Current account composition and sustainability of external debt (I)[*]

Gianpaolo Rossini[†]
Department of Economics,

University of Bologna,
Strada Maggiore, 45;
I-40125 Bologna,
Italy

Paolo Zanghieri
ANIA - Association of Italian Insurers,
Research Department,
via della Frezza, 70;
I-00186 Roma,
Italy

Preliminary version
Not to be quoted

**EcoMod 2006
Hong Kong
China
June 28-30,
2006**

Abstract

If an economy runs a current account (CA) deficit and finances it via a corresponding net inflow of FDI the net external position (NEP) of the country does not change, i.e.: the CA deficit does not add to external debt. This is no paradox and simply comes from the definition of CA deficit and external debt. Nonetheless, the implication of this is rather relevant since it points to different degrees of sustainability of CA deficits according to the way they are financed and to the composition of the CA itself.

By the evaluation of the determinants of interest rates spreads of a country vis à vis US lending rates we assess the sustainability of CA deficits and we find that the extent of FDI net inflows allow emerging economies to sustain imbalances which are larger with respect to the case in which the CA deficit is financed by inflows of other more liquid assets. In other words the differential treatment of FDI as a way of financing the CA, but not contributing to to the NEP of a country, is no fiction and affects the solvency assessment of a country. This is a first result of a larger research on the effects of the composition of the CA on the solvency of an economy.

JEL Classification: E44, F34

Keywords: FDI, CA deficit, external debt.

†Corresponding author; rossini@spbo.unibo.it; Fax: +390512092664; Ph. +390512092607.

1 Introduction

History and literature tell alternatively happy end stories and tragedies brought about by current account (CA) imbalances and external debt of countries. Australia, Canada, Norway have run for decades CA deficits without incurring in any external crisis. South Korea, Indonesia, Thailand during the years between 1997 and 1998 and other countries involved in systemic crisis of the 1990s and 2000s paid a high price for their CA deficits, despite the robustness of their economies, the low levels of imbalances and the relatively short period of time during which external disequilibria persisted.

Several interpretations have been put forward to account for the divergent destinies of countries exhibiting similar patterns of CA deficits. Most of them point to the short term financial exposition of countries (and their banks) in recent systemic episodes and to other structural features such as the weakness of financial institutions or unsustainable growth rates.

Recent literature (Lane, 2003, 2005; Lane and Milesi - Ferretti, 2005a, 2005b) has began to investigate more deeply the sustainability of CA imbalances. The focus has become the composition of CA and the way CA imbalances is financed. As a consequence the analysis had been devoted to the section of the CA that concerns capital incomes (interest and dividends). Here, signals of the sustainability of the external debt of an economy can be found, since the composition of the "financial side" of the CA can provide hints as to the returns on gross foreign assets and liabilities of a country. This looks like a promising route to investigate the degree of riskiness of a country from the point of view of its international financial position. Our aim is to proceed along this path concentrating on the role of FDI due to their weight and relevance for emerging countries.

However, FDI receives a particular treatment in the foreign accounting of an economy and this makes the effect of FDI on the solvency of a country rather special. Flows of FDI are recorded in the financial account (FA) of the balance of payments of a country. But they do not contribute to the net external position (NEP) of an economy.

To be more precise and simple consider the following example.

Suppose the balance of payments (BOP) of country Afrinda shows a CA deficit of 10 $ and an FA surplus of 10 $. This surplus is entirely due to a net FDI inflow. Then the BOP of Afrinda is in equilibrium. Neither the exchange rate (ER) should move, in the case of flexible ER, nor foreign exchange reserve (FER) should vary, in the case of fixed ER. What happens

to the NEP of Afrinda? Nothing, since it stays constant and does not change as a result of the net inflow of 10 $ of FDI, because FDI do not contribute to the NEP (IMF, 1993).

On the contrary, suppose Afrinda had an inflow of 10$ due to the purchase by foreigners of treasury Bonds issued by Afrinda. The effect of this on the BOP would have been the same as before. Yet, the NEP of Afrinda should worsen by 10$, while with FDI it would not change.

All this is due to the fact that net FDI inflows do not affect the NEP of an economy. What is the rationale of this seemingly inexplicable artifact? The reason is statistical taxonomy. But this comes from the very nature of FDI and it is no artifact. As a matter of fact, FDI can be of two sorts. They may bring about and finance with foreign funds the acquisition by a non-resident of a chunk of real capital endowment which is not much liquid and not immediately tradable (Rossini and Zanghieri, 2003). Or they may represent the financing of the addition to the real capital of an economy of a new piece (greenfield FDI) (IMF, 1993) of real capital. The "real" capital that corresponds to FDI may be represented by the funds to buy real estate, land, to build a new plant or firm (greenfield FDI) or to buy equity shares making up a stake with a control right on a firm.

