I is the possibility of price index of Granger reason to 0.98316. Thus, from 1991 to 2007 as sample period, the price index of investment in fixed assets by the Granger causality test an incentive inflation. Real estate investment is an important part of the investment in fixed assets from the real estate industry in recent years, showing its stimulating effect on the popular price level. 2004 a 2007, China's real estate industry began to heat up, real estate prices, so real estate development more prosperous. Cycle makes some raw material prices,

energy prices, thus promoting investment steering, reduced the supply of consumer goods, but also because the price rise, thus driving the price also rose in other areas formed in that period of time, round currency expansion. But because the data interval is shorter, so I do not put the index into further analysis of cointegration.

#### 4.2.3 Cointegration analysis

FR, M2, ER, RSCG and CPI these five variables on China in 1982 a 2007 sample intervals are integrated of order one time series and by the Granger causality test, in line with cointegration test conditions. Here Johansen cointegration test method used is the Johansen in 1988 and one in 1990, together with the proposed Juselius VAR model-based approach and the regression coefficient is a multivariate cointegration test better methods. With Eviews5.0 software, was co-integration test results in the following table:

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistics	5% Critical Value	Probability
None *	0.949883	138.8523	79.34145	0.0000
At most 1 *	0.799756	70.00427	55.24578	0.0015
At most 2	0.605314	33.01527	35.01090	0.0806
At most 3	0.395939	11.62399	18.39771	0.3371
At most 4	0.001701	0.039158	3.841466	0.8431

Table 4.5: Johanson Test (Trace statistics)

Note: None indicates no cointegration; At most I indicates the presence of at most one cointegrating relationship; At most 2 indicate the presence of up to two Cointegration; and so on.

As can be seen from Table 4.6, when the null hypothesis that there is no cointegration, statistical value of 138.8523, greater than the critical value of 5% level of significance under 79.34145, therefore, can reject the null hypothesis, that is, too of each variable in the long-term memory in cointegration. When the null hypothesis

was: There is at most one cointegrating relationship, due to the statistical value is greater than the critical value, it can reject the null hypothesis. When the null hypothesis is the presence of up to two cointegration statistical value of 33.01527 less than the critical value, it can not reject the null hypothesis, indicating the presence of two long-term stable relationship between these variables. This shows that there is a long-term stable relationship between the consumer price index CPI, reserves growth FR, broad money supply growth M :, exchange ER, total retail sales of social consumer goods growth RSCG five who take group 1 Association entire vector, cointegration relationships between variables are as follows:

$$\text{CPI} = 0.187831 * \text{FR} + 1.462293 * \text{M2} - 0.004949 * \text{ER} + 0.3955 * \text{RSCG} \quad (4.1)$$

As can be seen from equation (4.1), in the long term, the growth of foreign exchange reserves, the broad money supply growth and the growth of total retail sales of social consumer goods could fuel inflation, and exchange rates can reduce inflation, the central bank foreign exchange each 1% increase in reserves will result in inflation rate rose 0.19%; money supply every 1% increase would cause inflation rose 1.46%; total retail sales of social consumer goods grew by 1% each, will lead to inflation rose 0.40%: the exchange rate for each 1% increase in inflation will lead to decrease of 0.005%. Cointegration equation explain the long-term equilibrium relationship does exist between the inflation rate and other variables.

#### 4.2.4 Pulse influence function

Cointegration analysis provides information only long-term relationships between variables, but no action as a variable to provide more information on the dynamics of the other variables, the introduction of the impulse response function can help solve this problem. Do impulse response between the CPI and other variables on the basis of test variables with cointegration relationship and build the corresponding VAR model, its impulse response test chart results are as follows:

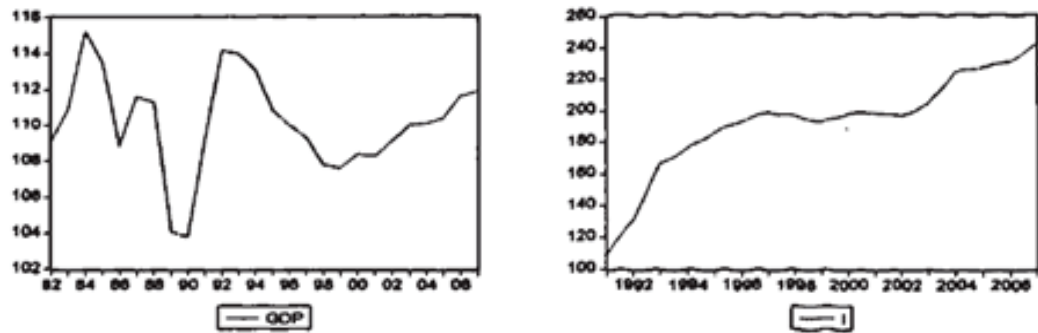


Figure 4.1: Each variable time series chart

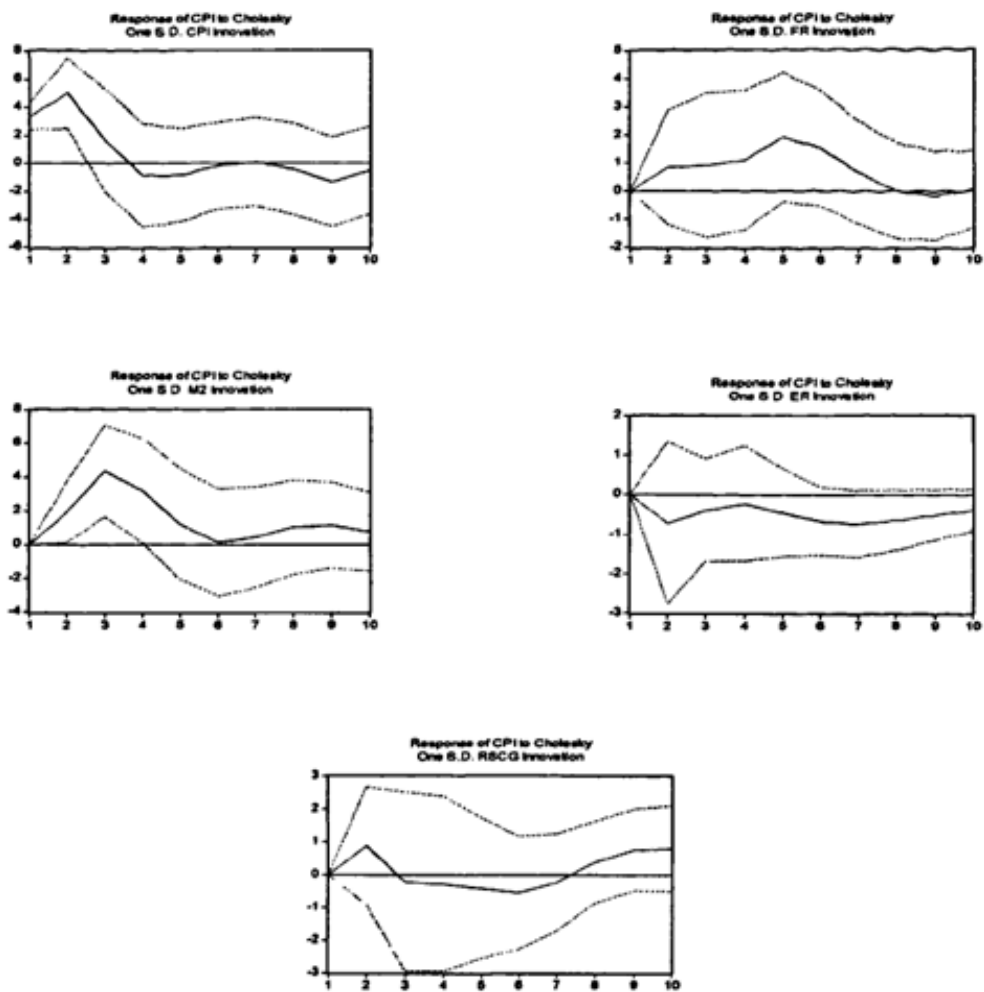




Figure 4.2 CPI impulse response

In Figure 4.2, the horizontal axis represents time impact action, the vertical axis represents the degree of change in the price level, and the curve is a function of the impact from the impact pulse, the dotted line represents the impulse response to the extent possible.

As can be seen from the figure:

(1) the impact on the price level itself, the price level. As can be seen from the first picture, when the current price level to a standard deviation of shocks, the price level itself will generate a positive impact, with the passage of time, this positive effect will gradually weaken, in The first four to zero, or even negative effect then. This indicates that short-term changes in the price level of influence by its past values, and within a period of time, this effect is a positive influence, that illustrate current price level by the effects of past price levels.

(2) the impact of foreign exchange reserves increased price level. As can be seen from the second picture, when the current level of central bank reserves to one standard deviation shock, will produce a positive effect on the price level immediately. This effect can be sustained for a long period of time, probably in the first five biggest impact. As can be seen, changes in foreign reserves can significantly affect the price level, and continued strong.

(3) the impact on money supply growth in the price level. As can be seen from the third picture, the broad money supply shock effect on the CPI is basically in a positive effect, the larger the magnitude of the effect of the change, probably in the first three degrees the greatest impact, the impact is lasting.

(4) the impact on the price level of the exchange rate. According fourth figure, the role of the exchange rate impact on the CPI is basically in the negative effects of small amplitude changes to, effects, showed a gradual downward trend.

(5) The increase in total retail sales impact effect on the CPI. Finally, a picture can be drawn from the shock effect of the total retail sales of social consumer goods in the positive effect of the previous three, and the second phase to reach a maximum, and then decreased gradually, to fourth after a negative effect, but the first eight start another positive effect, and significantly increased. This further illustrates the effect of short-term and long-term effects of social change in retail sales and CPI inconsistent.

#### **4.2.5 Conclusion Analysis**

Through empirical research front, we can get a lot of important conclusions are summarized as follows:

(1) the existence of "spiral" effect in the short term inflation. This conclusion can be seen from the pulse curves in the current period have a positive impact on the price level of impact on the future price level 4 period, but the degree of influence is constantly smaller. This verifies the "spiral" exists "price spiral" or inflation. Therefore, the existence of such a spiral of inflation is bound to affect the effectiveness of monetary policy, so a big problem when the monetary authorities in setting monetary policy must be considered.

(2) the existence of a long-term equilibrium relationship between China's foreign exchange reserves and the CPI. Changes in foreign reserves and the price level changes in a positive correlation, but the influence is weak. Because the central bank can reduce the impact of foreign exchange intervention on the money supply through monetary base and the money multiplier. Central banks to adjust monetary base structure is put in the base currency of the business by adjusting its assets in foreign exchange reserves increased, the central bank by reducing the financial institutions, governments and non-financial institutions, credit growth to offset the foreign exchange reserves put pressure on the currency, by issuance of central bank bills and

other ways to return the money. Can also affect the money multiplier affect the money supply, such as the central bank can influence the money supply and thus affect the money multiplier by adjusting the statutory reserve. China has not been achieved due to the interest rate market in the full sense, is not yet fully open capital account, and therefore the transmission mechanism between the interest rate and capital account is blocked, which to some extent also reduced the impact of foreign exchange reserves increased inflation. However, the impact of foreign exchange reserves on the CPI can not be ignored. This is because since 2007 China's foreign exchange reserves volatility, more and more, to the growth rate in January 2008 reached \$ 30.218 billion. In the long run, the impact of foreign exchange reserves for the CPI less and less.

(3) In the long term, between the broad money supply growth and inflation are related to cointegration, there is a significant correlation between them, the impact of changes in the money supply resulting ultimately reflected in the price level . From equation (4.1) can also be seen in the selected variables affecting broad money supply growth rate of inflation is the biggest, China data appears this empirical result is mainly due to rapid economic growth, the government printing too much money, loose credit policy bias. These are the direct cause of inflation.

(4) In the long run, the RMB exchange rate and China's inflation rate is negatively related, but the relationship is very small, that revaluation to ease inflationary pressures minor role. But really able to influence the exchange rate of inflation, which shows China's economy is increasingly disturbed fluctuations in the international economy, the exchange rate may have an impact on China's price level by changing the form of the cost of imports, and therefore control inflation, the government should to also concerned about the RMB exchange rate movements by adjusting the exchange rate to effectively curb inflation.

