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Does Financial Globalization Discipline Macroeconomic Policies

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ABSTRACT

Using the unbalanced panel data of 160 countries from 1970 to 2007, we employ inflation and the budget deficit as proxies for monetary policy and fiscal policy, respectively, and study whether financial globalization has discipline effects on these macroeconomic policies. The empirical results in our study suggest a significant discipline effect of financial globalization on monetary policy during the entire sample period, which is robust both to de jure and to de facto measures of financial openness. Our sub-sample investigations demonstrate that financial globalization reduces inflation only in higher-middle-income and high-income countries, and when financial globalization is scaled by the proportion of a country's foreign assets and liabilities to its GDP, the discipline is evident only after 1988. Nevertheless, we do not demonstrate any evidence of financial globalization's discipline effect on fiscal policy. The empirical results indicate that financial globalization even increases the budget deficit in certain countries and periods.

Keywords: Financial Globalization; Monetary Policy; Fiscal Policy; Discipline Effect

1. Introduction

Financial globalization is perceived to promote economic growth and facilitate risk-sharing all over the world. Given the strong progress toward financial integration and the fast economic growth in de-

veloping countries during the past two decades, the benefits of financial globalization seem to be partly verified. However, although there is a growing body of literature in this domain, no empirical consensus regarding the growth benefits of financial liberalization has been reached (Eichengreen, 2001; Karad-

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am & Ocal, 2014). Moreover, due to the frequent occurrences of financial crisis since the 1980s and especially the outburst of the global financial crisis in 2008, people have begun to assess the advantages and disadvantages of financial globalization more rigorously.

Kose et al. (2009a) believe that the reason why the causal effect of financial globalization on economic growth cannot be detected despite the apparent statistical relationship between financial globalization and growth is that structural, institutional, and macroeconomic policy variables are incorporated in the regressions that explain the growth of GDP. Because these variables may capture some of the collateral benefits of financial globalization, the explanatory power left for financial globalization itself could be very little. In this case, because it is difficult to examine the direct effect of financial globalization, we can instead detect its indirect effect, namely the collateral benefits, by studying how financial globalization works through other intermediate pathways, to gain a better understanding of financial globalization's effects on the economy.

Since the mid-1980s, there has been a global trend of disinflation. Within the 1990s, the global inflation dropped from 30% to 4% (Rogoff, 2003). In addition, the global fiscal deficit level has been declining. The average government fiscal deficit in developing countries fell from 6% in the first half of the 1980s to 2% in the second half of the 1990s (Tytell & Wei, 2004). The decline of inflation and fiscal deficit level are attributed to the "Discipline Effect" of financial globalization, which works partially in the sense that favorable macroeconomic environments or investment climates will attract capital inflows whereas high fiscal deficits and serious inflation will cause market panics and serious capital flight, negatively affecting the real economy. Thus, financial globalization may induce the government to pursue better macroeconomic policies, such as tightening budget deficits and stabilizing inflation, for fear of economic deterioration. The discipline effect is just one of the aforementioned potential collateral benefits of financial globalization. If the discipline

effect can be verified, which is what we attempt to do in this paper, then we can conclude that financial liberalization brings some benefits.

Unlike the rich empirical literature on the relationship between financial globalization and economic growth, studies directly analyzing whether financial globalization disciplines macroeconomic policies are notably limited. As far as we know, there are only five existing papers examining the discipline effect of financial globalization. Specifically, Kim (2003) and Furceri & Zdzienicka (2012) examine the impact of financial globalization on fiscal policy, Spiegel (2009) and Taghipour & Mousavi (2011) analyze the impact on monetary policy, whereas Tytell & Wei (2004) investigate both the fiscal policy and monetary policy. The results of these studies vary considerably. Kim (2003) and Furceri & Zdzienicka (2012) both find evidence of a discipline effect of financial globalization on fiscal policy. Spiegel (2009) confirms a negative relationship between inflation and financial globalization, although this relationship is significant only in rich countries. However, using a sample of developing countries, Taghipour & Mousavi (2011) substantiate the negative relationship. Tytell & Wei (2004) find no evidence of a discipline effect on fiscal policy, although they confirm a robust discipline effect on monetary policy.

Although the discipline effect of financial globalization is plausible in theory, it seems hard to find consistent empirical evidence. The inconformity of the results is highly attributable to the data and methodologies adopted in these studies. Therefore, in this paper, we aim to use the data of 160 countries from 1970 to 2007 to deploy a much more comprehensive analysis on financial globalization's discipline effect on both monetary and fiscal policy. Our study adds to the existing literature mainly in three aspects. First, we examine the robustness of this discipline effect to the different measures of financial globalization. Second, we assess the change of the discipline effect over time. Third, we discuss whether the discipline effect varies among different income groups of countries.

The remainder of this paper is structured as fol-

lows. Section 2 introduces the theories of financial globalization’s discipline effect. Section 3 presents the data and describes the main variables. Section 4 reports the regression results. Section 5 presents the conclusions.

2. Theoretical Background

The discipline effect was proposed in the 1990s. The earliest formal claim was made by the First Deputy Managing Director of the IMF, Stanley Fisher (1997), who said, “International capital flows tend to be highly sensitive to macroeconomic policies, to the soundness of the banking system, and to economic and political developments. Accordingly, market forces can exert a disciplining influence on macroeconomic policies. Normally, when the market’s judgment is right, this discipline is valuable, rewarding good policies and penalizing bad.” This perspective was also adopted by Stiglitz (2000). However, it seems that economics scholars are more concerned about practical and direct issues such as whether financial globalization can promote economic growth; thus, academic examination of the discipline effect is scarce, and studies on the mechanisms of the discipline effect are even scarcer.

In addition to a comprehensive empirical study on the discipline effect of financial globalization, Tytell & Wei (2004) also develop a theoretical model to formalize the logic behind the discipline effect. Their model illustrates that because foreign invest-

ment was one input in the production function and the investment levels of foreign investors are positively determined by the probability of the domestic government adopting good macroeconomic policies, the government tends to maximize its objective function by raising the possibility of adopting good macroeconomic policies when financial globalization deepens to increase the domestic product. Nevertheless, a caveat should be noted that their conclusion is based on the premise that higher foreign investment will increase domestic production, which is questioned by other scholars, such as Schularick and Steger (2010).

Rogoff (2003) provides a specific perspective about the effect of financial globalization on monetary policy. In his opinion, international integration including financial globalization can increase the competition in goods and labor markets, thereby reducing price levels and increasing wage and price flexibility in domestic markets. Consequently, the effectiveness of unanticipated loose monetary policies declines as the effects of these policies become smaller and more transitory. In this case, there is less incentive for central banks to use inflation as a source of government revenue. Regarding the discipline effect on fiscal policy, one plausible mechanism is that financial globalization promotes international risk-sharing by providing better opportunities for countries to smooth consumption, which simultaneously reduces the possibilities of budget deficits (Kose et al., 2009b).

