

International Debts Flows Ly Dai Hung, Hai Anh Bui Thi, Thanh Vo Tri

▶ To cite this version:

Ly Dai Hung, Hai Anh Bui Thi, Thanh Vo Tri. International Debts Flows. 2021. hal-03129122

HAL Id: hal-03129122 https://hal.science/hal-03129122

Preprint submitted on 2 Feb 2021

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers. L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

International Debts Flows

Ly Dai Hung¹ Bui Thi Hai Anh² Vo Tri Thanh³

(First draft: 06/2020. This version: 02/2021)

<u>Abstract</u>

We characterize the determinants of the pattern of cross-border debts flows, using a cross-section regression over a sample of 149 economies over 1990-2019. The net debts inflows is associated with a higher sovereign debts rating, a lower fiscal balance or a higher productivity growth. Thus, the flows of debts are underlined by the store of wealth accumulation across economies. Moreover, in comparison with the prediction by the empirical model, the case studies uncover that Vietnam receives more net debts inflows while Thailand and Japan receives less net debts inflows.

Keywords: Net Debts Inflows, Safe Assets, Productivity Growth. JEL classification: F12, F36, F41.

¹ Email: hunglydai@gmail.com. Vietnam Institute of Economics, Hanoi, Vietnam. Thang Long Institute of Mathematics and Applied Sciences (TIMAS), Hanoi, Vietnam. Address: A Building, 1B Lieu Giai street, Ba Dinh district, Hanoi, Vietnam. This research is funded by Vietnam National Foundation for Science and Technology Development (NAFOSTED) under grant number 502.01-2020.17.

² Email: buihaianh87@gmail.com. The independent researcher. Address: Vinaconex building, Trung Van street, Nam Tu Liem district, Hanoi, Vietnam.

³ Email: votrithanh89@yahoo.com. Institute for Brand and Competitiveness Strategy. Address: 3rd floor, C Building, La Thanh Guest House, 218 Doi Can street, Ba Dinh district, Hanoi, Vietnam.

1. Introduction.

The international debts flows shape the pattern of global capital flows over the past decades. As Figure (1) shows, the debts flows outweigh the foreign direct investment and equities capital flows for the United States, an advanced economy, and for China, a developing economy. For the United States, in Panel A, the net total capital inflows increased from 0% GDP in 1980 to a pick at 6% GDP in 2005 before going down to 2% GDP in 2013. The net debts capital inflows follow closely this pattern: they increase from (-0,3% GDP) in 1980 to a peak at 6,3% GDP in 2003 before going down to 1,8% GDP in 2013. However, the net FDI and equities capital inflows diverge from this pattern, especially for the period from 2000 to 2010. The similarity between the pattern of net total capital inflows and that of net debts inflows also applies for the case of China, in Panel B. Although there is numerous evidence on the net total capital inflows (see a recent survey on Gourinchas and Rey, 2014), there is still a few papers which focuses on the pattern of cross-border debts capital flows. Our paper aims to fill in this research gap.

Figure 1: Decomposition of Net Total Capital Inflows by Country

Panel A: United States



Data source: Alfaro et al (2014)

We characterize the determinants of the pattern of cross-border debts flows. The method employs a cross-section regression over a sample of 149 economies over 1990-2019. The sample is also divided by different income groups, by time maturity of debts and by type of creditors. The evidence records that a higher sovereign debts rating, a lower fiscal balance and a higher productivity growth jointly raises the net total debts inflows. Moreover, the sovereign debts rating exerts a positive role on the private debts flows while a negative impact on the public debts flows. It also has a positive impact on the short-term debts flows, on the private long-term debts flows, but a negative impact on the public long-term debts flows. Moreover, the case studies analysis uncovers that the empirical model underestimates the net debts inflows for Vietnam but overestimates the case of Thailand and Japan. In other words, Vietnam receives too much net debts inflows while Thailand and Japan receives too little net debts inflows, in comparison with the prediction by the empirical model.