(5) In the long run, the growth of the total retail sales of social consumer goods in China will promote the growth of CPI. Despite the short-term period, total retail sales

of social consumer goods through control can inhibit the growth of CPI, but time is short, not enough to make the fast-growing economies in the short term is completely down.

(6) by the fixed-asset investment price index Granger causality test data interval is shorter because although I did not enter the model analysis, but it is the induced index inflation in China. Price volatility of investment in fixed assets that have a certain impact on China-induced inflation, mainly because: China's economic growth is based on the extensive mode of propulsion of high investment in state of the art production capacity has full use , excessive investment demand can not increase the total supply, it can only result in the expansion of aggregate demand, pushing up the overall price level, so that the national economy is in an unstable state in the expansion.

(7) When we formulate policies to stabilize prices, suppression and ease inflation, should focus on the regulation of the money supply, taking into account the timeliness, but also concerned about the impact of the total retail sales of social consumer goods and short-term effects of foreign exchange reserves will combine the three macro-control in order to achieve better results.

By the previous conclusion, we have been able to clear a number of factors affecting the impact of inflation and the extent of these factors include: foreign exchange reserves, the broad money supply, exchange rate, total retail sales of consumer goods, the price of fixed assets investment. In the long-term impact of these factors on inflation is consistent with the relevant theory. However, the impact of these factors in the short term may not be consistent with the theory with. Thus, while China's monetary policy and fiscal policy on inflation in the long run have a positive effect, but in the short term, these policies are not obvious. Therefore, in order to curb inflation, on the one hand, the relevant departments of the Chinese government should continue to adopt policies for specific reasons; on the other hand, must also be developed to adapt to short-term coping mechanisms mutation factors.

**CHAPTER 5**  
**REDUCTION OF THE CURRENT INFLATIONARY PRESSURES CHINA**  
**POLICY RECOMMENDATIONS**

Through qualitative and quantitative research of the foregoing, this paper initially established incentives and induce Chinese inflation index system, and analyzes the role of the principles of various incentives and indicators of the impact of inflation, the following proposed treatment and prevention of Chinese inflation based on the results of empirical research policy recommendations.

**5.1 Foreign Exchange Reserves to Ease the Impact of Inflation**

As can be seen from the foregoing analysis, the reserves can not only affect the current price level, but also affect the price level within the coming period. Since the impact of foreign exchange reserves, inflation, so obviously, they should take appropriate measures targeted.

**5.1.1 Adjust the Economic Development Strategy to Balance International Payments**

China's international balance of payments existence since 2000 with a current account and capital account surplus double phenomenon, and the surplus is increasing, and this is the cause of China's foreign exchange reserves increased steadily. Faced with this situation, China should make timely adjustment of the economic development strategy to balance international payments, foreign exchange reserves to ease the rapid growth momentum. Economic development strategy from now double the current account and capital account surplus gradually turned moderately maintain current account surplus, capital projects and gradually achieve a balanced situation.

First of all, allow modest current account surplus, maintaining export demand, which is conducive to China's export industries of the workforce, will not cause undue

impact on the economy. Current account surplus appropriate, help keep the RMB exchange rate stability and economic development. If the Yuan an international currency, regardless of the current account balance, the emergence of the surplus or deficit are feasible. In the case of the Renminbi is the international currency, freely convertible foreign demand for Chinese products is the demand for the Renminbi; Chinese demand for foreign goods is supplied to the Yuan. In the case of generating international trade deficit, can issue Renminbi to buy imported products. However, the current RMB is not an international currency is not freely convertible, foreign demand for Chinese products, but the supply of foreign currency in China, the Chinese demand for foreign goods is also demand for foreign currency. If the international trade deficit, not through the issuance of Yuan to cover international trade deficit. Therefore, if there is a large balance of payments deficit, China will lack sufficient foreign exchange to buy imports and foreign debt payments due, affect the country's reputation and economic development. Therefore, the current account in surplus, foreign exchange market is conducive to China and the RMB exchange rate stability, and enhance international capacity to pay, and promote stable economic growth.

Secondly, in the capital account, net capital inflows is mainly due to rising foreign investment in China increased year by year, however, China's foreign investment is basically negative, a small number of China's overseas investment in overseas companies to set up enough capacity , which resulted in the expansion of the financial and capital account surplus. Therefore, to encourage enterprises to go abroad to invest part of "going out" strategy is necessary, not only for China's economic development is very good, but also for China's import and export trade is beneficial. China's import demand in developed countries is limited, so in the future have to be more open markets in developing countries. But in developing countries for the protection of their markets have wanted to get into more difficult, requiring more capital driven by

trade, into the market for developing countries and to make investments that will create a win-win situation . The investment will require foreign exchange, so the state can consider giving conducive to the introduction of foreign technology resources and greater investment flexibility, so that part of the country's foreign exchange reserves in the use of off while making the capital gradually achieve a balance, but also for the introduction of China more abundant resources and high-tech, open up overseas markets, not only to alleviate the current issues, paving the way for more in the future to enhance the development potential, so that the real reserves for economic development of the country.

### **5.1.2 Relaxation of Foreign Exchange Account Management**

In addition to properly control the amount of foreign exchange inflows from the source to the outside, to have entered the Chinese mainland's foreign exchange should be properly managed. First, the reform of foreign exchange management, the gradual transition from mandatory foreign exchange settlement and sales for the wishes, improve banking exchange position management. Specific implementation of this reform can be divided into two steps: The first step is the implementation of a voluntary exchange settlement system. Greatly relaxed in the foreign exchange account opening conditions based on the gradual relaxation of the account limit, until allowing all businesses to open cash accounts to keep all the cash. The second step is to abolish the foreign exchange system. Willingness to exchange settlement system to achieve the ultimate goal is to abolish the foreign exchange system, exchange freedom to achieve. Reduce foreign exchange regulatory aspects, allowing residents the freedom to retain cash, directly involved in the operation of the market, the SAFE regulators should focus on the monitoring of cross-border capital flows. Forced by the wishes of foreign exchange settlement and sales system to change the system, you can achieve storage Meeting the people. Thus, the demand for foreign exchange folk act

as a "reservoir" of the role, while the designated foreign exchange banks in foreign exchange turnover position to expand, but also to play a "reservoir" of the role of central banks in order to reduce the amount of foreign exchange.

Secondly, according to the money supply, import external debt, foreign exchange market intervention (for adjusting the exchange rate), the opportunity cost and other requirements, develop upper and lower foreign exchange reserves, and adjust to changing circumstances, it is not necessary to make the central bank foreign exchange obligations borne passive tray that reflect the supply and demand of foreign exchange regulation of market rules on the exchange rate, but also to make the exchange rate to return to a more reasonable price. At the same time improve the management system of foreign exchange reserves, China can implement an appropriate balance of payments deficit of foreign trade policy, outside the Chinese mainland to promote the conversion of two resources in terms of time and quality. For example, for the current excess reserves, can come up with some imported food, oil and raw materials; in addition to the return of part of the debt coming due in advance, reducing the peak of the debt pressure.

### **5.1.3 Improve Foreign Exchange Sterilization Policy**

As because China's foreign exchange reserves increased so much, while also maintaining a relatively stable exchange rate, the central bank passively absorbed a lot of foreign exchange, which put a lot of base money, resulting in a doubling of the expansion of the money supply, and the actual needs of the base currency amount does not want so much, so the central bank in order to effectively control the money supply, the monetary base put a lot of ease inflationary pressures brought about, take frequent hedging measures to reduce the liquidity of commercial banks. Therefore, under existing conditions, improve the central bank's sterilization policy has become a priority. First, to establish a sound bond market, further open market operations play



an important role in the business, improve monetary policy autonomy. On the one hand to adjust the period of central bank bills, one can continue to develop new financial instruments. Such as policy financial bonds, central bank credit auctions and so can become operational tool. In the form of treasury bills issued to the public instead of the finance to bank overdrafts, changed the central bank passively supply of base money for the use of market mechanisms and flexible handling of base money, which will help open market operations; at the same time, on the basis of the existing capital markets established by the Central Bank regulation of capital market system, including the short-term lending market, margin trading market, short-term paper markets and discount markets for the central bank to use monetary policy tools to provide the basis for the regulation of financial markets.

Second, we should try to be flexible with a variety of policy on the basis of the existing foreign exchange management system. Central bank operations in the foreign exchange market will affect the foreign currency lending market liquidity, to make money in the foreign currency market and the RMB interbank lending between market liquidity, money market funds to avoid the influence of the supply and demand and interest rates, coordinating internal and external policy objectives conflict achieve the central bank's policy objectives. Designated foreign exchange banks can obtain the necessary short-term liquidity in the interbank foreign currency market, the easing of exchange rate fluctuations in the market. Short-term foreign currency adjustment facility provided by the foreign exchange interbank market also help banks adjust their foreign exchange balances, reduce the size of China's foreign exchange reserves are high. Thus, the designated foreign exchange banks can take advantage of the flexibility to adjust the money market and foreign currency positions to cope with a large number of enterprises knot (buy) the possible impact of exchange. The central bank to adjust interest rates affect the behavior of banks and foreign exchange companies, both the central bank will not passively absorb a large number of foreign

exchange, it does not appear the phenomenon of foreign exchange loss.

## **5.2 Implement a Prudent Monetary and Fiscal Policies**

### **5.2.1 Flexible use of monetary policy**

In the short term, although as a result of consumer expectations and inflation inertia, the central bank raised the statutory reserve ratio of the implementation is not ideal. But in the long term, China's monetary policy on inflation still plays the role of NT. Therefore, to suppress inflationary pressures, monetary policy must also aid in the process of applying concrete, or to continue the comprehensive use of various monetary policy tools, such as the increase in the statutory reserve ratio, to raise the benchmark interest rate, issuing central bank bills, etc., can not be blindly using only increase the statutory reserve ratio this tool. Because, according to Western economics point of view, changes in the deposit reserve ratio is a more violent action of monetary policy, once the reserve ratio change, all bank credit must expand or contract.

Since the Asian financial crisis, China's central bank began to supply the single currency as the intermediate target of monetary policy, it is for inflation and economic growth is to play a positive role, but it is a fact that can not be ignored: As China's currency by regulating the money supply policy is to play a role, resulting in the implementation of a central bank monetary tools, consumers can quickly reflected signal which is to regulate the economy, making the effect of monetary policy discount.

The reason why China's inflation will exist continuity, on the one hand, both with consumer inflation expectations concerning, because

Here, the central bank can be gradually implemented in the exchange rate and interest rate as the intermediate target of monetary policy, China has taken a

Prepared to implement a variety of intermediate target of monetary policy conditions. At the appropriate time, inflation targeting can also be used. Real

The greatest advantage of inflation targeting is OK as a nominal anchor to stabilize public expectations of inflation, thereby stabilizing

Price volatility. With financial liberalization and China to speed up the pace, intensity and frequency of external shocks will rise, coupled with the exchange

Rate system reform makes China's economic development depends on the gradual loss of the nominal anchor, therefore, adopt inflation targeting in China

Standard system to control the rising price level is feasible.

### **5.2.2 Appropriate Use of the Proactive Fiscal Policy to Curb Recession**

In the use of monetary policy to curb inflation also must take into account the consequences of the accumulation of the policy adopted by the effect of monetary policy on the economy that may arise. Especially now, by the US subprime impact of the global economic slowdown was evident trend, closely rely on monetary policy is impossible, to implement a proactive fiscal policy appropriate, should be more oriented, including low-income groups, including all public, through transfer payments, taxes and other means to stimulate domestic demand to make up for the monetary policy may cause damage to businesses and residents for while absorbing wage increases to inflation pressures. Create more favorable taxation environment for expanding consumer demand and promote the development of the service sector. First, the government should increase the scale of investment. On the one hand, in the face of inflation caused by excess liquidity, increased fiscal spending and deficit financing of non-monetary, and does not increase the amount of money in circulation and therefore will not increase the excess liquidity situation; on the other hand, face RMB appreciation and export slowdown, the need for appropriate government investment to support economic growth in order to prevent the emergence of stagflation. Therefore, fiscal policy needs to be taken to adjust the tight loose in principle to maintain the appropriate size of the deficit at the same time, issuing special bonds, further recovery

of mobility, increase infrastructure investment in the Midwest and rural areas, in order to promote economic sustained and stable growth.