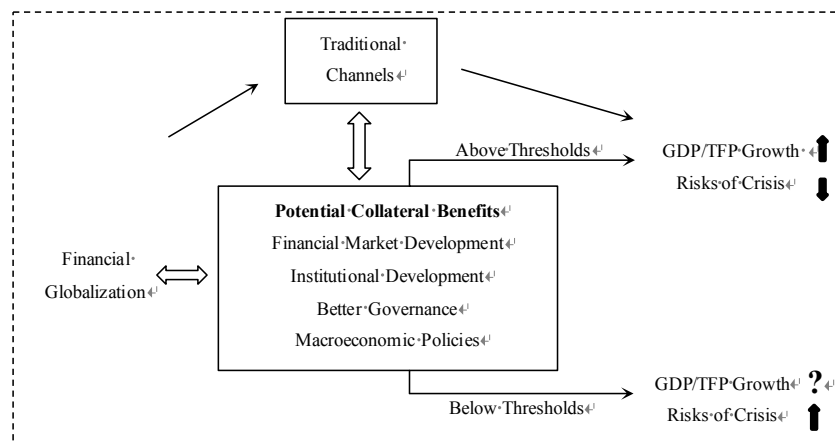


Figure 1. Growth benefits of financial globalization.

Sources: Kose et al. (2009a).

Kose et al. (2009a) propose a unified framework to describe the impact of financial globalization on economic growth. The traditional view is that financial globalization can promote economic growth through many direct channels such as improving the efficiency of international capital allocation efficiency, financing domestic investment, and increasing risk-sharing all over the world. As shown in **Figure 1**, Kose et al. (2009a) state that besides these direct effects, financial globalization can also promote the development of a country through indirect means such as developing the financial market, improving institutional arrangements, disciplining the country's macroeconomic policies, and so on. Actually, the existence of these indirect channels also accounts in two ways for the fact that present studies about financial globalization's effects on economic growth have not reached a unanimous conclusion. First, financial globalization takes a long time to show its effect on economic growth because it works more through these indirect channels than the direct means. Second, it is difficult to detect the impact of financial globalization when the proxies for these indirect channels such as institutional quality, financial development, and macroeconomic policy quality are included in the regressions. Thanks to these two reasons, the coefficient on financial globalization can be easily found to be insignificant.

Although Kose et al. (2009a) claim that financial globalization can affect economic growth through indirect channels including macroeconomic policies, they admit that these indirect mechanisms may only work when certain initial conditions are met. More importantly, the components of the indirect channels are perhaps included in the initial conditions. Specifically, only when the macroeconomic factors of an economy such as financial development, institutional quality, and macroeconomic policies reach a certain threshold can financial globalization positively influence economic growth. Many other studies have also confirmed this view. For example, Mody & Murshid (2005) find that foreign inflows have stronger impact on investment in countries that pursue better macroeconomic policies. Kose et al. (2011) also substan-

tiate that certain "threshold" levels of financial and institutional development need to be satisfied before the indirect benefits of financial globalization are achieved. Thus, according to these arguments, it is reasonable to believe that there may also exist some conditions for the channel of macroeconomic policies to take effect, which we will discuss later.

3. Data and Variables

3.1 Data Sources and Processing

In our empirical analysis, the data utilized are mainly obtained from four databases. First, the data used to calculate the de facto measures financial globalization is from Lane & Milesi-Ferretti (2007). Second, we use the de jure measure of financial globalization calculated by Chinn & Ito (2008). Third, the data of inflation, fiscal deficit, and other macroeconomic indicators are drawn from the International Financial Statistics (IFS) of IMF. Fourth, the purchasing power parity GDP (PPPGDP) of the sample countries is from the Pen World Table.

To ensure the validity of the data, we exclude the following four categories of countries in our sample: (1) three major oil-producing countries, including Saudi Arabia, Kuwait, and Oman; (2) the four financial centers, including Singapore, Ireland, Luxembourg, and Panama; (3) four countries with outliers in the variables of financial globalization, including Libya, Nicaragua, Bulgaria, and Bahrain; and (4) Nigeria, whose value of fiscal deficit is abnormal. After dropping these countries, our sample consists of 160 countries from 1970 to 2007. We believe that the sample is large enough to identify the time change of discipline effect and the variations of discipline effect in different groups of countries. When grouping the sample countries, we classify all of the countries into four categories by the per capita income (GNI per capita) according to the standards of the World Bank: low-income countries, lower-middle-income countries, higher-middle-income countries, and high-income countries.

3.2 Macroeconomic Policy

This paper primarily focuses on monetary policy and fiscal policy. As previously explained in the theoretical background section, financial globalization can increase the price flexibility of goods and labor, and thus the impact on output of the monetary policy will decrease with the deepening of financial globalization. In this case, the monetary policy of an economy will switch from output anchored to price anchored when it becomes more financially integrated with other countries. In fact because the 1990s, countries have been more inclined to target inflation as their monetary policy goal (Spiegel, 2009). This perhaps leads to the result found by Rogoff (2003) that global inflation fell sharply in the 1990s. Considering the link between inflation and monetary policy, the paper follows previous studies to use the inflation level as the proxy variable for the quality of monetary policy. Specifically, the inflation level is defined as follows:

$$Inflation = 100 * \left(\frac{CPI_t}{CPI_{t-1}} - 1 \right) \tag{1}$$

In the following analysis, as with Tytell & Wei (2004) and Spiegel (2009), we use the logarithmic value of this variable. According to the current consensus, if a country attains a low level of inflation, then we believe that the country has adopted a good monetary policy. Instead, if a country's inflation is higher, the country is perceived to pursue worse monetary policy.

Figure 2 depicts the evolution of the inflation of the four different income groups of countries from 1970 to 2007. It is apparent that despite a number of short-term fluctuations, all of the four groups of countries have experienced a decline in inflation since 1990. Among the high-income countries, the decline even began in the early 1980s. These preliminary findings are consistent with Rogoff (2003). Another interesting finding is that high-income countries always maintain a lower level of inflation than the other three groups of countries whereas the magnitude and trend of the other three groups are

very close. What we are interested in this paper is whether the overall downward trend in 1990s has resulted from the deepening of financial globalization.

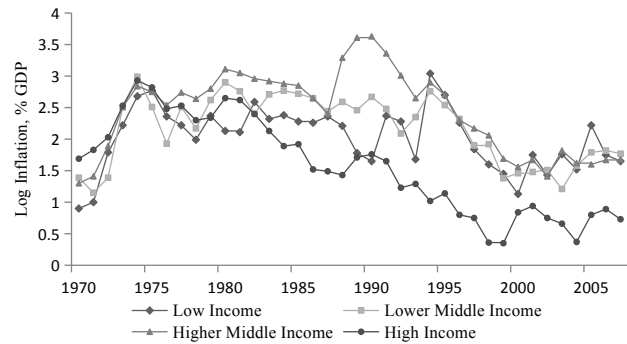


Figure 2. 1970-2007 national inflation levels in each group.

Note: Because the data of some countries in some years is not available, we only include the countries with no omission of observations from 1970 to 2007 in the sample to avoid abnormal fluctuations incurred by adding new observations to calculate the average inflation. Specifically, there are 21 low-income countries, 26 lower-middle-income countries, 21 higher-middle-income countries, and 28 high-income countries in the sample to determine the trend.