As we have seen in the above example, in an extreme case, the equilibrium of the BOP with recurrent CA deficits, could be secured by covering entirely the CA deficit selling capital (FDI net inflows) to foreigners. In this case a country may run CA deficits for quite prolonged periods if net inflows of FDI are sufficient to finance it, as FDI inflows do not impinge upon its NEP.

The drawback of all this is due to the fact that the measure of FDI is far from precise. For instance, if a foreigner buys an 11% stake of the firm "Farmola" in Afrinda the amount spent to buy 11% shares of Farmola is recorded as net FDI inflow into Afrinda, since all foreign acquisitions of shares that exceed 10% of the outstanding stocks of a firm are considered as FDI (IMF, 1993), while, below 10%, they are classified as portfolio investments. Unlike FDI, portfolio foreign investments contribute to make up the NEP of Afrinda. Unfortunately, if a foreigner buys 7% of Farmola in 2005 and 4% in 2006 the corresponding timely separated financial inflows will not be considered as FDI, while they actually are, once aggregated over time. In this circumstance FDI will be underestimated. Of course the opposite case may occur with consequent upward bias. Nonetheless, in the long run the two biases may balance out, or may not especially if the country is an emerging economy whose "development" is based to a large extent on FDI, as it has

certainly been the case of Australia, Norway, Canada and other countries for quite a long time (OECD, 2004). For Australia it is quite unlikely that biases may have been balanced either in the short or medium run.

The particular nature of FDI and its consequent different treatment in the BOP vis à vis the definition of the NEP of an economy will make the assessment of sustainability quite dependent upon the weight of FDI in the FA of a country.

Given all above considerations, the purpose of this paper clearly emerges as that of evaluating the relevance of FDI for the sustainability of CA deficits and the effect of the weight of FDI on the variables that signal the degree of stress of the external position of a country. A country with a large net inflow of FDI will be fairly free to run prolonged CA imbalances without worrying about its NEP and the signals of this should reveal it.

The paper is made up of three sections and an epilogue. In the next section we go through some discussion of solvency and liquidity. In the third we provide an extension of solvency formulas taking into account balance of payments issues and the role of FDI. In the fourth section we dwell on econometric testing, while conclusions are drawn in the epilogue.

2 Sustainability - solvency and liquidity

In most of the literature (Milesi-Ferretti and Razin, 1996; Beim and Calomiris, 2001; Lane, 2004; Lane and Milesi - Ferretti, 2005a, 2005b) the two concepts of solvency - sustainability and illiquidity of NEP are kept separated. A country is illiquid and liable to face a liquidity crisis if it not able to pay back immediately most short term obligations without incurring in any distress of its interest rates, usually measured by a large increase in spreads with respect to corresponding interest rates of leading countries, or, in general, of its financial and monetary markets or of its exchange rate (ER).

Liquidity crisis are sometimes associated to solvency crisis but they do not necessarily coincide with them. However, in the last episodes of systemic crisis, like that in Asia during the period 1997-1998, liquidity was the culprit. But solvency was generally not an actual issue except, perhaps, for Indonesia. In other words most countries hit by the contagious crisis showed a NEP that was not unsustainable. In 1998 many financial and foreign exchange traders

bet on the devaluation of the Chinese yuan without considering the sound NEP of the People's Republic. Two years later the same traders would complain and press the US government to start a long and tedious campaign for a yuan appreciation, which is still under way. Agents were (excessively) worried by the relative composition of the assets vis à vis the liabilities of some economies involved, as the countries seemed to have too liquid liabilities and less liquid assets.

Even though solvency and liquidity crisis may contain overlapping sets they rarely coincide. The FDI paradox mentioned in the introduction provides new hindsight into this question and lends itself to further considerations when evaluating the solvency of a country.

With large net inflow of FDI a country may be quite solvent but at the same time its degree of illiquidity may be quite worrying or, at least, variable. While a country with low net FDI may be liquid but quite liable to be insolvent. Our view is that a solvent country is much safer than a liquid country and that financial and monetary variables should reflect a less myopic stance.

3 A textbook reassessment of solvency

As far as the solvency issue is concerned we may reassess it by simple extension of usual approaches (Obsfeld and Rogoff, 1996) that aim at the determination of ratios that signal distress of an economy NEP.