The paper belongs to the literature on the international capital flows (see a recent survey on Gourinchas and Rey, 2014). The net total capital inflows are driven by the different on the economic growth as predicted by neoclassical growth model (Alfaro et al, 2014), by the financial friction (Gourinchas and Jeanne, 2013), by the marginal product of capital (Caseli and Feyrer, 2007; Hung, 2020) or by the initial capital stock (Matsuyama, 2004). Our paper differs from the aforementioned papers by focusing on the pattern of debts capital flows. This feature is also analyzed in some papers such as Eaton (1989) who argue that the debts flows can be driven by the sovereign risk such as the ability of a government to repay the debts. Blanchard et al (2005) shows that the cross-border debts flows are driven by the convergence of income per capita, and the accumulation of debts is associated with the future depreciation of domestic currency.

Compared with these papers, our paper employs the macroeconomic fundamentals including the fiscal balance and productivity growth rate to analyze the debts flows. Farhi and Maggiori (2017) also emphasize the macroeconomic fundamentals as key drivers of debt flows. However, this framework neglects the domestic sovereign debts ratings, a measurement of sovereign risk, which is the focal point of our paper. Therefore, our paper sheds a new light on the literature by showing that the cross-border debt flows is underlined by the safe assets accumulation to insure against the domestic sovereign risk. The paper is closely related to the literature on the safe assets at financial integration (see a recent survey on Gorton, 2017). He et al (2017) characterize the safety of debts on accounting for the integration at the global capital market. The debts issued by a country become safe only if its economic fundamentals are strong, and stronger than the rest of the world. Moreover, the scarcity of safe assets supply can result in the endogenous reduction of aggregate demand (Caballero, Farhi and Gourinchas, 2016). At the financial integration, the low supply of safe assets at the world main issuer can result in the world secular stagnation (Caballero and Farhi, 2017). Financial integration can also lead to accumulation of foreign safe assets in the economy which experiences a positive productivity shock (Hung, 2020).

Our paper follows the concept by Caballero and Farhi (2017) to emphasize the sovereign debts as safe assets. Then, we analyze additional aspects of safe assets, including their ratings, time maturity and type of creditors. Therefore, our paper clarifies the results of the past literature by showing that the various aspects of safe assets are important in financial globalization.

Finally, the paper also contributes to the literature on the external debts sustainability (see a recent survey in Reinhart and Rogoff, 2009). According to Obsfeld and Rogoff (1995), the present value of future external debts is equal to the current trade balance, which is, in turn, based on the output production capacity. Thus, the optimal issued quantity of external debt depends on domestic fundamentals. Takeuchi (2010) analyzes the case of the United States by a time-series regression model. The author shows that the exchange rate fluctuation, in particular the depreciation of domestic currency, accounts for the sustainability of sovereign debts. Based on a broader sample of both advanced and developing economies, Kraay and Nehru (2006) uncovers three factors of debt sustainability, including the debt burden, the quality of policies and institutions, and shocks.

The current paper complements the past papers on the external debts sustainability. We show that the debt sustainability depends jointly on the domestic sovereign risk, fiscal balance and productivity growth. Then, the optimal external debts supply improves by a lower sovereign risk, a stronger fiscal balance and a higher productivity growth rate.

The paper is structured as follows. After the Introduction section, the second section on Estimation presens the analysis framework including the theory, data and model. The third section shows the empirical evidence and case studies analysis.

Finally, the fourth section concludes the paper and discusses the policy recommendation.

2. Estimation.

We first present the theoretical motivation underlying the choice of variables. Then, we describe the data and empirical model to investigate the pattern of debts capital flows.

2.1. Theoretical Motivation.

The literature on international capital flows records that the net total capital inflows are determined by the productivity growth rate (Solow, 1956), since a high growth rate raises the marginal product of capital, then attracts more net capital inflows. Another determinant of capital flows is the macroeconomic fundamentals, which also underline the marginal product of capital (Fratzscher, 2012). Among the fundamental variables, the fiscal balance illustrates the capacity to repay the debts, which plays an important role for the cross-border debts flows (Eaton, 1989).