Secondly, the supply effect of fiscal policy, especially for the promotion of the role of technological progress on inflation control is also very important for economic growth. This is because the prices of factors of production is converted to cost-push inflation, depending on the competition and raise prices of factors of production between the fundamental labor productivity, labor productivity and decide the most critical factor is technological progress. So play supply effect of fiscal policy, increased government subsidies for research and development, greatly improve labor productivity, in order to ultimately inhibit cost-push inflation

### **5.3 Fixed Asset Investment to Ease the Impact of Inflation**

Fixed asset investment as an aspect of the overall needs of the community, in the role of a multiplier, which can significantly increase fuel economic growth. All along, China's fixed asset investment growth is faster, on the one hand it does boost the development of China's economy, but on the other hand, excessive growth of fixed asset investment, will make the short-term expansion of investment demand, causing prices to rise in the short term, Therefore, maintaining the proper speed and scale of investment in fixed assets is extremely important.

#### **5.3.1 Strengthen Policy and Credit Management Efforts**

Fast and effective measures to suppress overheated investment in fixed assets mainly using monetary policy from the total investment demand compression in order to effectively control the scale of investment in fixed assets. On the one hand the use of macroeconomic policy instruments to actively market economy, on the other hand will continue to use the traditional means of direct control, including effective administrative measures, jointly control the scale of investment.

First, we must control the source of investment funds. Many companies want to invest in the construction of large-scale, if not the support of bank loans and the issuance of bonds or stocks to raise capital or difficult accomplishing. Therefore, strict control of bank credit lines and bonds, stocks and other issuance amount, to a certain extent, can play a total control of the investment, so that the total size of the investment is kept within reasonable limits. For example, an appropriate increase in lending rates, so that an immediate increase in the cost of money. As a result, investors will inevitably consider the relationship between costs and benefits of the investment, which affects investment decisions, and help curb the expansion of investment demand. While increasing their lending rates also help the banking business, after the savings and loan spreads widening, expanding profit margins of banks will help reduce the pressure on the commercial banks to expand lending, which may lead to a decline in the growth rate of total loans.

Second, in order to strengthen the control of bank credit, the central bank should be included in all financial institutions, credit scale unified management. For example, the central bank may raise interest rates on excess reserves. It is also beneficial to weaken the pressure of commercial bank loans to expand, while also improving the cost of money market funds, a reasonable guide the money market interest rates, flexible and timely adjust the inflow of funds in fixed assets investment amount of credit from the source.

### **5.3.2 Intensive Achieve Economic Growth and Efficiency**

Japan in 1956 - 1973 period of rapid economic growth is no reason why serious inflation, good economic environment in large part thanks to the anti-inflationary policy formation. Japanese government authorities believe that the causes of inflation, although the imbalance of supply and demand, but the key to cure inflation is "to promote scientific and technological progress, adjusting the industrial structure, to

achieve intensive and efficiency of economic growth, increasing the effective supply of society." The Japanese government prioritize the development of heavy and chemical industries; the same time, then the world of modern and advanced industrial sector as a key development leading industries, changes in the industrial structure, so the industrial structure to a higher level, high plus industrialization, high added value of the development. This heavy industrialization policies to promote the development of scientific and technological revolution, to achieve intensive and efficiency of economic growth, has become an important factor in inflation and consumer price increases.

With the rapid development of Chinese economy, the overall low-tech has become a constraint to continue the rapid development of Chinese economy an important bottleneck. RMB appreciation of external, internal devaluation after restricting effect is more pronounced. Therefore, to solve the inflation is to accelerate the transformation of economic development, improve labor productivity, low-cost investment to promote economic growth by relying on the elements to rely on technological progress and innovation to promote economic development, but also actively carry out industrial restructuring, belonging repetitive construction, low-tech items tightening the same time, a number of potential projects or must be given full support, through the introduction of a series of preferential policies in the capital and the talent to give some support. Through all aspects of support, efforts to explore new economic growth points, so as to promote industrial upgrading.

### **5.3.3 Urban Migration**

China has older a considerable quantity of urban migration over the past fifteen years. Urban migrants area unit generally poorer than the present urban population. might urban migration make a case for my results? Poor urban migrants can seemingly have the next food share than the present urban population. however they

even have lower total expenditures. associate flow of poor urban migrants can so move the province in question on the Engel curve, as opposition shifting the Engel curve itself. it's so not clear that the presence of urban migration affects my baseline results. However, to assess the role of urban migration directly, i re-estimate my model mistreatment micro-data from the China house financial gain Project (CHIP) each as well as and excluding migrants. I do that mistreatment the 1995, 1999, 2002 and 2007 CHIP surveys. To estimate equation (3), i merge the CHIP information with the regional worth information that i exploit in my baseline analysis. My Engel curve analysis for the CHIP information is predicated on the food share alone, since this can be the goods that consistent expenditure share information area unit on the market in CHIP.

Table 3.1 compares my estimates of the financial gain and worth elasticities from the CHIP information to my baseline estimates. The calculable financial gain physical property for my baseline specification (Panel A) implies that a tenth increase in real total expenditure is related to a zero.66% increase in food purchases, all else equal. Costa (2001) and economic expert (1950) report similar values of the financial gain physical property of food for the United States of America, whereas Hamilton (2001) reports a well lower worth. The food worth physical property of -0.61, indicates that food is inelastically demanded. The CHIP estimation yields a awfully similar financial gain snap and a worth snap that's somewhat additional negative.

Table 5.2 presents results supported 2 different estimation approaches as well: one) The log-log version of my baseline approach and 2) knowledge aggregate at the income-group as against province level. each approaches yield similar results to my baseline phylogeny. Despite its restricted time-series coverage, CHIP has the advantage that it's supported a separate consumption survey, and additionally a distinct methodology-individual knowledge as against knowledge aggregate at the



regional level.

	Annual Bias 1995-1999	Annual Bias 1999-2002	Annual Bias 2002-2007
Food/Total CHIP with migrants	0.061 (0.006)	0.028 (0.003)	-0.064 (0.007)
Food/Total CHIP without migrants	0.062 (0.006)	0.028 (0.003)	-0.069 (0.007)
Food/Total from main dataset	0.113 (0.009)	0.050 (0.006)	-0.014 (0.007)
Baseline estimates from main dataset	0.096 (0.013)	0.055 (0.009)	-0.028 (0.005)

Table 5.3 compares the inflation bias estimates supported the CHIP information

To our baseline estimates for the 3 time spans over that the CHIP bias may be calculated: 1995-1999, 1999-2002, and 2002-2007. The CHIP estimation yields similar qualitative results to our baseline analysis: an oversized positive inflation bias for 1995-2002, that becomes increasingly smaller, so negative for 2002-2007 amount. whether or not or not migrants area unit enclosed has primarily no impact on the CHIP estimates. this is often in line with the argument we tend to describe higher than that migration cause a movement on the Engel curve as hostile shifts within the Engel



curve. One advantage of my baseline analysis being for province-level averages is that the province-level Engel curve may be more directly analogous to a national-level Engel curve. Beatty and Crossley (2012) discuss the theoretical motivation of the Engel curve approach supported the just about Ideal Demand System. They emphasize that, whereas the Engel curve methodology recovers the amendment within the cost-of-living for a few social unit within the financial gain distribution, it's unclear that one. The relevant social unit is that the social unit receiving zero base amount utility. sadly, however, there's nothing special regarding zero base amount utility. So, the representative social unit can be anyone within the distribution, as opposition referring tom, e.g., the bottom utility social unit.

#### **5.4 Complete Construction of the Chinese Mainland Market**

China does not include the import dependency of processing trade increased from 10 percent in 2001 to around 18 percent in 2007, indicating that prices of imported goods prices on China's growing influence. Based on the above we conclude that the RMB appreciation on inflation in China inhibition exists. More importantly, in 2008 China's stock market by 2007 into a bear market bull stock market decline, the real estate market transactions in the doldrums, the Yuan has appreciated slightly bigger will not bring a lot of hot money inflows, at this time is to accelerate the appreciation of the RENMINBI a better time. In view of this conclusion, we propose the following specific policy recommendations.

#### **5.5 Further Increase China's Foreign Exchange Market Building**

From the perspective of appreciation to consider, China should continue to strengthen the construction of the foreign exchange market in order to enhance the ability to fight the Chinese mainland market, the exchange rate risk. Because China's foreign exchange market is not currently regulate the market a real sense, the anti-risk

ability and flexibility are weak, so in the face of the current appreciation of the renminbi is likely to bring the foreign exchange risk, we should as soon as possible to good response.

China's foreign exchange market, the main single, more than 300 members of the foreign exchange market, mainly by state-owned commercial banks, joint-stock commercial banks, with the approval of the foreign financial institution, a small amount of credit a higher non-bank financial institutions and central banks constitute the operating room, where the central bank and other countries commercial banks play a leading role in market transactions, and transactions of foreign banks and non-bank financial institutions, but there is a serious limitation. In order to promote the process of the RMB exchange rate market, increasing the number of the foreign exchange market transactions subject is necessary, China should relax the conditions of market access and reduce market costs, stimulate active participation in the sex trade access to institutions, but also the development of international practice forex market intermediaries, introducing forex brokers system, improve market competitiveness.

In addition, foreign varieties of Chinese foreign exchange market transactions are less focused on spot transactions dollars, Hong Kong dollars, Japanese yen and the euro, trading currency lacking, seriously hampered the development of a domestic enterprise and multi Baosteel dealings, so should be opened as soon as the renminbi spot foreign exchange trading directly on the world's major convertible currencies and the progressive development of foreign currency transactions and foreign currencies. To facilitate the enterprises to avoid foreign exchange risk, in addition to spot transactions, forward transactions should be introduced as soon as possible, swaps, foreign exchange derivatives trading transactions, repurchase transactions, futures and options, these services will become China's foreign exchange companies and banks to hedge foreign exchange risks, acquisition important tool for profit.

## 5.6 Speed up the Process of Market Interest Rates

Exchange rate determination based on the theory of interest rate parity theory says and asset markets, market-oriented exchange rate adjustment can increase flexibility, flexible exchange rates also need to meet the market, interest rate and exchange rate are two complementary government regulation of the economy is important means. Correct and appropriate interest rate adjustment can guide the flow of funds, effectively prevent the impact of international hot money, and enhance the exchange rate of the currency market, regulatory capacity, making the RMB exchange rate formation mechanism tends to be more perfect.

Interest rate market refers to the state to abandon the direct interest rate management, the establishment of the process of change in market interest rates based on market funds can sensitively reflect supply and demand conditions, and has a flexible and effective interest rate transmission mechanism of indirect control system. The process of mercerization of interest rates, is essentially a process of cultivating the financial markets from low to high levels of conversion, eventually forming a sound financial market, which is a financing tool for variety, reasonable structure: full information disclosure system; endowed with legal and economic market means the regulatory system. Meanwhile, the interest rate market will favor the formation of the central bank indirect control mechanism of financial markets, to improve the financial institution-building play a crucial role.

Interest rate market interest rates will not completely abandon the national regulation to its own funds fluctuate according to market supply and demand, but the central bank to abandon the direct management of interest rates, but only affect the regulation of bank interest rates or interest rates or market through indirect means, to achieve steady rates run. To achieve this goal, we require the central bank has seen much progress in the use of indirect control tools such as open market operations,

rediscount, the reserve ratio, etc., especially intensified open market operations, the central bank monetary base put in the account for a large proportion.

But these indirect effects of regulatory instruments under the current conditions are not yet fully played out, most remain in the capital amount of adjustment, subject to the current interest rate controls, had little impact on the deposit and lending rates, the impact on market interest rates also not very clear, short-term market interest rates difficult to play the role of intermediate target of monetary policy. Judging from the regulatory capacity, although in recent years continue to strengthen financial supervision and regulatory effects has increased, but still remain in the examination level, lack of depth and breadth. Meanwhile, the technology behind is also a serious problem, leading to inefficiencies, resulting in non-standard statistical information distortion, analysis and monitoring is still subjective judgment, the lack of application of high-tech means of quantitative analysis. Therefore, it is imperative to speed up market-based interest rate.