In addition to the monetary policy, the paper is also interested in the discipline effect of financial globalization on fiscal policy. Previous studies usually assessed the quality of a country's fiscal policies based on its deficit situation. This paper also follows this approach. Specifically, the budget deficit ratio is defined as follows:

$$Budget\ Deficit = 100 * \frac{Government\ Expense - Government\ Revenue}{GDP} \tag{2}$$

Because previous studies did not utilize the logarithmic value of this variable, to facilitate the comparison of results, this paper does not use the logarithmic value either. **Figure 3** depicts the changes of budget deficit of the entire sample. As shown in this figure, similar to the evolution of inflation, the budget deficit in the sample countries has also shown a significant trend of decline since 1980. This is of course a result of multiple forces, whereas in this paper, we aim to determine whether financial openness is one of these forces.

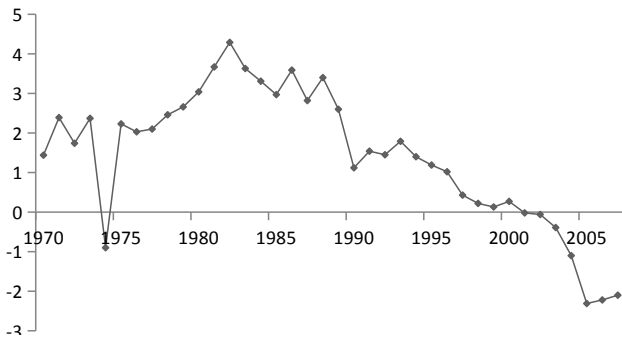


Figure 3. 1970-2007 average deficit levels.

Note: As in Figure 2, we only include the countries with full observations in the sample. We do not report the trend in different groups because the countries in different groups are too few due to the serious omission of budget deficit data.

3.3 Financial Globalization

There are two types of frequently used measures of Financial Globalization: de jure and de facto. De jure measures reflect the government’s legal restrictions on all types of capital account transactions, while de facto measures reflects the actual international capital flows. Theoretically, the two types of measures should reflect the same degrees of openness. However, de jure and de facto measures may deviate from each other because the official capital account restrictions are not always effectively imposed in some countries, especially in some developing countries. Actually, it is not surprising to see that some countries with stringent capital control policies have huge capital flows whereas countries with almost no capital controls have few capital flows. In this case, the paper will use both types of measures to conduct a comprehensive analysis of financial globalization and test whether using different metrics affects the conclusions.

Most of the de jure measures of financial globalization are calculated based on the IMF’s Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER). Until 1996, the summary table of the AREAER recorded IMF members’ official arrangements on four groups of controls on cross-border financial transactions: the existence of multiple exchange rates; the existence of controls on current account transactions; the existence of controls on capital account transactions; and the requirement of the surrender of export proceeds. In 1996, the classification method of the restrictions changed,

and these four categories of controls were disaggregated to adapt with the complexity of capital control policies. However, because the measures are all dichotomous, they cannot reflect the extent of these controls, which makes cross-country comparison difficult. Therefore, to more accurately reflect the extent of a country’s capital controls, scholars such as Quinn & Toyoda (2008) and Chinn & Ito (2008) re-construct some de jure measures of financial globalization based on the information from AREAER. In this paper, we use the KAOPEN index compiled by Chinn & Ito (2008). The KAOPEN index is the first standardized principal component of four variables constructed from AREAER, and it ranges from -1.71 to 2.65. This index is higher in countries that are more open to cross-border capital transactions.

Figure 5 describes the trend of the four groups of countries’ de jure measures of financial globalization from 1970 to 2007. It is obvious that the restrictions on international capital flows in high-income countries have been gradually loosened since 1975. The other three groups of countries have also gradually relaxed their restrictions on capital flows since 1990, but the trend is not as evident as in high-income countries. In particular, the de jure measure of financial globalization in low-income countries has remained unchanged in recent years. Overall, among all of the sample countries except the low-income countries, the degree of financial globalization has been increasing, corresponding to the decrease of inflation rate and budget deficit, as shown in Figure 3 and Figure 4.

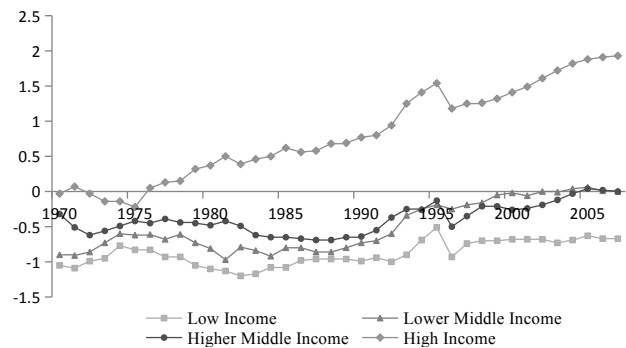


Figure 4. De jure trend of group countries in 1970-2007.

Note: As in Figure 2, we only include the countries with full observations in the sample. Specifically, there are 21 low-income countries, 26 lower-middle-income countries, 21 higher-middle-income countries, and 28 high-income countries in the sample.

According to the IMF, cross-border capital transactions can be classified into five categories, including portfolio investment (which includes portfolio equity and portfolio debt), foreign direct investment, other investments (which includes debt instruments such as loans, deposits, and trade credits), financial derivatives, and reserves. The stocks of each category's external assets and liabilities at the end of the recording period are recorded in the international investment position (IIP) data by IMF. Because other investments usually share the same features as portfolio debt, they are usually incorporated in the portfolio debt in calculation. Using the data of IIP and balance of payments (BOP), Lane & Milesi-Ferretti (2007) estimate the financial assets and liabilities of 178 countries during the period of 1970-2004 after adjusting for the valuation effect (change in financial assets and liabilities induced by the changes in exchange rates and asset prices).^① In their work, three de facto measures of financial globalization are used:

$$IFI1 = \frac{GFA + GFL}{GDP} \quad (3)$$

$$IFI2 = \frac{EquityA + FDIA + EquityL + FDIL}{GDP} \quad (4)$$

$$IFI3 = \frac{GFA + GFL}{X + M} \quad (5)$$

GFA denoting total foreign assets is the sum of portfolio equity assets (*EquityA*), FDI assets (*FDIA*), portfolio debt assets (*DebtA*), financial derivatives assets (*FinA*), and reserves (*Res*) and *GFL* denoting total foreign liabilities is the sum of portfolio equity liabilities (*EquityL*), FDI liabilities (*FDIL*), portfolio debt liabilities (*DebtL*), financial derivatives liabilities (*FinL*). *X* and *M* are goods exports and imports, respectively. According to the above definitions, *IFI1* represents the ratio of the sum of total foreign assets and liabilities to GDP, *IFI2* represents the ratio of the sum of foreign portfolio equity and FDI assets

and liabilities to GDP, and *IFI3* represents the ratio of the sum of the total foreign assets and liabilities to the sum of exports and imports. *IFI1* is distinguished from *IFI2* because the effectiveness of debt positions in promoting international risk sharing and enhancing growth is believed to be different from equity positions (Furceri & Zdzienicka, 2012).