The literature on safe assets states that the safe assets determine the pattern of international capital flows (Bernanker, Bertaut, Demarco and Kamin, 2011). The capital flows from the economy with scarcity of safe assets to the economy with abundance of safe assets (Caballero, Farhi and Gourinchas, 2008) in seeking a store of wealth. Recently, Farhi and Maggiori (2017) show that the safety of public debts also shapes the pattern of capital flows. Within their theoretical model, there is a world issuer of debts, considered as the safe assets, and other economies buy the debts to satisfy their demand for store of wealth. If the safety of public debts deteriorates, the foreign economies reduce their holding of safe assets. In that case, the world issuer of debts tends to devalue their currency, which turns the public debts to be a risky asset. Thus, the safety of public debts drives the cross-border debts capital flows.

Combining these two lines of research, we employ the productivity growth rate, the fiscal balance and the safety of public debts as three key determinants of cross-border debts flows.

2.2. Data Description.

The data set is a cross-section sample of about 149 economies. The value of each variable is averaged over 1990-2019.

The net debts capital inflows (*aNdebt*) are on percentage of gross domestic products (GDP), which comes from a panel dataset on net private and public capital flows constructed by Alfaro, Kalemli-Ozcan and Volosovych (2014). The panel

includes a number of countries, both developing and advanced, and spans the period from 1980 to 2013.

The net debts capital inflows (*Ndebt*) can be decomposed into different components, such as by maturity term including net short-term debts inflows (DebtSorInflows) and net long-term debts inflows (DebtLogInflows), by type of investors including net private debts inflows (Pridebt) and net public debts inflows (Pubdebt). We have following formulas for each time period (t):

Ndebt = *DebtShortInflows* + *DebtLongInflows* = *Pridebt* + *Pubdebt*

The sovereign debts rating, denoted by (aSovrate), is from the World Bank Cross-Country Database of Fiscal Space. The data, which is constructed by Kose, Kurlat, Ohnsorge and Sugawara (2017) covers up to 200 countries over the period 1960-2016. The sovereign debt rating index is ranged from 1 to 21, and a greater index means safer. It illustrates the market perception on a country's ability to roll over debt, or to issue new debt, and on its market cost of borrowing. The index is an annual average of sovereign debt ratings by Moody's, Standard & Poor's and Fitch Ratings on a daily frequency.

The fiscal balance is measured by balance of government budget per GDP, denoted by (aFby). The variable is from the World Bank Cross-Country Database of Fiscal Space database. This measure of debt rules out the country-size effect by scaling the value of debt by national income.

The net productivity growth rate (aGDPpcgrowth) is measured by net growth of output per capita. The data is from the World Development Indicators. In the neoclassical growth model (Solow, 1956), the long-run growth rate of per capita output is equal to the total factor productivity growth rate.

Variables	Obs	Mean	Std. Dev.	Min	Max		
Net Debts Capital Inflows (aNdebt, %)	5,310	449	15.8713	-201.011	24.36751		
Productivity Growth rate (<i>aGDPpcgrowth</i> ,%)	6,360	1.989	2.21113	-7.68061	13.56045		
Sovereign Debts Rating (<i>aSovrate</i> , range from 1 to 21)	4,530	11.863	4.90056	4.72889	21		
Fiscal Balance per GDP (<i>aFby</i> , %)	5,760	-2.348	5.26767	-57.601	14.2759		

Tabla	1.	Descri	ntivo	Stati	otion
Table	1.	Desch	puve	Statt	sucs

Table (1) illustrates the descriptive statistics for the data sample. The net total debt flows have mean at (-0.45%) and standard deviation at 15.8% while the productivity growth has lower deviation (2.2%). In comparison with these two variables, sovereign ratings have a much higher mean (11.8%) and a quite large deviation (4.9%) from the lowest value at 4.7 to the highest value at 21. The fiscal balance has mean at (-2.3%) with the standard variation at 5.2%. In brief, the data sample offers a rich variation to investigate the international debt capital flows. **2.3. Empirical Model.**

We employ a cross section regression to analyze the cross-border debts capital flows. The method focuses on the long-run equilibrium, since a long-period (nearly 40 years on the data sample) can absorb the macroeconomic fluctuation over time. The strategy is also employed by Gourinchas and Jeanne (2013) and Alfaro, Kalemli-Ozcan and Volosovych (2014) to study the international capital flows.