In summary, in coordination with the regulation of the timing, control the direction, control efforts and policy aspects, it is necessary to prevent the economy from overheating Piankuai risk, but also to avoid the policy "overshoot" and lead to economic "hard landing." Therefore, the macro-control should follow the following two principles: first, the macro-control according to economic laws. Macro-control must be based on a clear understanding of the economic operation of law on the operation, can really play in regulating the economy, reducing the role of fluctuations in the economy. Second, the macro-control to follow the principle of timely and appropriate. The so-called timely, is to the stage and the principal contradiction, choose the right time to carry out macro-control according to the economic cycle; the so-called moderate, is to grasp the intensity of macroeconomic regulation and intensity light or too heavy to avoid biased policy adjustment. In other words, we need to take a different targeted countermeasures according to reason, but also in order to

remedy certain program or priority-based, combined with other governance programs were integrated. In short, controlling inflation is a systematic project, each governance programs complement each other in order to achieve the desired results.



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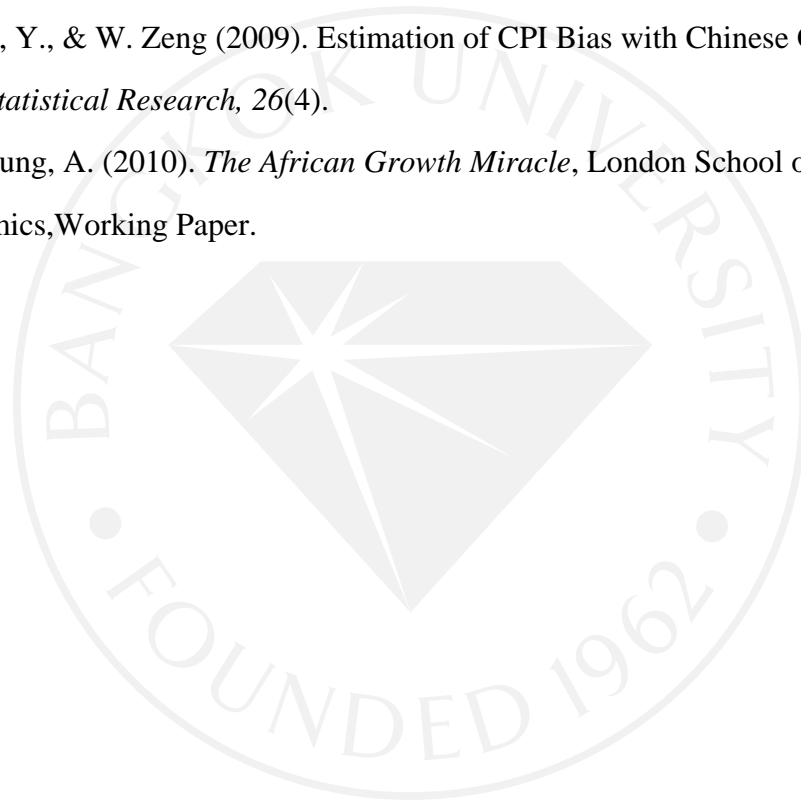
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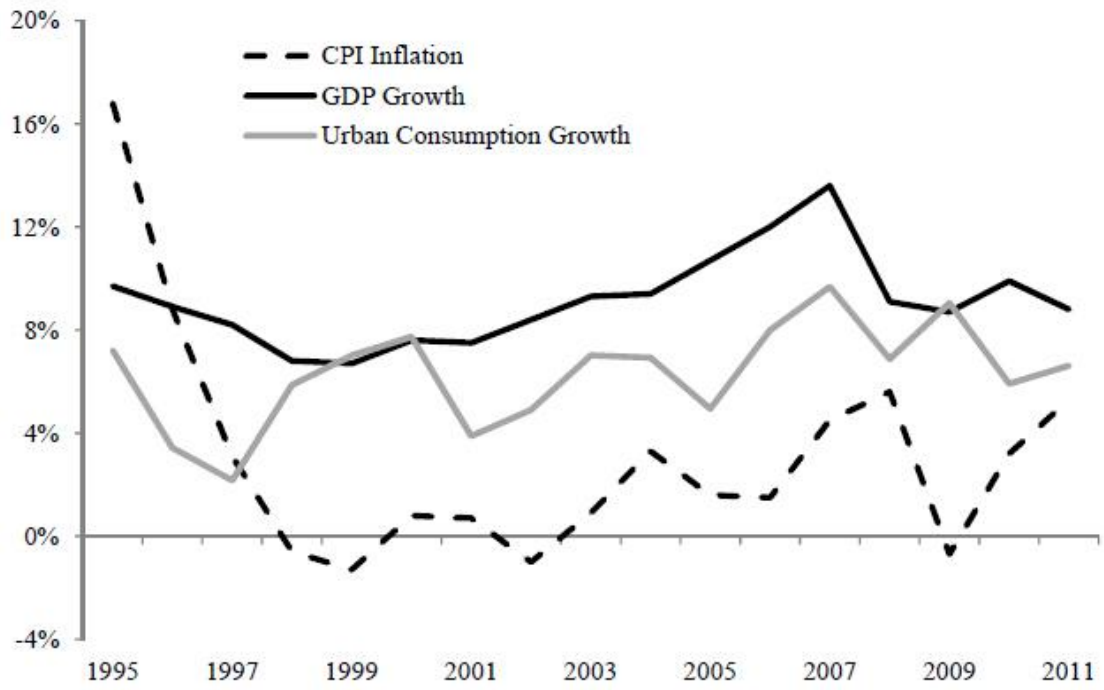


Figure 2: Official Growth and Inflation in China

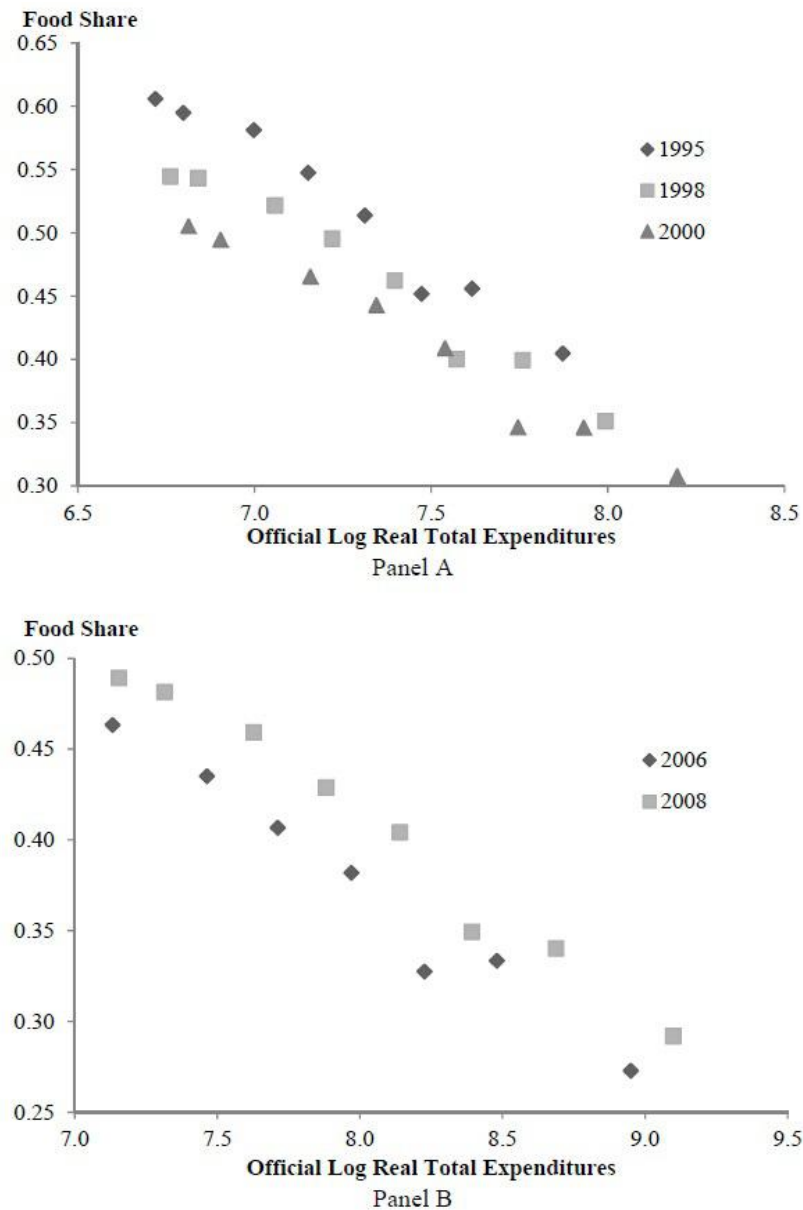


Figure 3: Income Group Engel Curves

The figure plots the expenditure share on food for 8 completely different financial gain teams in China for varied years. The rounded food shares square measure adjusted for financial gain cluster fastened effects (the omitted class is that the second highest financial gain group) Associate in Nursing movements within the relative value of food victimization an estimate for the value physical property of food from my baseline regional specification

from section five. Real Total Expenditures square measure measured in 1985 Chinese Yuan.

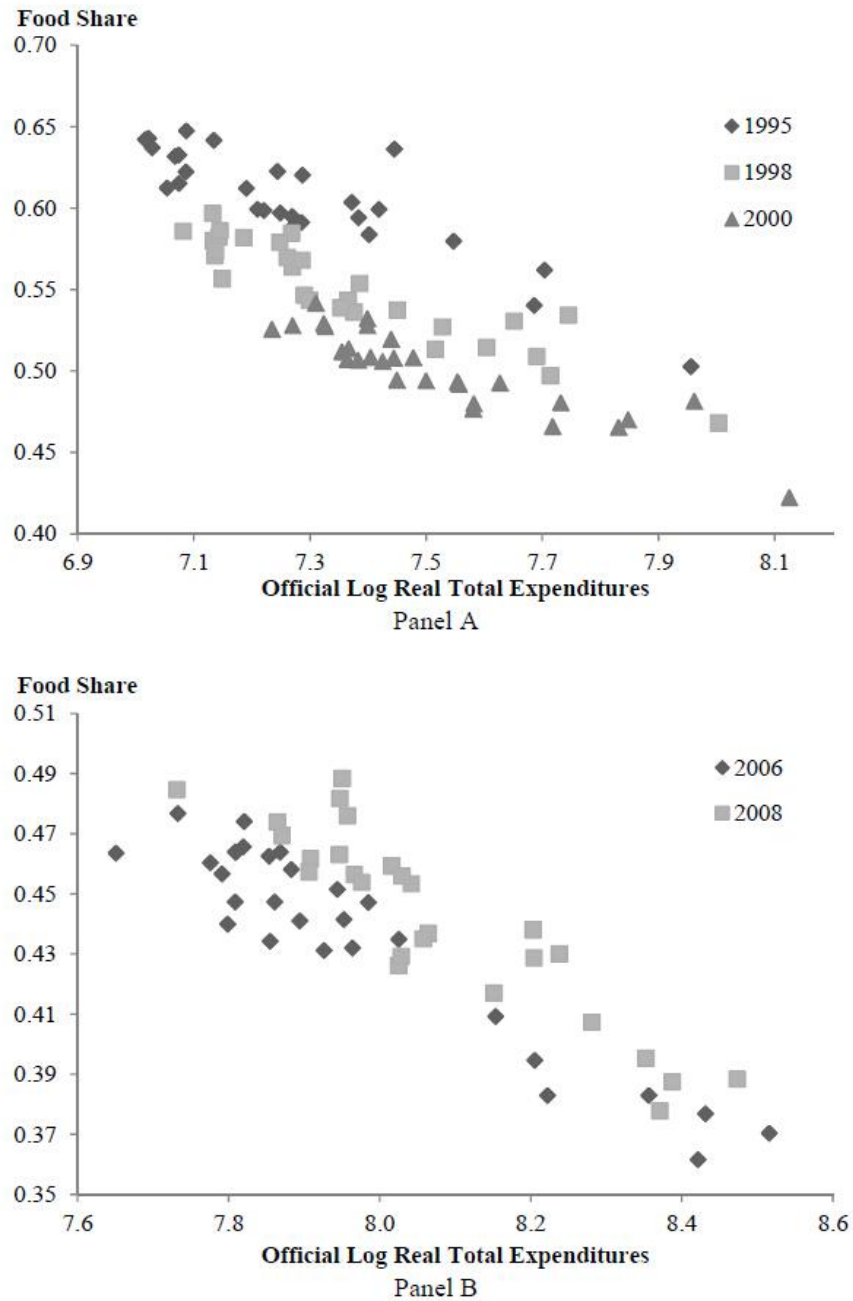


Figure 4: Region Engel Curves for Food

The figure plots the expenditure share on food as a operate of log total expenditures for thirty totally different regions in China for varied years. The

reportable food shares square measure adjusted for region mounted effects (the omitted region is Anhui), movements within the relative worth of food and demographic controls victimization estimates from my baseline specification from section five. Real Total Expenditures square measure measured in 1985 Chinese Yuan.