The de facto measures of financial globalization used in the previous empirical studies are slightly different. For example, Tytell & Wei (2004) use *IFI1* whereas Spiegel (2009) uses *IFI2*. In this paper, we will use all of the three measures to conduct our analysis to avoid the bias incurred by the definition of variables. Moreover, Huang (2007) claims that although the USD measured GDP as the denominator of *IFI1* and *IFI2* enables comparison among different countries, the results may be biased because the developing countries' GDPs are usually underestimated when the official exchange rates are used to calculate the USD GDP. Therefore, we follow Huang (2007) in using the purchasing power parity GDP (PPPGDP) as the denominator of the financial globalization measures, and we obtain the two following indicators:

$$IFI4 = \frac{GFA + GFL}{PPPGDP} \quad (6)$$

$$IFI5 = \frac{EquityA + FDIA + EquityL + FDIL}{PPPGDP} \quad (7)$$

Figure 5 shows the trend of the five de facto measures of financial globalization in four groups from 1970 to 2007. It can be observed that there is a surge of financial globalization in low-income countries before 1995, whereas since then the financial globalization has been declining. This evolution is also evidenced in the *IFI1*, *IFI3* and *IFI4* of lower-middle-income countries. However, for *IFI2* and *IFI5*, there is only an uprising trend. In higher-middle-income countries, all of the five de facto measures evidence the deepening of financial globalization. In high-income countries, the ascending trend is even more obvious for all of the five measures. In all, we see a different pattern of evolution in the trend of the de facto measures of financial globalization from the de

^① The dataset was updated several times after the publication of the paper, and the latest version can be obtained from <http://www.philiplane.org/EWN.html>.

jure measure. Although the ascending trend is most obvious in the high-income countries, the other three groups of countries also experience the deepening of de facto financial globalization at least from 1970 to 1995. However, when measured in the de jure

method, the financial globalization in low-income countries is hardly evident. Therefore, adopting both the de jure and de facto measures of financial globalization can address the discrepancy in the two types of measures.

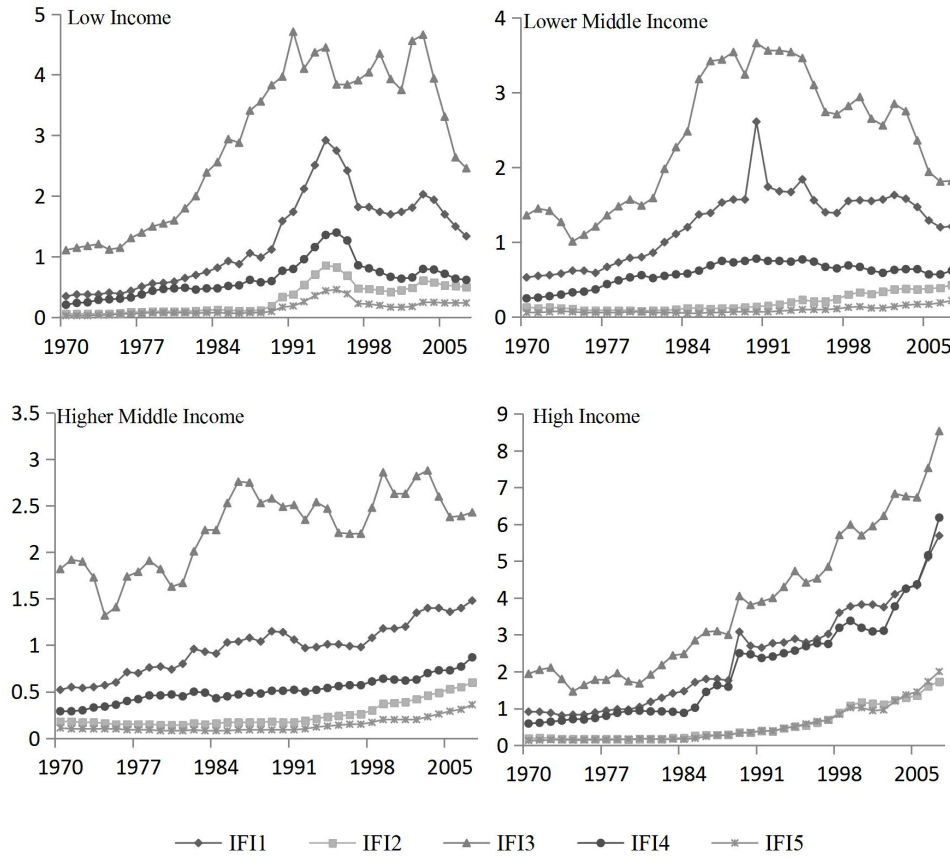


Figure 5. De facto trend of group countries in 1970-2007.

Note: As in Figure 2, we only include the countries with full observations in the sample. Specifically, there are 21 low-income countries, 26 lower-middle-income countries, 21 higher-middle-income countries, and 28 high-income countries in the sample.

4. Empirical Analysis

4.1 Basic Analysis

The above analysis shows that the deepening of financial globalization is accompanied by deflation and the improvement of fiscal deficit. To more rigorously identify the relationship between financial globalization and macroeconomic policies, we employ regression analysis. According to the five existing empirical studies in this field, the regression models are specified as follows:

$$\begin{aligned} \text{Log Inflation}_{i,t} = & \alpha_0 + \alpha_1 \text{Financial Globalization}_{i,t} + \alpha_2 \text{Trade Openness}_{i,t} + \\ & \alpha_3 \text{Log Population}_{i,t} + \alpha_4 \text{GDP per capita}_{i,t} + Z_t + \varepsilon_{i,t} \end{aligned} \quad (8)$$

$$\begin{aligned} \text{Budget Deficit}_{i,t} = & \beta_0 + \beta_1 \text{Financial Globalization}_{i,t} + \beta_2 \text{Trade Openness}_{i,t} + \\ & \beta_3 \text{Log Population}_{i,t} + \beta_4 \text{GDP per capita}_{i,t} + Z_t + u_{i,t} \end{aligned} \quad (9)$$

In addition to the main explanatory variable, financial globalization, we also include Trade Openness, Log Population, and GDP per capita in the regressions to control for the effects of macro-economic factors. The Log Population is the logarithm of the population measured in ten thousands. The GDP

per capita is the logarithm of the USD PPPGDP of each country, which is obtained from the Pen World Table. According to Spiegel (2009), GDP per capita as a metric of economic development is a proxy of some domestic macro-economic factors. Because the trend of both the dependent variables and independent variables are significant, we control for the time fixed effects in some regressions to account for this trend. Moreover, other time-variant macro-economic effects can also be captured by the time fixed effects.

It should be noted that the data used for the regression in this section is not all of the data in 1970-2007 that is employed in the previous figures. To smooth out the short-term fluctuations and to reduce the effect of the correlation of time series, we average the data over 5-year non-overlapping sub-periods: 1973-1977, 1978-1982, 1983-1987, 1988-1992, 1993-1997, 1998-2002, and 2003-2007. Therefore, after this processing, there should be 7 observations for a country with no omission of data. Due to the omission of data in some countries, the ultimately used data set is unbalanced panel data.