The empirical specification captures the determinants of debts capital flows. Our main model is based on the ordinary-least-square (OLS) regression, in which other unobserved factors are included into the error term (u_i) .

 $aNdebt_{j} = \alpha + \beta^{Sovrate} . aSovrate_{j} + \beta^{Fby} . aFby_{j} + \beta^{Growth} . aGDPpcgrowth_{j} + u_{j} \quad (1)$

The expected sign of coefficients are determined by the literature on the capital flows. (β^{Growth}) measures the impact of productivity growth rate on the debts capital inflows. According to the neoclassical growth model (Solow, 1956), a higher growth rate raises the net total capital inflows which covers net debt inflows. Thus, the coefficient is expected to be positive: (β^{Growth} >0). Moreover, ($\beta^{Sovrate}$) measures the impact of sovereign debt rating on the net debts capital inflows. And (β^{Fby}) measures the impact of fiscal balance on the net debts capital inflows. The expected signs of two coefficients are undetermined, and are the objective of our empirical analysis.

3. Evidence.

3.1. Net Debts Inflows.

Table (2) presents the estimation coefficients between net total debt flows and sovereign rating, productivity growth and fiscal balance. The baseline results are based on the whole sample of 132 countries in the étimation and report in Panel A. Surprisingly, the results indicate the negative correlation between total net debt flows with other three control variables. There is only an exceptional case of productivity growth which has a positive impact on net total debt (see column 2).

Yet, this positive relation could not be preserved when adding more control variables as revealed in column (3). These estimations contradict to our expectations, excluding that of fiscal balance, thus, formal outlier tests are employed to further explore the true correlation between these variables. We conduct the formal outliers test suggested by Alfaro et al (2014), including Residual student's t test, Leverage test, Cook's distance test and Dfit and DFBETA tests to detect the unusual and influential data in our sample.

The results of the robustness check are presented in Panel B of table 2, indicating that, after eliminating outliers, the signs of coefficients confirm existing literature and are consistent with the findings of Alfaro et al (2014). In more particular, the sovereign debts rating exerts a positive impact on net total debt inflows. The correlation between these two variables is even stronger significantly when taking into account income per capita and government debt sustainability. Thus, an economy with a higher sovereign debts rating, i.e., its debts are safer, would attract more foreign capital.

A similar story also holds for the link of productivity growth and net total debt flows. More capital flows into economies with higher productivity growth rate. This result supports Beniigno, Converse and Fornaro (2015) who find that, in a sample of 70 emerging- and advanced-economies, large capital inflows are typically accompanied by an economic boom, and, also in line with the neoclassical growth model (Solow, 1956) that an economy with a high growth rate will invest more and receive the inflows of capital.

On the effect of fiscal balance, our results indicate that, regardless of which regression conducted, fiscal balance has a significant negative effect on debts inflows, as shown in column 3 of table 1. The evidence uncovers that an economy with a stronger fiscal balance would rely less on the foreign capital flows.