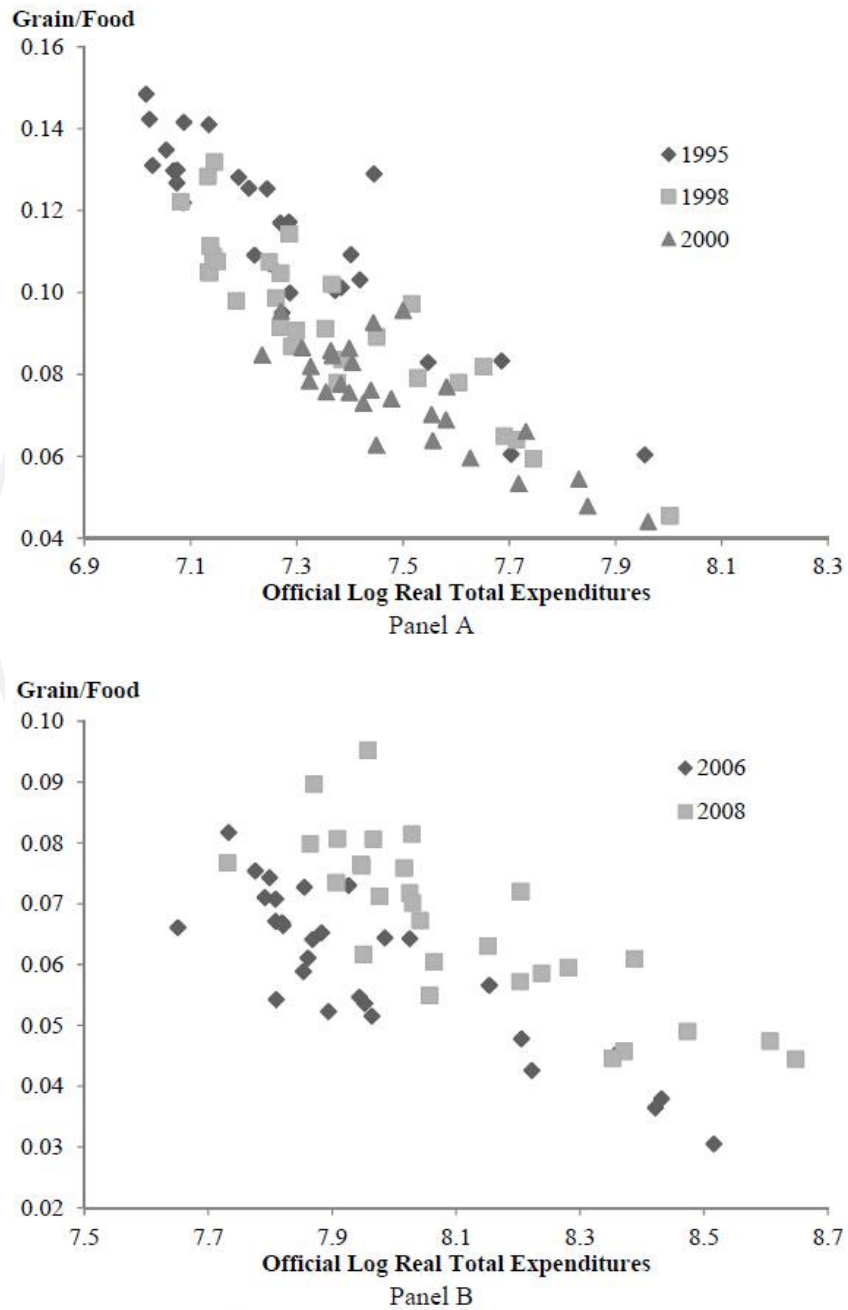


Figure 5: Region Engel Curves for Grain

The figure plots expenditures on grain as a fraction of expenditures on food as a function of log total expenditures for thirty totally different regions in China for numerous years. The reportable grain/food shares square measure adjusted for region mounted effects (the omitted region is Anhui), movements within the relative value of grain, and demographic controls exploitation estimate from our baseline specification from section five. Real Total Expenditures square measure in 1985 Chinese Yuan.

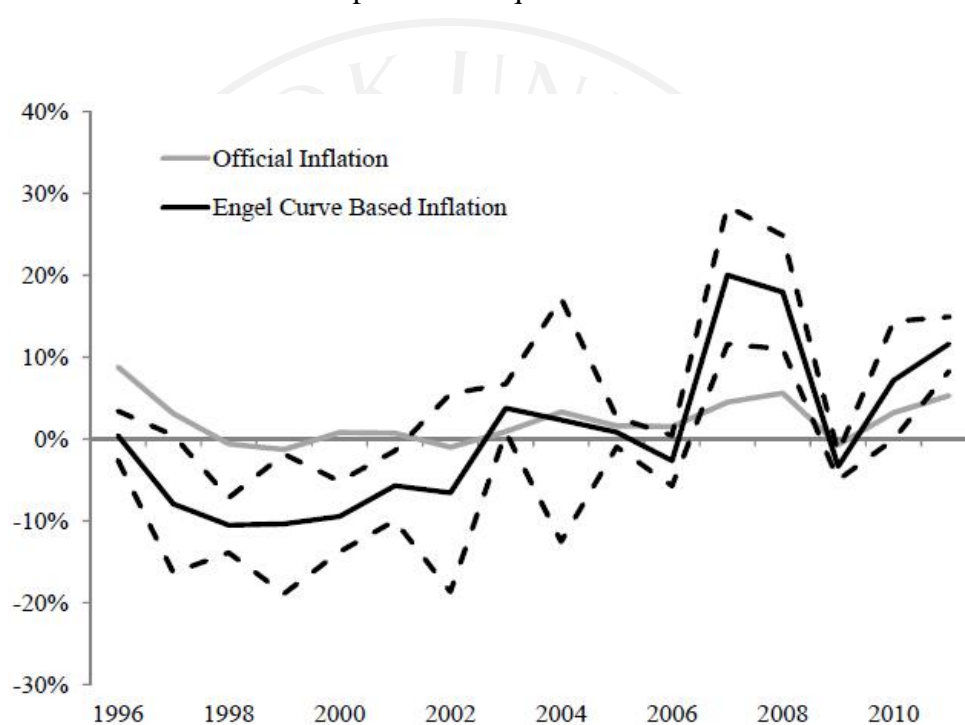


Figure 6: Official and Engel Curve Based Inflation

Note: Official inflation is that the Chinese CPI. Adjusted inflation is from a pooled specification exploitation the Engel curve for food expenditures as a fraction of total expenditures and Engel curves for the expenditures on fourteen major subcategories of food (e.g., grain, mean or ingestion out) as a fraction of food expenditures. dotted lines square measure 2 standard error bands. customary errors square measure clustered by artifact.



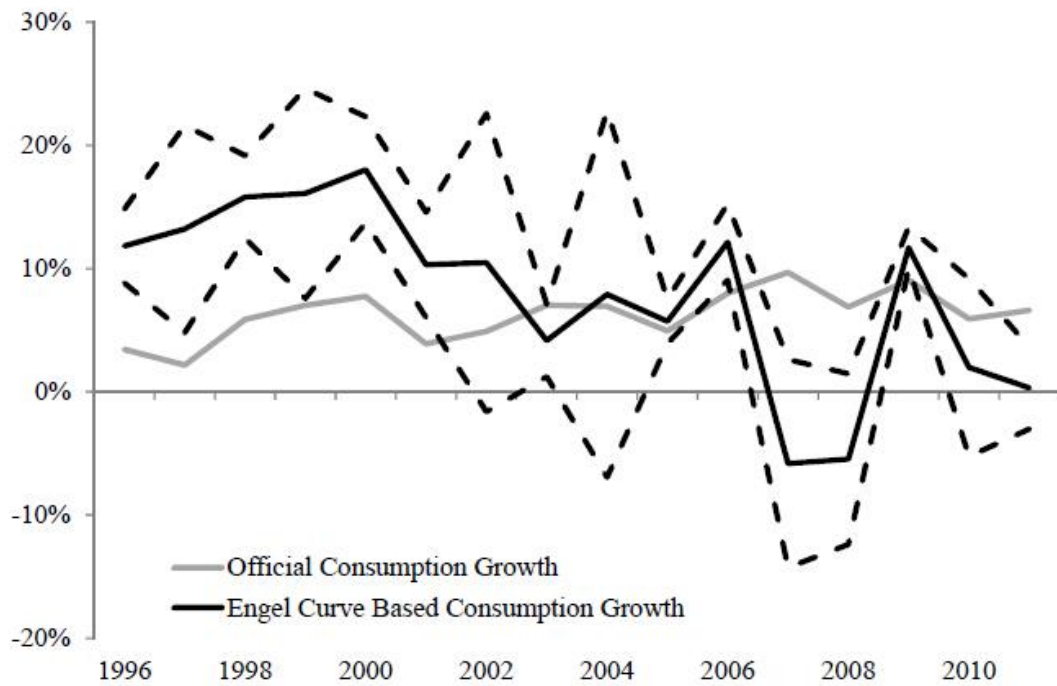


Figure 7: Official and Engel Curve Based Urban Consumption Growth

Note: Adjusted urban consumption growth is from a pooled specification victimization the Engel curve for food expenditures as a fraction of total expenditures and Engel curves for the expenditures on fourteen major subcategories of food (e.g., grain, meat or consumption out) as a fraction of food expenditures. Official consumption growth is for urban consumption from the National Accounts. broken lines are 2 customary error bands. customary errors are clustered by artefact.

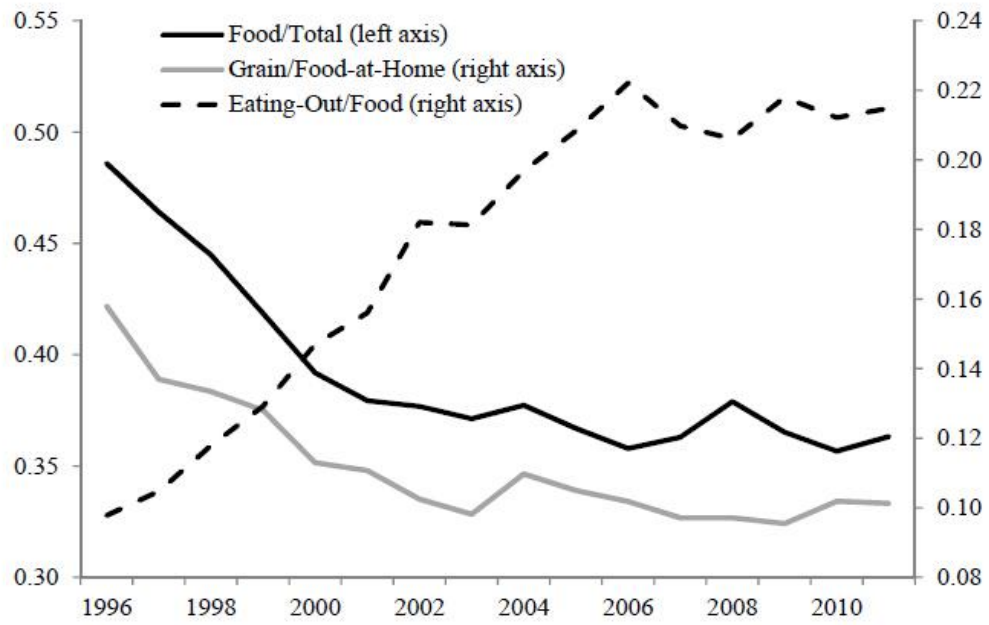


Figure 8: Evolution of Expenditure Share for Food, Grain, and Eating Out

The figure plots the evolution over time of the share of total expenditures that go towards food, the share of food-at-home expenditures that go towards grain, and also the share of food expenditures that go toward intake out.