In the empirical analysis, we first examine the influence of financial globalization on monetary

policy. **Table 1** presents the preliminary regression results where time fixed effects are not controlled for. Because GDP per capita is not controlled for in the regression in most existing studies, we exclude it in Column (1) but add it back in from Column (2). It can be judged from the massive increase of R^2 that GDP per capita is essential in explaining the variations of inflation, justifying our model specification. Column (3) to Column (7) report the regression results where IFI1 to IFI5 are controlled for. It is meaningless to explain the magnitude of the coefficients on those financial globalization variables because the dependent variables are logarithms. Therefore, we primarily focus on the sign and the significance of these coefficients. Obviously, the coefficients on the 5 de facto measures of financial globalization are significantly negative, indicating that the deepening of financial globalization lowers the domestic inflation rate. In other words, financial globalization can encourages a country to adopt better monetary policies. Column (8) reports the regression results where the de jure financial globalization is incorporated. The coefficient on KAOPEN is also significantly negative, which is consistent with the previous regression results.

Table 1. The impact of financial globalization on inflation—baseline regression.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			IFI1	IFI2	IFI3	IFI4	IFI5	KAOPEN
Financial Globalization			-0.1167*** (0.0302)	-0.4869*** (0.0757)	-0.0673*** (0.0180)	-0.1404*** (0.0300)	-0.4747*** (0.0779)	-0.2241*** (0.0312)
Trade Openness	-0.3980*** (0.1006)	-0.3332*** (0.1144)	-0.1110 (0.1272)	-0.0184 (0.1221)	-0.4302*** (0.1165)	-0.1312 (0.1210)	-0.1080 (0.1181)	-0.2714** (0.1131)
Population (Log)	0.0641*** (0.0212)	0.0627*** (0.0206)	0.0659*** (0.0205)	0.0711*** (0.0202)	0.0626*** (0.0204)	0.0715*** (0.0204)	0.0755*** (0.0204)	0.0724*** (0.0205)
GDP Growth		-0.2410*** (0.0297)	-0.2079*** (0.0306)	-0.1711*** (0.0312)	-0.2109*** (0.0305)	-0.1876*** (0.0314)	-0.1699*** (0.0316)	-0.1122*** (0.0342)
Constant	1.6221*** (0.2177)	3.5270*** (0.3057)	3.2725*** (0.3102)	2.8870*** (0.3159)	3.5273*** (0.3033)	3.0389*** (0.3194)	2.8363*** (0.3213)	2.3524*** (0.3453)
Observations	821	818	818	810	818	818	810	798
R^2	0.046	0.125	0.141	0.168	0.140	0.148	0.164	0.178

Notes: The dependent variable is the natural logarithm of inflation, *Log Inflation*. The cells show coefficients with robust standard errors in parentheses. *, **, and *** denote the significance levels of 10%, 5% and 1%, respectively.

Table 2 shows the results after controlling for the time fixed effects. The explanatory power of the models increase due to the more restrictive identification. The coefficients on the financial globalization remain significant at the 1% level in all of the regressions except in Column (3) and Column (5). The results suggest that the effect of financial openness on inflation is overall robust to the time fixed effects. The different significance levels of the coefficients on IFI1 and IFI2 indicates that whether the portfolio debt assets and liabilities are taken into account when computing the financial openness seems to

make a difference to the results. However, the same level of significance of the coefficients on IFI4 and IFI5 shows that when PPPGDP is employed as the denominator in the calculation of financial openness index, the inclusion of portfolio debt in the numerator makes no difference to the results. Therefore, although the results in our analysis are reliable due to the comprehensive regressions, the conclusions in previous studies are very susceptible to the definitions of de facto financial globalization in their studies. The coefficient on KAOPEN is still significantly negative, showing that the effect of de jure financial globalization on monetary policy is robust.

Table 2. The impact of financial globalization on inflation—time effects controlled for.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			IFI1	IFI2	IFI3	IFI4	IFI5	KAOPEN
Financial Globalization			-0.0560*	-0.3177***	-0.0169	-0.1237***	-0.3774***	-0.1982***
			(0.0294)	(0.0750)	(0.0180)	(0.0284)	(0.0749)	(0.0297)
Trade Openness	-0.2150**	-0.1559	-0.0560	0.0257	-0.1846	0.0161	0.0043	-0.1025
	(0.0940)	(0.1092)	(0.1210)	(0.1165)	(0.1134)	(0.1150)	(0.1124)	(0.1082)
Population (Log)	0.0843***	0.0827***	0.0835***	0.0864***	0.0822***	0.0898***	0.0917***	0.0872***
	(0.0196)	(0.0195)	(0.0194)	(0.0194)	(0.0195)	(0.0193)	(0.0193)	(0.0194)
GDP per capita		-0.1691***	-0.1567***	-0.1324***	-0.1641***	-0.1247***	-0.1186***	-0.0587*
		(0.0290)	(0.0296)	(0.0303)	(0.0295)	(0.0304)	(0.0306)	(0.0330)
Constant	1.9131***	3.1280***	3.0180***	2.7867***	3.1332***	2.7148***	2.6441***	2.1837***
	(0.2270)	(0.3029)	(0.3079)	(0.3127)	(0.3030)	(0.3142)	(0.3157)	(0.3351)
Observations	821	818	818	810	818	818	810	798
R ²	0.202	0.235	0.239	0.252	0.236	0.253	0.259	0.278

Notes: The dependent variable is the natural logarithm of inflation, *Log Inflation*. The cells show coefficients with robust standard errors in parentheses. Time fixed effects are controlled for in all of the columns. *, **, and *** denote the significance levels of 10%, 5% and 1%, respectively.

We then proceed to analyze the impact of financial globalization on fiscal policy. It should be noted that in the regressions, we directly use the budget deficit instead of its logarithm value because fiscal surplus is recorded as a negative value. **Table 3** presents the regression results of budget deficit. As shown in Column (3)-Column (7), the coefficients on all of the five de facto measures of financial globalization are insignificant, indicating that the impact of financial globalization on fiscal policy is not distinguishable, which accords with Tytell & Wei (2004). More interestingly, the coefficient on the de jure measure of

financial globalization, KAOPEN, is significant at the 5% level and has a high positive value. The results are quite surprising. It is usually perceived that theoretically financial globalization induces an economy to pursue better fiscal, and the budget deficit level should decrease as a result. However, our regression results seems to indicate that financial globalization does not lead to better fiscal policies, and the budget position even deteriorates instead. Despite the complexity of the results, it is safe for us to conclude that we do not find any evidence of financial globalization’s discipline effect on fiscal policy.

Table 3. The impact of financial globalization on budget deficit--baseline regression.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			IFI1	IFI2	IFI3	IFI4	IFI5	KAOPEN
Financial Globalization			0.0055 (0.2250)	0.8537 (0.7151)	-0.1310 (0.1449)	0.0924 (0.1587)	0.3972 (0.4256)	0.7259** (0.3387)
Trade Openness	-4.1577*** (1.0328)	-5.0576*** (1.6155)	-5.0634*** (1.6347)	-5.3401*** (1.7214)	-5.3197*** (1.7170)	-5.1011*** (1.6195)	-5.1187*** (1.6291)	-5.1332*** (1.5977)
Population (Log)	0.0509 (0.1931)	-0.0345 (0.2046)	-0.0344 (0.2049)	-0.0234 (0.2019)	-0.0415 (0.2045)	-0.0329 (0.2054)	-0.0330 (0.2051)	0.0156 (0.1921)
GDP per capita		-0.1592 (0.2309)	-0.1611 (0.2456)	-0.3193 (0.2369)	-0.0874 (0.2610)	-0.2039 (0.2483)	-0.2417 (0.2427)	-0.6074** (0.2638)
Constant	2.5709 (2.0935)	5.1267* (2.7184)	5.1364* (2.7633)	6.1703** (2.9132)	5.0897* (2.7389)	5.4176* (2.7987)	5.7100** (2.8592)	8.4109*** (3.2204)
Observations	298	296	296	296	296	296	296	290
R ²	0.122	0.079	0.079	0.083	0.081	0.079	0.080	0.100

Notes: The dependent variable is the budget deficit rate, *Budget Deficit*. The cells show coefficients with robust standard errors in parentheses. *, **, and *** denote the significance levels of 10%, 5% and 1%, respectively.