Dependent Variable: aNdebt					
Panel A: Estimated by the OLS regression with initial sample					
	(1)	(2)	(3)		
Sovereign Debts Rating	-0.698***		-0.564***		
(aSovrate)	(0.000)		(0.000)		
Productivity Growth rate		0.130	-0.139		
(aGDPpcgrowth)		(0.259)	(0.389)		
Fiscal Balance			-0.735***		
(aFby)			(0.000)		

Table 2: Regression Results of Net total debt Flows (aNdebt) on Sovereign Rate(aSovrate), Productivity Growth (aGDPpcgrowth) and Fiscal Balance (aFby)

Panel B: Estimated by the OLS regression Robust to outliers

	(1)	(2)	(3)
Sovereign Debts Rating	0.017^{*}		0.062^{***}
(aSovrate)	(0.062)		(0.000)
Productivity Growth rate		0.503^{***}	0.407^{***}
(aGDPpcgrowth)		(0.000)	(0.000)
Fiscal Balance			-0.375***
(aFby)			(0.000)

Notes: *p*-values in parentheses.^{*} p < .1, ^{**} p < .05, ^{***} p < .01. Each variable is averaged over 1990-2019. The sovereign debts rating (asovrate) measures the safety level of debts, which is from the World Bank fiscal space. The productivity growth rate (aGDPpcgrowth) is the growth rate of per capita GDP, which is from the World Bank development indicators. The fiscal balance per GDP (aFby) is from the World Bank fiscal balance. See the Data Description subsection for more details.

3.2. Decomposition of Net Debts Flows.

3.2.1. Public and Private Net Debts Inflows.

According to Alfaro et al (2010), the pattern of international capital flows differs across public and private capital flows. Thus, decomposing the net debts inflows into public and private flows is a necessary step to investigate the impact of sovereign rate, growth and fiscal balance on debt flows.

a. Public Net Debts Inflows.

Table 3:	Regression I	Results of	Public	debt Flo	ws (al	Pubdebt)	on Sov	vereign	Rate
(aSovrate), Productivit	y Growth ((aGDP _I	ocgrowth) and	Fiscal Ba	alance (a	aFby)	

Dependent Variable: aPubdebt						
Panel A: Estimated	Panel A: Estimated by the OLS regression with initial sample					
	(1)	(2)	(3)			
Sovereign Debts Rating	-0.103***		-0.106***			
(aSovrate)	(0.000)		(0.000)			
Productivity Growth Rate		0.122***	0.185^{***}			
(aGDPpcgrowth)		(0.000)	(0.000)			
Fiscal Balance			-0.191***			
(aFby)			(0.000)			
Panel B: Estimated	by the OLS reg	ression Robust to	outliers			
	(1)	(2)	(3)			
Sovereign Debts Rating	-0.091***		-0.092***			
(aSovrate)	(0.000)		(0.000)			
Productivity Growth Rate		0.139***	0.176^{***}			
(aGDPpcgrowth)		(0.000)	(0.000)			

Fiscal Balance						-0.181***
(aFby)						(0.000)
	-	***	. ale ale	- stealeste	 	

Notes: *p*-values in parentheses.* p < .1, ** p < .05, *** p < .01. Each variable is averaged over 1990-2019. The sovereign debts rating (asovrate) measures the safety level of debts, which is from the World Bank fiscal space. The productivity growth rate (aGDPpcgrowth) is the growth rate of per capita GDP, which is from the World Bank development indicators. The fiscal balance per GDP (aFby) is from the World Bank fiscal balance. See the Data Description subsection for more details.

Table (3) presents the estimated results of the correlation between public debt inflow with other explanatory variables with and without outliers. It is worth noting that an improvement in sovereign rating results in a smaller public debt inflow as shown by the negative sign of the coefficients in column 1 of Panel A. The column (3) show that adding more control variables does not change the regression finding. Thus, the evidence uncovers that an economy with a greater sovereign debts rating tends to rely less on the foreign public debts. On other words, the economites tend to accumulate the public debts capital flows to compensate for its low sovereign debts rating. Moreover, the estimated coefficient on GDP per capita growth is statistically significant, suggesting that an increase of productivity comes with a larger public debt inflow. And the coefficients on the interaction of fiscal balance and net gross public debt are still negative and highly significant. An 1% lower in fiscal balance is associated with a 18% rise in public capital inflows. In brief, the evidence shows that the public debts capital tends to flow into the economy with low sovereign debts rating, or with a higher productivity growth rate, or with weaker fiscal balance.

b. Private Net Debts Inflows.