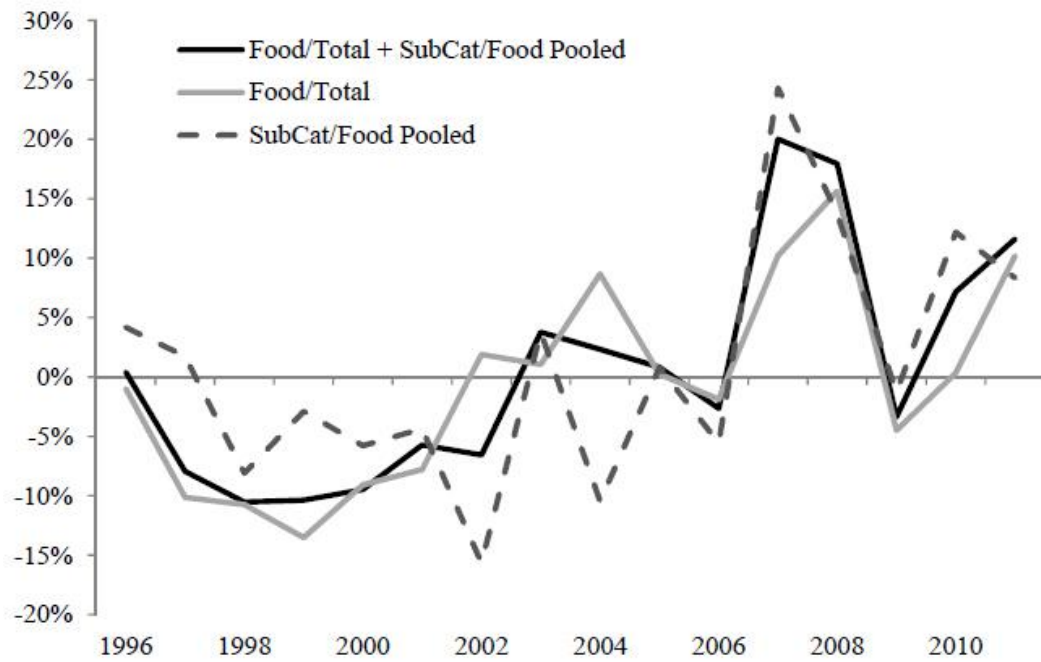


Figure 9: Food versus Subcategories of Food

The figure plots results supported 3 specifications. the primary is that the baseline specification that pools the Engel curve for food expenditures as a fraction of total expenditures and Engel curves for the expenditures on fourteen major subcategories of food as a fraction of food expenditures. The second specification is for the Engel curve for food expenditures solely. The third specification pools the Engel curves for the expenditures on the 14 major subcategories of food as a fraction of food expenditures solely.

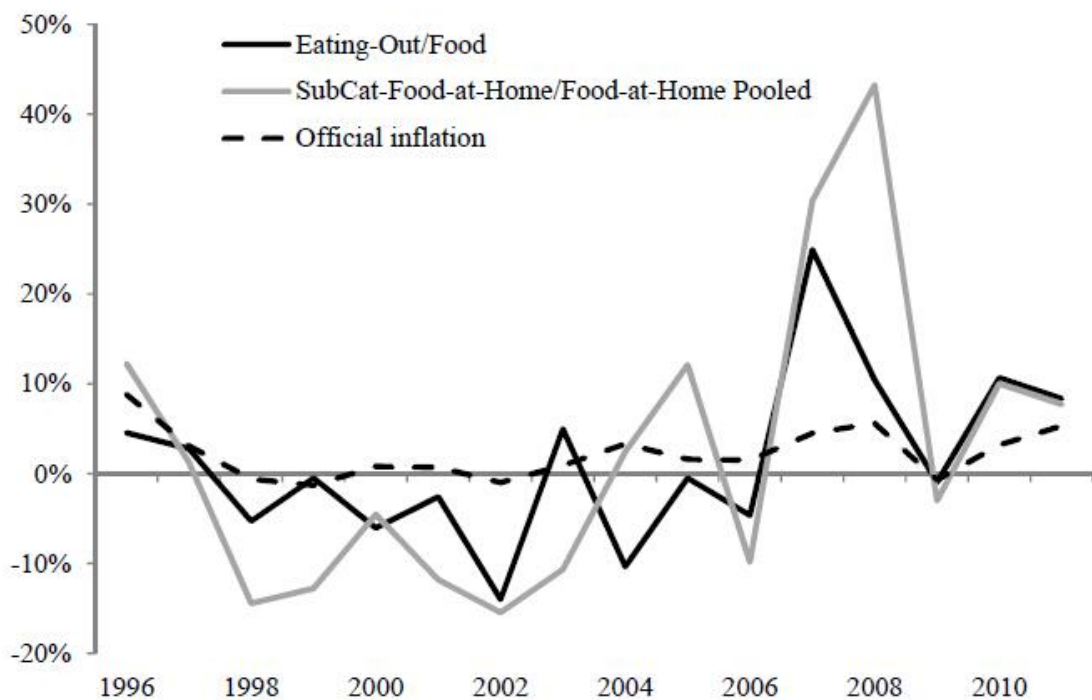


Figure 10: Eating Out versus Subcategories of Food-at-Home

The figure plots official inflation together with 2 Engel curve primarily based estimates of inflation. The dark line is associate estimate of inflation supported the Engel curve for expenditures on feeding out relative to food, whereas the lighter line is associate estimate of inflation supported a specification that pools thirteen Engel curves for expenditures on thirteen subcategories of food relative to total expenditures on food reception.

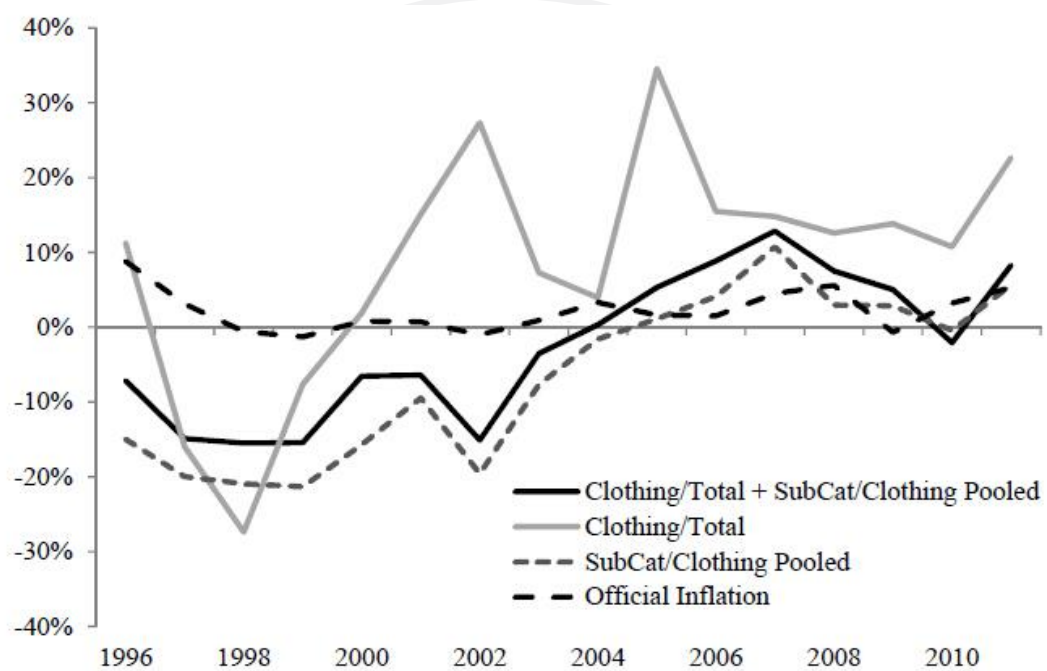


Figure 11: Clothing and Subcategories of Clothing

The figure plots official inflation along side 3 Engel curve primarily based estimates of inflation. The unbroken dark line is Associate in Nursing estimate of inflation supported a specification that pools the Engel curves for article of clothing expenditures as a fraction of total expenditures and Engel curves for all subcategories of article of clothing. The unbroken lightweight line relies on the Engel curve for the article of clothing share alone, whereas the dark grey line relies on a pooled specification of the subcategories of article of clothing alone.

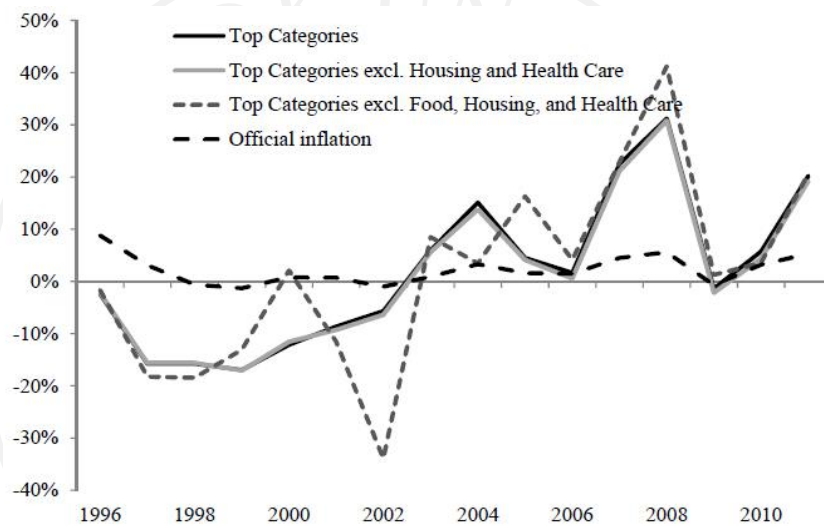


Figure 12: Top Categories

The figure plots official inflation beside 3 Engel curve primarily based estimates of inflation. The unbroken dark line is predicated on a specification that pools the Engel curves for the expenditure share of all prime classes. The unbroken light-weight line is that the same except that it excludes housing and education. The dark grey broken line is that the same expect that it additionally excludes food.

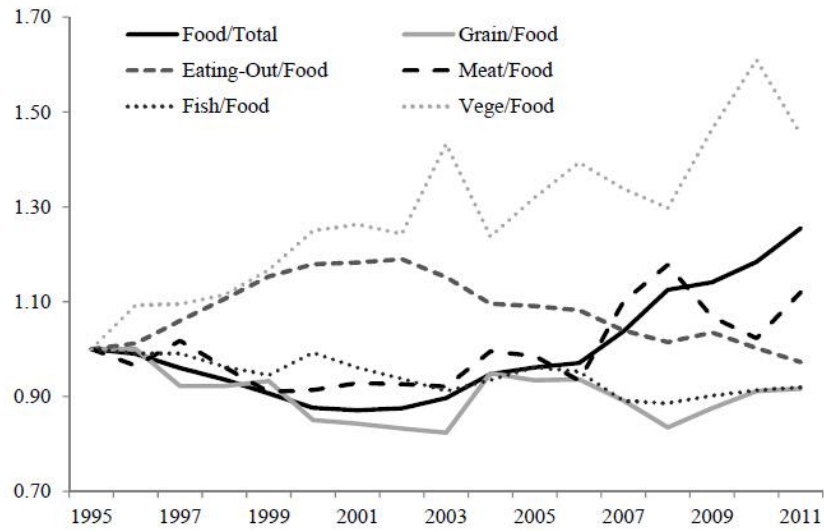


Figure 13: Relative Prices

The figure plots the worth of food relative to total expenditure, the worth of grain, eating out, meat, fish and vegetables relative to food. All series square measure normalized to one in 1995.