It is quite widely accepted that a reliable indicator of the solvency of a country is a stable ratio of NEP over the GDP (or GNP). Agents are quite comfortable with stable ratios since they provide some cushion for risk and variability. We embrace this view even though it may not be entirely justified on theoretical grounds.

We wish to see whether a proper accounting of FDI may alter the usual ratio adopted in the literature and in policy evaluation. To this aim we take into account the definition of the NEP mentioned in the introduction and adopted by international standards of the IMF (IMF, 1993, 2003) and the World Bank (World Bank, 2005).

The analysis requires the consideration of the intertemporal budget constraint (IBC) of an open economy. We adopt a very simple framework (Obstfeld and Rogoff, 1996) and assume that the expenditure is made up, for the sake of simplicity, only of consumption (C_s) and investment (I_s) flows.

Then the IBC, over an infinite horizon, is given by:

$$\sum_{s=t}^{\infty}(\frac{1}{1+r})^{s-t}(C_s + I_s) =$$

$$= (1+r)B_t + (1-r)F_t + \sum_{s=t}^{\infty}(\frac{1}{1+r})^{s-t}\left[Y_s + (F_{s+1} - F_s)(1-r)\right] \qquad (1)$$

where r stands for the common return on foreign assets (and liabilities)[1]. Assets and liabilities are of two kinds: B_t that represents the net stock at time t of foreign financial assets (short and long term) that contribute to the definition of the NEP of a country, while F_t describe the net stock of FDI hosted by a country[2]. Strictly speaking inflows of FDI are a liability. But a special liability, since it does not contribute to the NEP of an economy, while it can be used to finance a CA deficit.

We further assume, for the sake of simplicity, that the common return on all assets and liabilities is entirely repatriated each year.

In the above definition of the IBC we take into account of this special feature whereby the stock of FDI does not contribute to the NEP of a country, which comes from an accounting rule which has been internationally codified (IMF, 1993; World Bank, 2005). This norm is based on the fact that FDI is a *real* asset and it remains the property of a stranger in a foreign country with a low degree of liquidity. The stranger in the foreign country lends to nobody but himself. Strictly speaking, an FDI does not contain any timely defined obligation to pay back any holder of any obligation, unlike what occurs with all financial and monetary assets[3]. FDI flows can be used to finance the CA deficit of a country and are recorded in the FA of the BOP, but they do not enter the definition of the NEP. In other words FDI does not affect the sustainability assessment of the NEP of a country in terms of net stock, while FDI flows finance CA imbalances.

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[1] This assumes away transaction costs which are crucial to give rise to asymmetries between countries with CA surpluses vis à vis those with deficits (Obstfeld and Rogoff, 2000).

[2] For all assets and liabilities there is a valuation question. Assets could be valued either at the acquisition price (or book value) or at their current value. Problems arise in both cases since the current price is not exactly the value that the owner of the asset can obtain when selling if he has a large amount of the asset or if other agents will follow him.

[3] For the particular nature of FDI and its influence of the saving available in an economy, see also Rossini and Zanghieri (2003) in a different perspective within the "Feldstein - Horioka puzzle" literature.

The left hand side of (1) defines the present value (PV) of the aggregate expenditure of a country.

On the right hand side we find the description of the resources available. In the first part we show the stock of available net foreign assets at t, given by $(1+r)B_t$. In the second part, we add the net stock of FDI F_t multiplied by $(1-r)$, since we assume that dividends are repatriated. This stock is a sort of "asset" since it allows a country to pay for the import of foreign good by "selling capital." Using a colorful example, FDI is to be classified like the sale of an existing peach tree to foreigners or the implantation of a new peach tree by foreigners with the prohibition of cutting it while allowing to repatriate the peaches. The second part of the left hand side of (1) shows the PV of future production (Y_s) and net FDI flows $(F_{s+1} - F_s)$.

Then we can write:

$$-(1+r)B_t - (1-r)F_t = \sum_{s=t}^{\infty} (\frac{1}{1+r})^{s-t} [Y_s - C_s - I_s + (F_{s+1} - F_s)(1-r)].$$
$$(2)$$

Using the standard notation (Obstfeld and Rogoff, 1996) we define the Trade Balance flow of each period as

$$TB_s = Y_s - C_s - I_s \qquad (3)$$

and the Trade Balance of Real resources that can be exchanged with foreigners as:

$$TR_s = TB_s + (F_{s+1} - F_s)(1-r). \qquad (4)$$

Then we can write

$$-(B_t + F_t) - r(B_t - F_t) = \sum_{s=t}^{\infty} (\frac{1}{1+r})^{s-t} TR_s, \qquad (5)$$

which is a stock - flow relationship.