(asovrate), Productivity Growth (aGDPpcgrowth) and Fiscal Balance (aFby)						
Dependent Variable: aPridebt						
Panel A: Estimated by the OLS regression with initial sample						
	(1)	(2)	(3)			
Sovereign Debts Rating	0.135***		0.105^{***}			
(aSovrate)	(0.000)		(0.000)			
Productivity Growth Rate		0.113***	0.097^{***}			
(aGDPpcgrowth)		(0.000)	(0.000)			
Fiscal Balance			0.102^{***}			
(aFby)			(0.000)			
Panel B: Estimated by the OLS regression Robust to outliers						
	(1)	(2)	(3)			

Table 4: Regression Results of Private debt Flows (aPridebt) on Sovereign Rate (aSovrate), Productivity Growth (aGDPpcgrowth) and Fiscal Balance (aFby)

Sovereign Debts Rating	0.137***		0.137***
(aSovrate)	(0.000)		(0.000)
Productivity Growth Rate		0.089^{***}	0.021^{**}
(aGDPpcgrowth)		(0.000)	(0.026)
Fiscal Balance			-0.013**
(aFby)			(0.041)

Notes: *p*-values in parentheses.* p < .1, ** p < .05, *** p < .01. Each variable is averaged over 1990-2019. The sovereign debts rating (asovrate) measures the safety level of debts, which is from the World Bank fiscal space. The productivity growth rate (aGDPpcgrowth) is the growth rate of per capita GDP, which is from the World Bank development indicators. The fiscal balance per GDP (aFby) is from the World Bank fiscal balance. See the Data Description subsection for more details.

Table (4) presents the estimation coefficients of the net private debt flows on three independent variables. Overall, the results indicate that for both OLS regression and OLS Robustness check regression, the explanatory variables have a significant effect on dependent variable, mostly at 1% level. In details, for the impact of productivity growth, the positive sign and significance of the coefficient supports the finding of Delechat et al. (2009) who found a strong positive correlation between private capital flows and real GDP growth in a study of 44 countries in SSA from 2000-2007. Moreover, a higher sovereign rate, and a lower fiscal balance result in more net private debts inflows. In short, the regression result shows that the pattern of private debts capital flows is similar to the pattern of net debts capital inflows.

In summary, the evidence suggests that association between sovereign rating and larger capital inflow is not being drivening by greater public net debt inflows, but by greater net private debt inflows.

3.2.2. Short-Term and Long-Term Net Debts Inflows.

Table 5: Regression Results of Short-Term Debts Flows (aDebtShortFlows), Long-Term Private Debts Flows (aDebtLongPrivFlows) and Long-Term Public Debts Flows (aDebtLongPubFlows) on Sovereign Rate (aSovrate), Productivity Growth (aGDPpcgrowth) and Fiscal Balance (aFby)

VARIABLES	aDebtShortFlows	aDebtLongPrivFlows	aDebtLongPubFlows	
	(1)	(2)	(3)	
Sovereign Debts Rating	0.125***	0.116*	-0.111**	
(aSovrate)	(0.0298)	(0.0653)	(0.0439)	
Fiscal Balance	-0.0632	0.124	-0.127**	

(aFby)	(0.0392)	(0.0859)	(0.0578)
Productivity Growth Rate	0.0351	0.131	0.237**
(aGDPpcgrowth)	(0.0629)	(0.138)	(0.0927)
Constant	-0.942***	-0.0406	1.374***
	(0.302)	(0.662)	(0.445)
Observations	87	87	87
R-squared	0.225	0.102	0.201

Notes: *p*-values in parentheses.^{*} p < .1, ^{**} p < .05, ^{***} p < .01. Each variable is averaged over 1990-2019. The sovereign debts rating (asovrate) measures the safety level of debts, which is from the World Bank fiscal space. The productivity growth rate (aGDPpcgrowth) is the growth rate of per capita GDP, which is from the World Bank development indicators. The fiscal balance per GDP (aFby) is from the World Bank fiscal balance. See the Data Description subsection for more details.