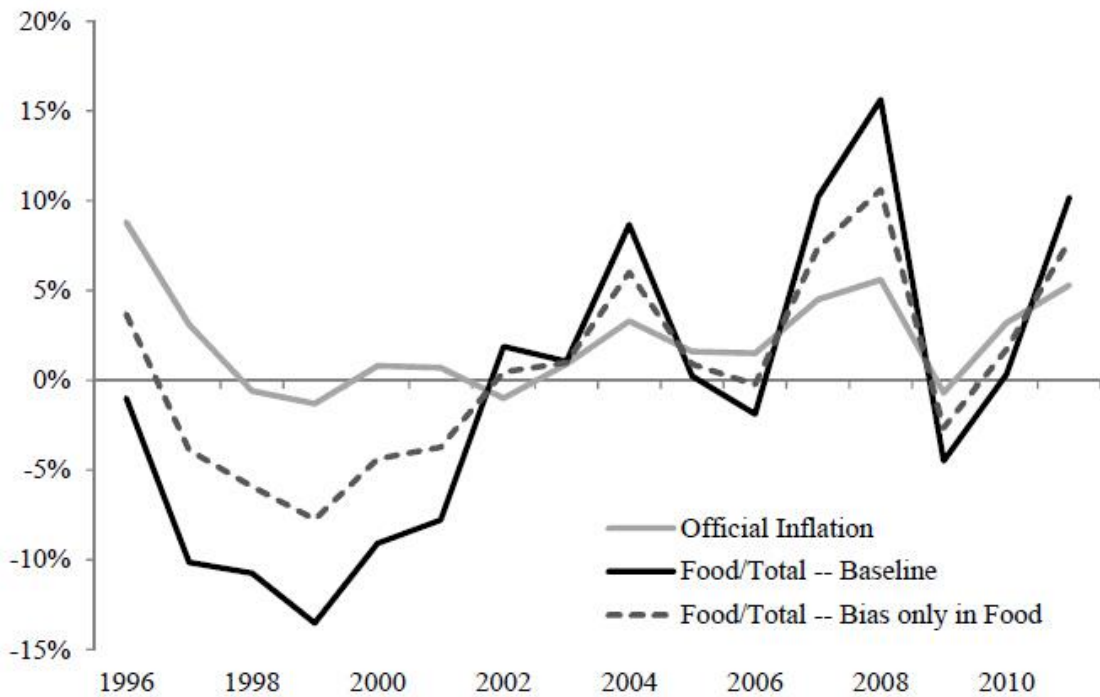


Figure 14: Food versus Subcategories of Food

The figure plots official CPI inflation and inflation calculable supported 2 Engel curve specifications. The first specification is that the baseline version of the Food/Total specification (same as in Figure 8). The second version is additionally based on Food/Total, however assumes that the complete CPI bias is focused in Food.

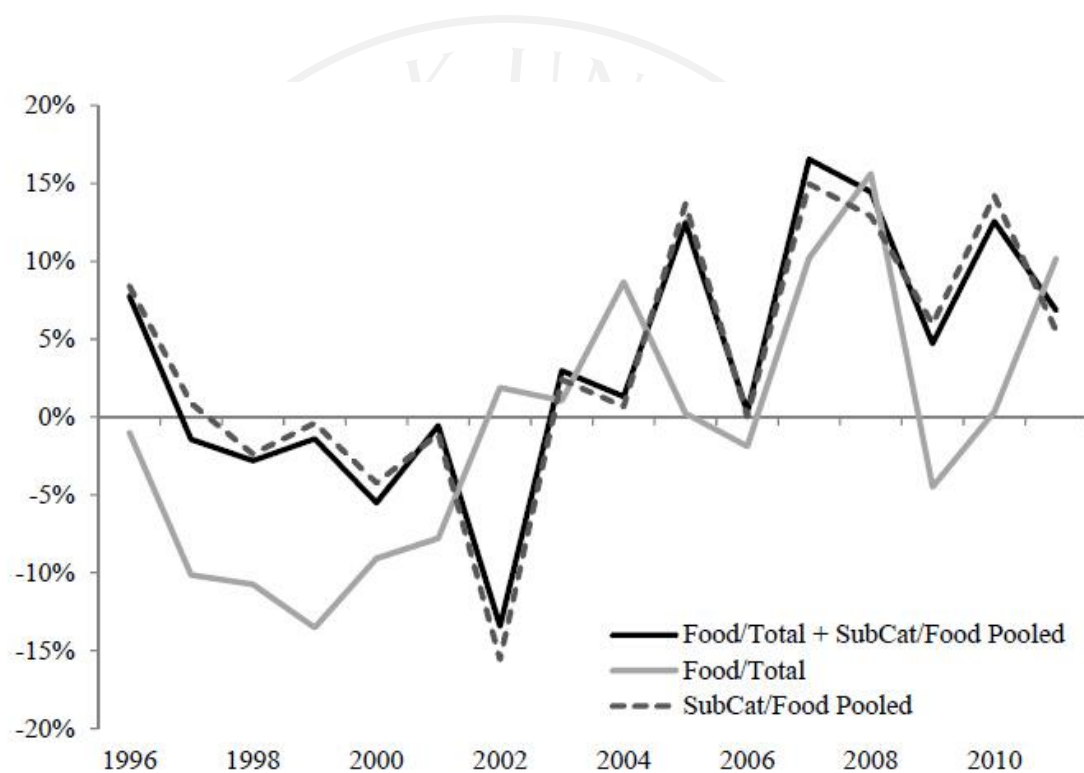


Figure 15: Food versus Subcategories of Food Scaled

The figure plots results supported 3 specifications. the primary is that the baseline specification that pools the Engel curve for food expenditures as a fraction of total expenditures and Engel curves for the expenditures on fourteen major subcategories of food as a fraction of food expenditures. The second specification is for the Engel curve for food expenditures solely. The third specification pools the Engel curves for the expenditures on the fourteen major subcategories of food as a fraction of food



expenditures solely. within the pooled specifications, the Engel curves are scaled by the common expenditure share for the merchandise in question to scale back heteroskedasticity.

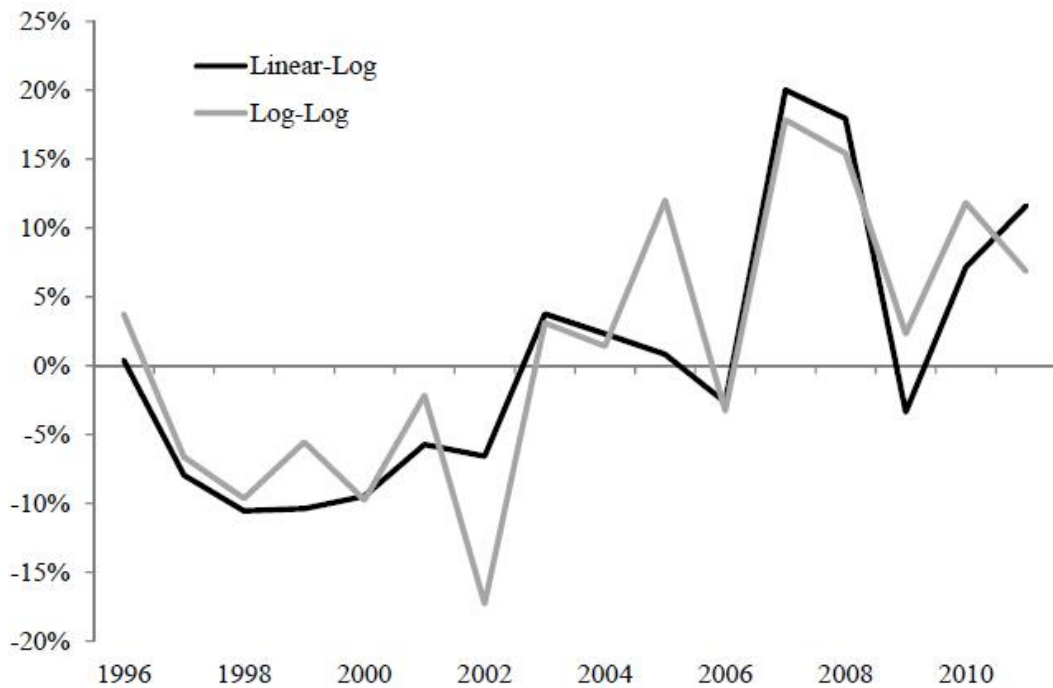


Figure 16: Linear-Log versus Log-Log Specification

The figure plots results supported our baseline specification and an alternate version of this specification wherever the variable quantity is that the log of the expenditure share as critical the extent of the expenditure share. In both cases the results are supported a specification that pools the Engel curve for food expenditures as a fraction of total expenditures and Engel curves for the expenditures on fourteen major subcategories of food as a fraction of food expenditures.

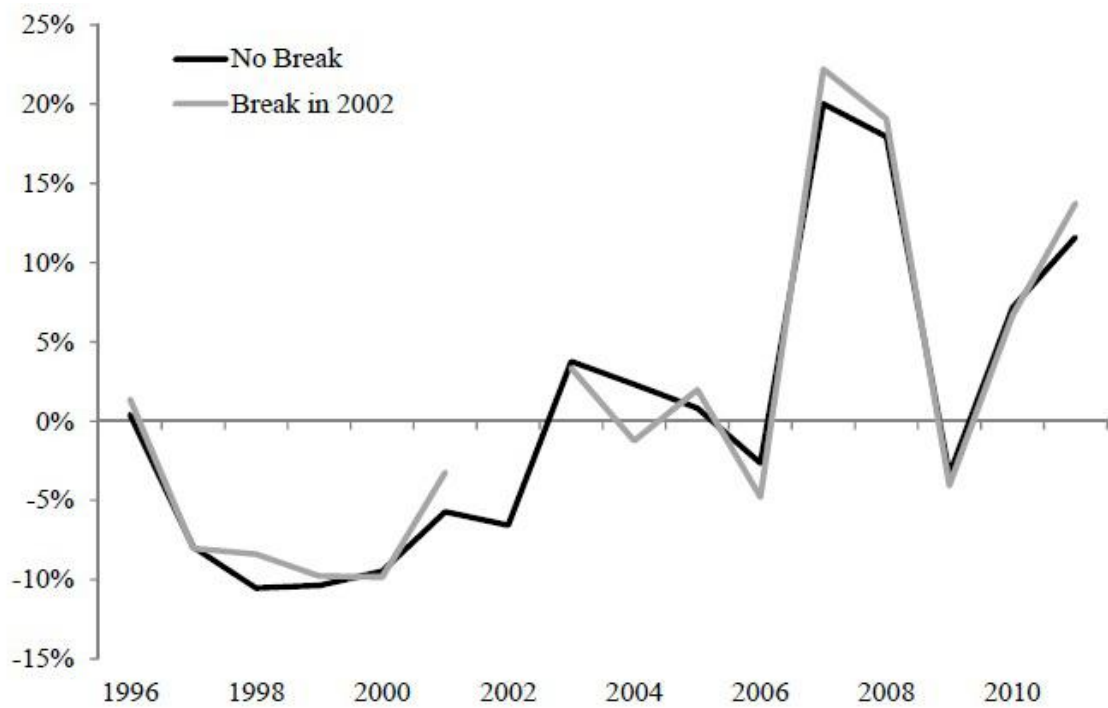


Figure 17: Separate Engel Curves Pre and Post 2002

The figure plots results supported our baseline specification and another version of this specification wherever we permit the Engel curve coefficients to vary before and when 2002. In each cases the results square measure supported a specification that pools the Engel curve for food expenditures as a fraction of total expenditures and Engel curves for the expenditures on 14 major subcategories of food as a fraction of food expenditures.