Similarly, we then control for the time fixed effects in all of the regressions of fiscal deficit to test the robustness of our results. **Table 4** reports the corresponding results. The significance of the coefficients on all of the financial globalization measures do not change except in Column (4). However, the coefficient on IFI2 is significantly positive, which

does not challenge our previous conclusion at all. Moreover, the increase in the magnitude of the insignificant coefficients on financial globalization also does not alter our conclusions. Therefore, it can be concluded that our previous finding about the impact of financial globalization on fiscal deficit is robust to the time fixed effects.

Table 4. The impact of financial globalization on budget deficit-- the time fixed effects controlled for.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			IFI1	IFI2	IFI3	IFI4	IFI5	KAOPEN
Financial Globalization			0.2433 (0.2127)	1.6210** (0.8171)	0.0326 (0.1492)	0.1475 (0.1404)	0.6964 (0.4306)	0.8754** (0.3464)
Trade Openness	-3.7309*** (0.8091)	-3.4116* (1.7633)	-3.5945** (1.7742)	-3.7091** (1.7818)	-3.3248* (1.9162)	-3.4636* (1.7609)	-3.4556** (1.7535)	-3.2991* (1.7233)
Population (Log)	0.1273 (0.1819)	0.1232 (0.2014)	0.1377 (0.2018)	0.1624 (0.1950)	0.1272 (0.2041)	0.1268 (0.2026)	0.1301 (0.2016)	0.1968 (0.1899)
GDP per capita		0.0449 (0.2162)	-0.0288 (0.2280)	-0.2360 (0.2255)	0.0302 (0.2415)	-0.0247 (0.2306)	-0.0941 (0.2284)	-0.4674* (0.2398)
Constant	2.1533 (1.9524)	2.1623 (2.6577)	2.5058 (2.6938)	3.7805 (2.8018)	2.1531 (2.6558)	2.5972 (2.7191)	3.0716 (2.7695)	5.3824* (3.0487)
Observations	298	296	296	296	296	296	296	290
R ²	0.176	0.129	0.131	0.142	0.129	0.130	0.133	0.162

Notes: The dependent variable is the budget deficit rate, *Budget Deficit*. The cells show coefficients with robust standard errors in parentheses. Time fixed effects are controlled for in all of the columns. *, **, and *** denote the significance levels of 10%, 5% and 1%, respectively.

According to the preliminary findings, we find that financial globalization can generally decrease the inflation whereas it contributes nothing to the decrease of budget deficit. In other words, we substantiate the discipline effect of financial globalization on monetary policy but find no evidence of the discipline effect on fiscal policy.

4.2 Regression of different phases-to judge the time point on the effect

Kose et al. (2009a) review many studies on the growth benefit of financial globalization and find that when different sample periods are used, the studies always reveal quite different findings. For example, Quinn (1997) finds that capital account liberalization can promote economic growth using the data from 1960 to 1989, whereas Rodrik (1998) finds no association between financial globalization and economic growth using the data from 1975 to 1989, although the same econometric methodologies are used in both studies. Regarding the collateral benefits of financial globalization because many fundamental macroeconomic conditions, such as the financial market development and trade integration, which are perceived to be threshold conditions by Kose et al. (2009a) have changed over time, the discipline effect of financial globalization may also evolve. In fact, Furceri & Zdzienicka (2012) find that the discipline effect of financial globalization on fiscal policy does not take effect until 1985, providing evidence of the evolution of the discipline effect. Considering this case, we conduct a further analysis on the sub-periods to test whether the discipline effect of financial globalization changes over time.

Specifically, following Furceri & Zdzienicka (2012), we divide the whole sample period into 4 overlapping sub-periods, with 20 years to each period, and run regressions separately in each sub-period. In each regression, the data used are also 5-year non-overlapping averages and the dependent variables controlled for are also the same variables as in previous regressions.

Table 5 presents the regression results of inflation, with the results of 1973-1992, 1978-1997,

1983-2002, and 1988-2007 shown in Panel A-Panel D, respectively. The results are not consistent in different measures of financial globalization, so we analyze them separately. First, in the results of IFI1 and IFI4 where total external assets and liabilities are used in the calculation of de facto measures of financial globalization, financial globalization reduces the inflation level in the period of 1988-2007. Second, in the results of IFI2 and IFI5, where debt positions are excluded in the de facto measures, the impact of financial globalization on inflation is significant during all of the four periods. Third, in the results of the de jure measure, KAOPEN, the discipline effect of financial globalization on monetary policy is found to be significant during all of the periods as well. Fourth, in the results of IFI3, where the denominator is the sum of imports and exports, the discipline effect is insignificant during all of the periods. Because the denominator IFI3 is quite different from the other four de facto measures, we believe that the result of this measure is less informative.

The complex results prove to us that when different measures of financial globalization are employed in the regressions, the results can vary greatly. Precisely, whether the debt positions are considered when calculating the de facto measures of financial globalization affects the results. Moreover, using the de jure measure and some de facto measure can also produce different results. However, despite the slightly inconformity in our results of different regressions, we can soundly conclude that when financial globalization is gauged by the ratio of the total foreign assets and liabilities to GDP, its discipline effect on monetary policy only works in the latest period of 1988-2007 in accordance with the results of Furceri and Zdzienicka (2012).

Table 6 reports the regression results of fiscal deficit in different periods. The results are almost identical to the results of the full sample period. Apparently, the coefficients on different measures of financial globalization are insignificant in almost every sub-period except for some significantly positive ones. Therefore, the regression results here provide no evidence of discipline effect of financial globalization on fiscal policies in each sub-period.

Table 5. The impact of financial globalization on inflation – sub-periods analysis.

	IFI1	IFI2	IFI3	IFI4	IFI5	KAOPEN
Panel A: 1973-1992						
Financial Globalization	0.1231** (0.0558)	-1.0333*** (0.2991)	0.1754*** (0.0470)	-0.0993 (0.0942)	-1.7913*** (0.4195)	-0.3099*** (0.0419)
<i>Observations</i>	395	388	395	395	388	377
R^2	0.114	0.133	0.148	0.110	0.159	0.200
Panel B: 1978-1997						
Financial Globalization	0.0381 (0.0466)	-0.9257*** (0.3025)	0.0677* (0.0384)	-0.1300* (0.0692)	-1.0832*** (0.3857)	-0.3318*** (0.0439)
<i>Observations</i>	450	445	450	450	445	436
R^2	0.122	0.159	0.130	0.131	0.170	0.213
Panel C: 1983-2002						
Financial Globalization	-0.0218 (0.0393)	-0.4417*** (0.1535)	0.0044 (0.0275)	-0.1393*** (0.0466)	-0.5372*** (0.1756)	-0.2599*** (0.0410)
<i>Observations</i>	499	496	499	499	496	494
R^2	0.188	0.208	0.187	0.203	0.216	0.248
Panel D: 1988-2007						
Financial Globalization	-0.0658** (0.0255)	-0.3509*** (0.0750)	-0.0268 (0.0188)	-0.1166*** (0.0260)	-0.3757*** (0.0680)	-0.1518*** (0.0362)
<i>Observations</i>	537	535	537	537	535	534
R^2	0.215	0.237	0.211	0.230	0.242	0.233

Notes: The dependent variable is the natural logarithm of inflation, *Log Inflation*. The cells show coefficients with robust standard errors in parentheses. Time fixed effects are controlled for in all of the columns. *, **, and *** denote the significance levels of 10%, 5% and 1%, respectively.