Table (5) shows the regression result of short and long-term debts flows on three independent variables. On column 1, the short-term net debts inflows depend positively on the sovereign debts rating, while their coefficients on the fiscal balance and productivity growth are insignificant. The next two columns show that the effect of sovereign debts rating on the long-term debts flows depends on the type of debts. In column 2, for the private long-term debts, that effect is positive, which is consistent with the evidence on the net total debts recorded in table 2. In column 3, however, for the public long-term debts, that effect is negative: an economy with a higher sovereign debts rating tends to receive less net long-term debts inflows. The difference between private and public long-term debts is in line with the evidence on the net public debts inflows (table 3) and net private debts inflows (table 4). Other coefficients on the fiscal balance and productivity growth are insignificant for the short-term debts, other type of debts, including the short-term debts and private long-term debts.

3.3. Case Studies.

Table 6: International Debts Flows in Japan, Thailand and Vietnam

Economy	Sovereign	Fiscal	Output-	Net	Net Debts	Residuals
	Debts	Balance	per-	Debts	Inflows per	(%)
	Rating	per GDP	Capita	Inflows	GDP	
	(1-21)	(%)	Growth	per GDP	predicted by	
			rate (%)	(%)	Model (%)	

(1)	(2)	(3)	(4)	(5)	(6)	(7)=(5)-(6)
Japan	19,28	-5,06	1,03	-1,45	1,81	-3,26
Thailand	13,91	-0,73	3,66	-0,09	1,31	-1,41
Vietnam	8,69	-2,46	5,46	2,76	2,20	0,56

Source: Author's calculation from empirical model

Source: Author's calculation from empirical model

Table 6 shows the case studies of three economies, including Japan, Thailand and Vietnam. While Vietnam is our focal point, Japan plays the role of leading economy with an advanced financial system, and Thailand works as a reference case which is in between these two economies. Overall, the model seems to fit the case of Vietnam more than the case of Thailand and Japan. The residuals are 0,56 for Vietnam, (-1,41) for Thailand and (-3,26) for Japan. In details, Vietnam has the highest net debt inflows, standing at 2,20 percent of GDP for the predicted value by model and at 2,76% for the real value. Among its three determinants of debts flows, the output-per-capita growth rate is 5,46, much higher than Thailand (3,66%) and Japan (1,03%). However, its sovereign debts rating is much lower than these two counterparts, while the fiscal balance per GDP is at the middle of two economies. Thus, the advantage of higher economic growth has outweighs the disadvantage of lower sovereign debts rating and weaker fiscal balance in case of Vietnam compared with the case of Japan and Thailand, so that the former has a higher net debts inflows than these two latter economies.



Figure 2: Real Values and Predicted Values on some Economies

Figure 2 compares the real value and predicted value of net debts inflows for some economies, including the United States (USA), Japan (JPN), Thailand (THA), Malaysia (MYS) and Vietnam (VNM). The x-axis shows the predicted values by empirical model while the y-axis shows the residuals which are equal to the difference between the real values and predicted values. The figure shows that the United States and Vietnam seem to receive too much net debts inflows compared with the prediction by model based on its economic fundamentals. Thailand and Japan, however, seem to still have additional space to receive more net debts inflows, while Malaysia is receiving its optimal value of net debts inflows.

4. Conclusion.

We characterize the determinants of the pattern of cross-border debts flows, using a cross-section regression over a sample of 150 economies over 1980-2013. The net debts inflows is associated with a higher sovereign debts rating, a lower fiscal balance or a higher productivity growth. The case studies uncover that Vietnam receives too much net debts inflows while Thailand and Japan receives too little net debts inflows, in comparison with the prediction by the empirical model.