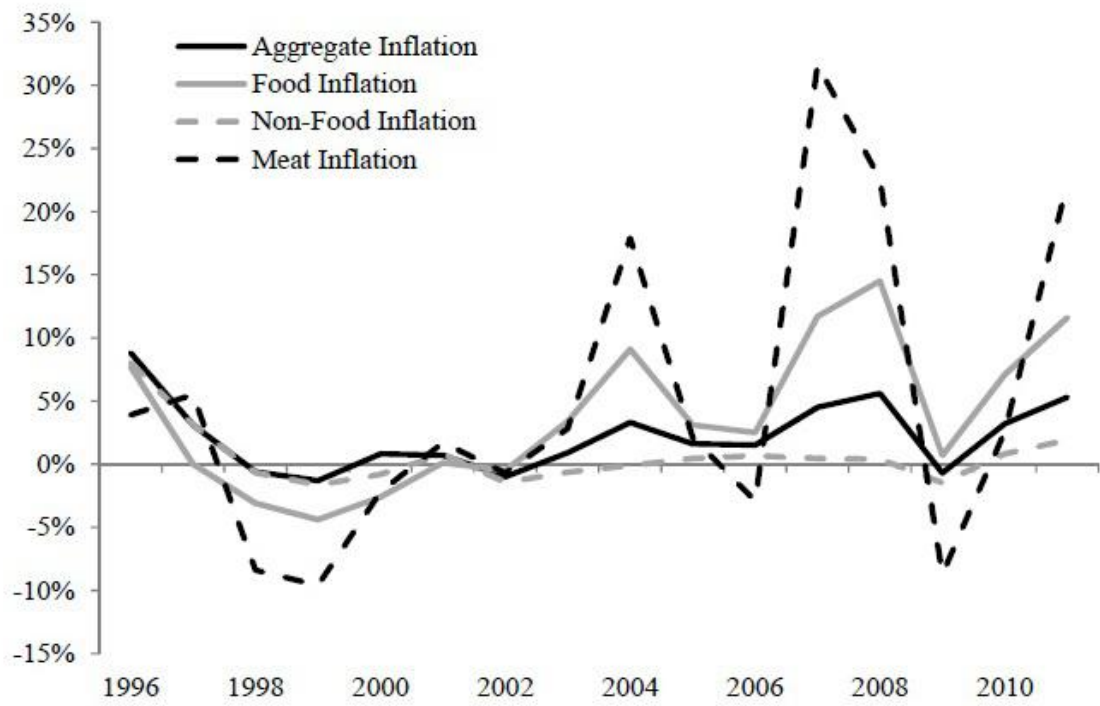


Figure 18: Food and Meat Inflation

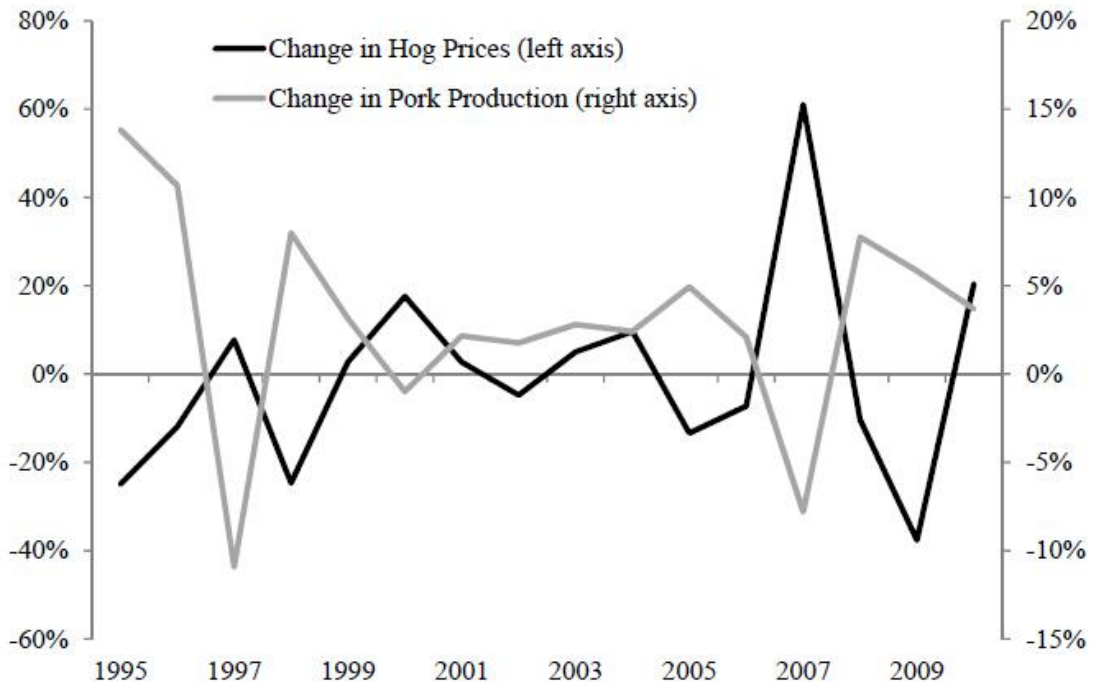


Figure 19: Changes in Prices and Production of Pork

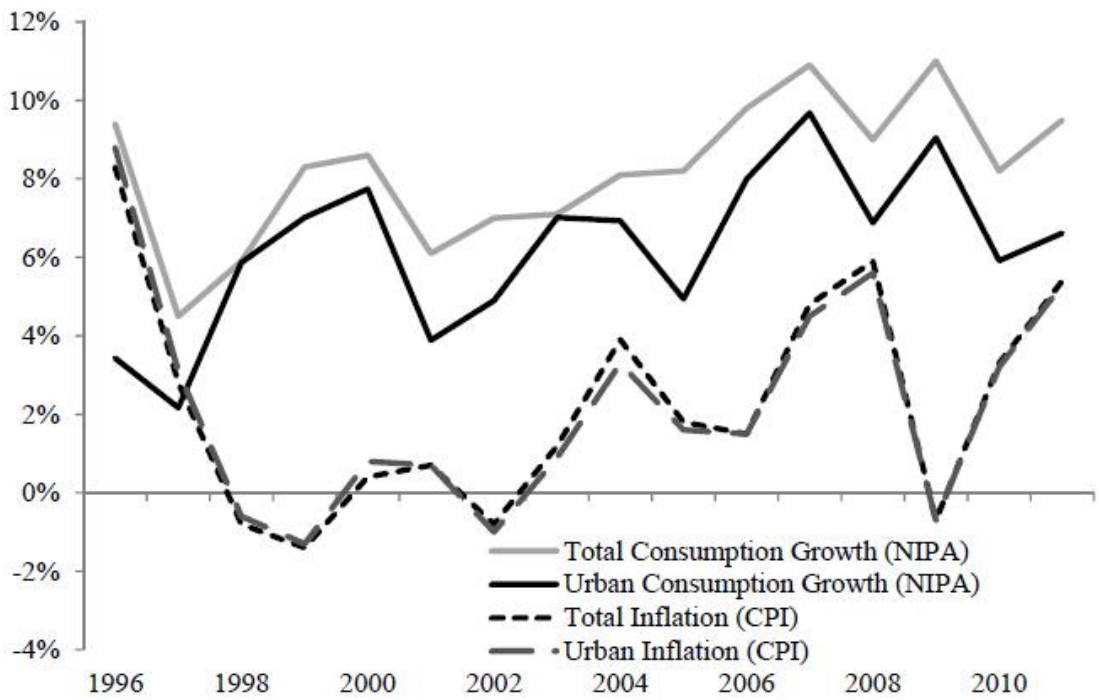


Figure A.1: Official Inflation and Real Consumption: Urban vs. Total

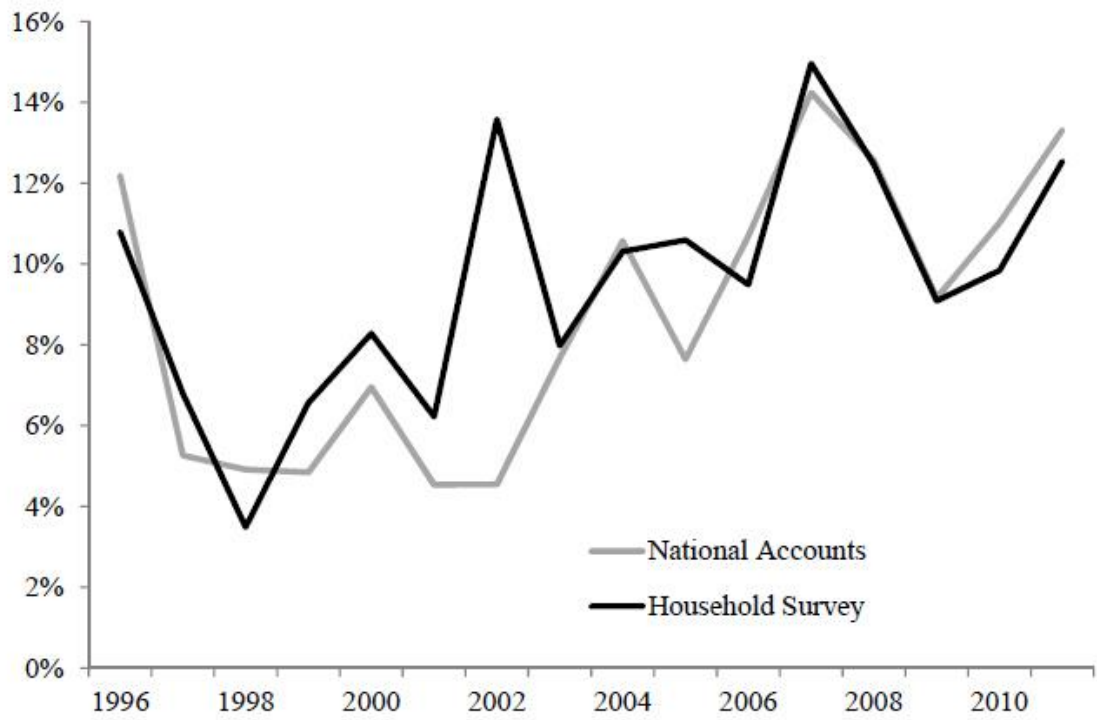


Figure A.2: Nominal Consumption: National Accounts vs. Household Survey

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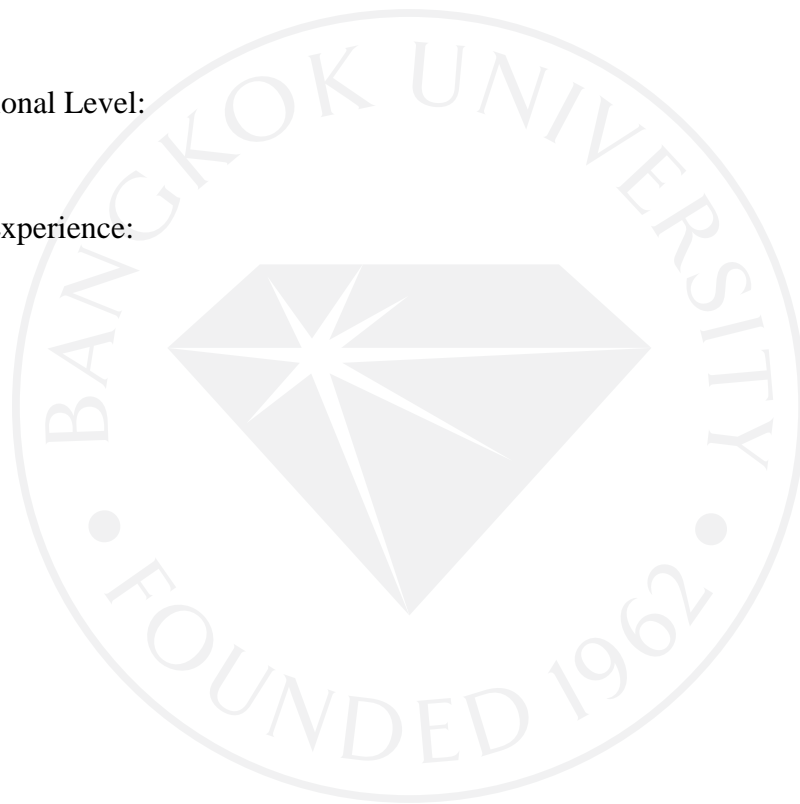
Name-Surname: MR. DIFAN CUI

Address: 55/62 Pansin Place, 24/3 Ramkhamhaeng, Huamak, Bangabi, Bangkok

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Soi 24/3 Ramkhampheng Street Ramkhampheng  
Sub-district Huamak District Bangabi  
Province Bangkok Postal Code 10240 being a Bangkok  
University student, student ID 7560203742

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