Table 6. The impact of financial globalization on budget deficit – sub-periods analysis.

	IFI1	IFI2	IFI3	IFI4	IFI5	KAOPEN
Panel A: 1973-1992						
Financial Globalization	0.2066 (0.8491)	-2.2166 (2.8060)	-0.0915 (0.3015)	0.1252 (0.5293)	-1.9259 (1.6844)	0.3341 (0.2965)
<i>Observations</i>	118	118	118	118	118	112
R^2	0.089	0.094	0.089	0.089	0.094	0.101
Panel B: 1978-1997						
Financial Globalization	0.4578 (0.5519)	2.2418 (1.8059)	-0.1108 (0.2206)	0.3248 (0.3488)	0.9635 (0.9725)	0.8464** (0.3335)
<i>Observations</i>	142	142	142	142	142	137
R^2	0.134	0.140	0.132	0.134	0.133	0.174
Panel C: 1983-2002						
Financial Globalization	0.2214 (0.3483)	1.9745 (1.5494)	-0.0824 (0.1966)	0.1317 (0.2381)	0.7191 (0.8178)	0.8621* (0.4398)
<i>Observations</i>	178	178	178	178	178	175
R^2	0.125	0.136	0.124	0.124	0.126	0.152
Panel D: 1988-2007						
Financial Globalization	0.2007 (0.2235)	1.8173** (0.8778)	0.0014 (0.1680)	0.1067 (0.1473)	0.7341 (0.4608)	0.9266** (0.4267)
<i>Observations</i>	217	217	217	217	217	216
R^2	0.087	0.104	0.086	0.086	0.090	0.117

Notes: The dependent variable is the budget deficit rate, *Budget Deficit*. The cells show coefficients with robust standard errors in parentheses. Time fixed effects are controlled for in all of the columns. *, **, and *** denote the significance levels of 10%, 5% and 1%, respectively.

4.3 Grouping Regression: Preliminary Judgment of Threshold Conditions

Kose et al. (2009a) argues only when some initial conditions such as financial development, institutional quality, and macroeconomic policies are satisfied can the collateral benefits, including the discipline effect, take effect. To verify this conjecture, we deploy our further analysis by investigating whether income level is one of the initial conditions. More specifically, we classify the sample countries into four groups according to the GDP per capita as previously introduced in the section of data and run regressions in each group. If the discipline effect is found to be distinguishable among different groups of countries, then we can conclude that the income level may act as one initial condition. However, a caveat should be noted that the conclusion is partially limited in that countries with different income levels may also differ in many other aspects such as institutional structure and financial market development and these factors are also perhaps the initial conditions themselves.

Table 7 presents the regression results of inflation in different groups, which are even more erratic than the sub-periods results. In Panel A, only the

coefficient on IFI2 is significantly negative. Moreover, although the coefficients on IFI3 and IFI4 are significant, they are positive, contradicting with the discipline effect. Therefore, in the low-income countries, we find no reliable evidence of financial globalization’s discipline effect on monetary policies. As for the lower-middle-income countries, the same situation goes and we will not give more detailed discussions. In Panel C, although the coefficients on IFI1 and IFI3 are not significant, the coefficients on IFI2, IFI4, IFI5, and KAOPEN are all significantly negative, substantiating the discipline effect of financial globalization on monetary policies in higher-middle-income countries. Moreover, the results in Panel 4 for the high-income countries provide more sounding evidence of discipline effect on monetary policies. The coefficients are all significantly negative except the insignificant one of IFI2. The results here thus illustrate that among the low-income and high-middle-income countries, the discipline effect of financial globalization on monetary policies is not evident, while the discipline effect exists in the higher-middle-income countries and high-income countries. These findings justify the conjecture of Kose et al. (2009a), and we may conclude that income level is one of the projected initial conditions.

Table 7. The impact of financial globalization on inflation – subgroups analysis.

	IFI1	IFI2	IFI3	IFI4	IFI5	KAOPEN
Panel A: Low Income						
Financial Globalization	0.3242 (0.1972)	-2.2077** (0.9239)	0.1307** (0.0642)	1.1200** (0.4355)	-1.0707 (2.9368)	-0.0661 (0.1060)
Observations	148	148	148	148	148	144
R ²	0.140	0.167	0.146	0.180	0.121	0.123
Panel B: Lower Middle Income						
Financial Globalization	0.3385*** (0.1162)	-0.0192 (0.2134)	0.2059*** (0.0384)	-0.0740 (0.2226)	-0.7027 (0.5149)	-0.0340 (0.0439)
Observations	213	207	213	213	207	209
R ²	0.226	0.185	0.276	0.182	0.192	0.178
Panel C: Higher Middle Income						
Financial Globalization	-0.1713 (0.1474)	-0.7276*** (0.2100)	0.1844 (0.1126)	-0.5019** (0.2160)	-1.2572*** (0.3345)	-0.1251** (0.0592)
Observations	225	225	225	225	225	219
R ²	0.439	0.457	0.451	0.449	0.461	0.461
Panel D: High Income						
Financial Globalization	-0.0514 (0.0313)	-0.1680** (0.0846)	-0.0624*** (0.0195)	-0.0780** (0.0308)	-0.1999*** (0.0754)	-0.2251*** (0.0579)
Observations	232	230	232	232	230	226
R ²	0.431	0.431	0.444	0.440	0.436	0.493

Notes: The dependent variable is the natural logarithm of inflation, *Log Inflation*. The cells show coefficients with robust standard errors in parentheses. Time fixed effects are controlled for in all of the columns. *, **, and *** denote the significance levels of 10%, 5% and 1%, respectively.

Although the preceding analysis shows that financial globalization has no significant discipline effect on fiscal policy in the full sample, it is possible that the effect exists in some subsamples. Therefore, we proceed to a subsample analysis. Table 8 reports the regression results of the four subsamples. For the low-income countries in Panel A, the coefficient on KAOPEN, the de jure measure of financial globalization, is significantly negative whereas the coefficients on all of the de facto measures are all insignificant.

Therefore, the discipline effect of financial globalization on fiscal policies in the low-income countries is not robust. For the other three groups of countries, although there are several significant estimates, they are all positive, which contradicts the discipline effect. Consequently, in line with the results of the full sample and the sub-periods, the subgroups results also indicate that financial globalization imposes no significant discipline effect on fiscal policy, even in groups of countries with different income levels.