The result provides important policy implications. Since the net debts inflows depend jointly on the sovereign debts rating, fiscal balance and productivity growth, the absorption of external debts can be upgraded by improving the sovereign rating, especially when an economy can not raise the fiscal balance and productivity growth. Moreover, since the debts flows also serve as a store of wealth motivation, an economy can take advantage of this type of capital to raise the domestic capital accumulation.

For the future research avenue, the paper can be extended to account for the difference between domestic and external debts flow. Recent evidence (Coeudacier and Rey, 2014) shows that the investors tend to allocate more wealth on domestic assets than on foreign assets. This structure, in turn, is potential to be investigated for more evidence on the sustainability of fiscal space.

References

Alfaro, L., Kalemli-Ozcan, S., & Volosovych, V. (2014). Sovereigns, upstream capital flows, and global imbalances. Journal of the European Economic Association, 12(5), 1240-1284.

Bernanke, B. S., Bertaut, C. C., Demarco, L., & Kamin, S. B. (2011). International capital flows and the return to safe assets in the United States, 2003-2007. FRB International Finance Discussion Paper, (1014).

Blanchard, O., Giavazzi, F., & Sa, F. (2005). "The US current account and the dollar". National Bureau of Economic Research. Working paper No. w11137.

Caballero, R. J., Farhi, E., & Gourinchas, P. O. (2016). "Safe asset scarcity and aggregate demand". American Economic Review, 106(5), 513-18.

Caballero, R.J., Farhi.E., and Gourinchas, P.O. (2008). "An equilibrium model of" global imbalances" and low interest rates." American economic review, 98(1), 358-93.

Caballero, R.J., & Farhi, E., (2017). "The safety trap." The Review of Economic Studies, 85(1), 223-274.

Caselli, F., & Feyrer, J. (2007). "The marginal product of capital". The Quarterly Journal of Economics, 122(2), 535-568.

Eaton, J. (1989). "Foreign public capital flows". Handbook of development economics, 2, 1305-1386.

Farhi, E., & Maggiori, M. (2018). "A model of the international monetary system". The Quarterly Journal of Economics, 133(1), 295-355.

Fratzscher, M. (2012). "Capital flows, push versus pull factors and the global financial crisis". Journal of International Economics, 88(2), 341-356.

Gorton, G. (2017). "The history and economics of safe assets". Annual Review of Economics, 9, 547-586.

Gourinchas, P. O., & Jeanne, O. (2013). "Capital flows to developing countries: The allocation puzzle". Review of Economic Studies, 80(4), 1484-1515.

Gourinchas, P. O., & Rey, H. (2014). "External adjustment, global imbalances, valuation effects". In Handbook of international economics (Vol. 4, pp. 585-645). Elsevier.

He, Z., Krishnamurthy, A., & Milbradt, K. (2019). "A model of safe asset determination". American Economic Review, 109(4), 1230-62.

Hung, L. D. (2020). "Empirics for marginal product of capital". Journal of International Commerce, Economics and Policy, 11(01), 2050003.

Hung, L.D. (2020). "International capital flows with safe assets accumulation". Journal of Economic Studies. https://doi.org/10.1108/JES-05-2020-0250.

Obstfeld, M., & Rogoff, K. (1995). "The intertemporal approach to the current account". Handbook of international economics, 3, 1731-1799.

Kose, M. A., Kurlat, S., Ohnsorge, F., & Sugawara, N. (2017). "A crosscountry database of fiscal space". The World Bank.

Kraay, A., & Nehru, V. (2006). "When is external debt sustainable?". The World Bank Economic Review, 20(3), 341-365.

Matsuyama, K. (2004). "Financial market globalization, symmetry-breaking, and endogenous inequality of nations". Econometrica, 72(3), 853-884.

Reinhart, C. M., & Rogoff, K. S. (2009). "This time is different: Eight centuries of financial folly". Princeton university press.

Takeuchi, F. (2010). "US external debt sustainability revisited: Bayesian analysis of extended Markov switching unit root test". Japan and the World Economy, 22(2), 98-106.