Table 8. The impact of financial globalization on budget deficit – subgroups analysis.

	IFI1	IFI2	IFI3	IFI4	IFI5	KAOPEN
Panel A: Low Income						
Financial Openness	0.4629 (1.5931)	-2.3775 (4.8732)	0.2155 (0.3682)	1.3396 (2.1502)	-5.1193 (10.2732)	-0.6892** (0.3309)
Observations	55	55	55	55	55	53
R ²	0.207	0.208	0.217	0.214	0.208	0.271
Panel B: Lower Middle Income						
Financial Openness	-1.0089 (2.8322)	23.0107 (15.6414)	-3.0294 (3.0003)	0.5001 (6.7171)	47.6340** (23.4275)	2.6221* (1.4452)
Observations	64	64	64	64	64	64
R ²	0.195	0.275	0.232	0.194	0.261	0.292
Panel C: Higher Middle Income						
Financial Openness	1.7611 (1.2052)	3.7022 (2.5110)	0.4569 (0.7940)	3.5449** (1.6856)	6.5039* (3.4816)	0.7410** (0.3405)
Observations	113	113	113	113	113	113
R ²	0.178	0.178	0.159	0.196	0.186	0.177
Panel D: High Income						
Financial Openness	0.2729 (0.3426)	0.8486 (0.8533)	0.0474 (0.2009)	0.2258 (0.2440)	0.6788 (0.6130)	0.0907 (0.4843)
Observations	64	64	64	64	64	60
R ²	0.395	0.404	0.385	0.398	0.405	0.398

Notes: The dependent variable is the budget deficit rate, *Budget Deficit*. The cells show coefficients with robust standard errors in parentheses. *, **, and *** denote the significance levels of 10%, 5%, and 1%, respectively.

5. Conclusions

The discipline effect of financial globalization on macroeconomic policies is perceived to be one of the collateral benefits of financial globalization on the economy. Using the data of 160 countries from 1970 to 2007, we empirically investigate this discipline effect in this paper. Specifically, we take inflation and budget deficit as the proxies for monetary policies

and fiscal policies and examine whether financial globalization can reduce inflation and budget deficit as expected by the discipline effect theorem. To ensure the robustness of our results to the different measures of financial globalization, we employ five de facto measures of financial globalization as well as a de jure measure in our study. Because we believe that the effectiveness of the discipline effect may change over time due to time-variant macroeco-

conomic conditions, we conduct a subsample analysis to test this conjecture. Moreover, because it has been documented that initial conditions need to be met before the discipline effect emerges, we also classify the countries into four groups and examine whether financial globalization disciplines macroeconomic policies independently in each of the groups.

The results in our empirical analysis show that the impact of financial globalization on inflation, i.e., monetary policies, is evident overall. Nevertheless, there are some essential distinctions in the different subsamples. When financial globalization is measured by the ratio of the total foreign assets and liabilities to GDP, its discipline effect on monetary policy only works in the latest period of 1988-2007. By contrast, when debt position is excluded from the de facto measure or when financial globalization is gauged by the de jure measure, the discipline effect exists during the entire sample period. This variation shows that the discipline effect may potentially change over time. Moreover, we find that only in the high-middle-income and high-income countries is the discipline effect on monetary policy significant. This difference among the groups of countries with different income levels is actually in line with Spiegel (2009) and justifies the threshold theorem of Kose et al. (2009a). As for the discipline effect of financial globalization on fiscal policies, we find no significant evidence in this paper. The insignificance is also substantiated in the sub-periods analysis and subgroups analysis.

Overall, our empirical results are consistent with the findings of Tytell and Wei (2004); namely, financial globalization disciplines monetary policies but has no impact on fiscal policies. Beyond that, our thorough investigation also has some other interesting findings, including the changes of the discipline effect on monetary policies over time and the distinctions among different country groups, which uncover some modest evidence of the threshold theorem proposed by Kose et al. (2009a). Despite the discrepancy between the theory and empirical evidence, we can still expect low inflation to be realized with financial globalization, especially when the ini-

tial conditions are highly adequate.

References

- [1] Chinn, M. D., & Ito, H. (2008). A New Measure of Financial Openness. *Journal of Comparative Policy Analysis*, 10(3), 309-322.
- [2] Eichengreen, B. (2001). Capital Account Liberalization: What Do Cross-Country Studies Tell Us? *The World Bank Economic Review*, 15(3), 341-365.
- [3] Furceri, D., & Zdzienicka, A. (2012). Financial Integration and Fiscal Policy. *Open Economies Review*, 23(5), 805-822.
- [4] Karadam, D.Y. and N. Ocal. (2014). Financial Integration and Growth: A Nonlinear Panel Data Analysis. ERC-Economic Research Center, Middle East Technical University.
- [5] Kim, W. (2003). Does Capital Account Liberalization Discipline Budget Deficit? *Review of International Economics*, 11(5), 830-844.
- [6] Kose, M. A., Prasad, E., Rogoff, K., & Wei, S. (2009a). Financial Globalization: A Reappraisal. *IMF Staff Papers*, Palgrave Macmillan Journals, 56(1), 8-62.
- [7] Kose, M. A., Prasad, E. S., & Terrones, M. E. (2009b). Does Financial Globalization Promote Risk Sharing? *Journal of Development Economics*, 89(2), 258-270.
- [8] Kose, M. A., Prasad, E. S., & Taylor, A. D. (2011). Thresholds in the Process of International Financial Integration. *Journal of International Money and Finance*, 30(1), 147-179.
- [9] Lane, P. R., & Milesi-Ferretti, G. M. (2007). The External Wealth of Nations Mark II: Revised and Extended Estimates of Foreign Assets and Liabilities, 1970–2004. *Journal of International Economics*, 73(2), 223-250.
- [10] Mody, A., & Murshid, A. P. (2005). Growing up with Capital Flows. *Journal of International Economics*, 65(1), 249-266.
- [11] Quinn, D., (1997). The Correlates of Change in International Financial Regulation. *American Political Science Review*, 91(03), 531-551.
- [12] Quinn, D.P. and Toyoda. A.M (2008). Does

- Capital Account Liberalization Lead to Growth? *Review of Financial Studies*, 21(3): p. 1403-1449.
- [13] Rodrik, D. (1998) Who Needs Capital-Account Convertibility? *Essays in International Finance*, 55-65.
- [14] Schularick, M., & Steger, T. M. (2010). Financial Integration, Investment, and Economic Growth: Evidence from Two Eras of Financial Globalization. *The Review of Economics and Statistics*, 92(4), 756-768.
- [15] Spiegel, M. M. (2009). Financial Globalization and Monetary Policy Discipline: A Survey with New Evidence from Financial Remoteness. *IMF Staff Papers*, 56(1), 198-221.
- [16] Stiglitz, J. E. (2000). Capital Market Liberalization, Economic Growth, and Instability. *World Development*, 28(6), 1075-1086.
- [17] Taghipour, A., & Mousavi, A. (2011). The Effect of Financial Globalization on Monetary Policy Discipline: The Evidence from 22 Developing Countries. *Money and Economy*, 6(1), 135-150.
- [18] Tytell, I., & Wei, S. (2004). Does Financial Globalization Induce Better Macroeconomic Policies? *International Monetary Fund*.