We follow textbook assumptions and we take into account the fact that financial markets are very keen on a stable relationship between the NEP of a country and its GDP (or GNP). This stability is associated to lower country risk. Then we assume that GNP grows at a constant rate g. For a steady NEP/GNP ratio B_t must grow at the same speed g.

Thanks to the above considerations and using the standard CA definition, a stable NEP / GNP ratio can be secured if we have:

$$
\begin{aligned}
B_{s+1} - B_s &= gB_s = rB_s + TR_s = \\
&= rB_s + TB_s + (F_{s+1} - F_s)(1-r)
\end{aligned}
\qquad (6)
$$

or

$$TB_s = -(r - g)B_s - (F_{s+1} - F_s)(1 - r). \tag{7}$$

If we divide both sides by Y_S we get:

$$\frac{TB_s}{Y_s} = \frac{-(r - g)B_s - (F_{s+1} - F_s)(1 - r)}{Y_s}. \tag{8}$$

The above equation changes the usual definition of the burden of a country with a negative NEP. Here the novelty is that the amount of trade surpluses that a country needs to transfer in steady state to foreigners is reduced by the FDI net inflow. This alters quite substantially the sustainability assessment of a country NEP. We shall see empirically, in the next section, whether FDI actually makes a difference. A country should be considered more solvent the higher are FDI flows entering into the financing of CA deficits. We shall see how this can be reflected in the values of variables measuring the sustainability of a NEP.

Two simple subcases can be added to extend the above formula (8) of the NEP burden.

- Dividends are not repatriated but transformed into new FDI:

$$\frac{TB_s^D}{Y_s} = \frac{-(r - g)B_s - (F_{s+1} - F_s)(1 + r)}{Y_s}. \tag{9}$$

  We easily see that

$$\frac{TB_s^D}{Y_s} \leq \frac{TB_s}{Y_s}.$$

- The FDI net stock grows at the same rate of GNP and no repatriation of dividends takes place:

$$\frac{TB_s^G}{Y_s} = \frac{-(r - g)B_s - gF_s(1 - r)}{Y_s} = \tag{10}$$

$$= \frac{-r(B_s - gF_s) + g(B_s - F_s)}{Y_s}.$$

  which is larger than (8) if $gF_s \leq F_{s+1} - F_s$.

As it can be seen, the effect of FDI is definitely not just one of making the capital flows less volatile, as they are less liquid, but that of making any NEP more sustainable. FDI reduces the extent of trade surpluses that an economy has to run to arrange the repayment of its NEP. *Coeteris paribus*, CA deficits of the same size will have different effects on country risk according to the share of FDI in their financing.

4 The empirical evaluation

After some theoretical accounting analysis we go through the econometric tests of the relevance of FDI for the sustainability of the NEP of a country.

Literature has provided many measures and signals of distress of NEP of countries (Beim and Calomiris, 2001; Manasse, Roubini and Schimmelpfennig, 2003; Ghosh and Ghosh, 2002). One of the most widely used and accepted is the spread between the interest rates in the leading financial market, i.e. the US and those of the area under scrutiny. Countries with ailing CAs over a long time span tend to show, almost in all circumstances, higher interest rates. Even if there is no risk of sovereign default on external obligations, the sheer existence of international transaction costs affect the buying and selling price of saving on the international markets, i.e. the spread in interest rates, making CA deficits quite costly, mainly for emerging countries (Obstfeld and Rogoff, 2000).

Therefore, our stance is that the signal of NEP distress of an economy is given by the spread (SPR) between its interest rates and that of the US. To measure it we use the lending rate, although we are aware that it is only a proxy of long term interest rates which we should use instead, but we do not have, for many countries, in a comparable way.

This signal of stress, SPR, is determined by the variables that depict the hindrances a country is encountering as far as its external accounts and its external imagine are concerned. We wish to see to what extent SPR is affected by net FDI inflows, or in other words, if the magnitude of net FDI inflows is able to influence the level of the signaling variable. The thesis we are going to test is that SPR - that is, the signal - is going to decrease if a country has larger net inflows of FDI, as the previous section suggests.

Nonetheless several other variables are supposed to determine SPR. We list them, even though our emphasis remains on the role of FDI.

Therefore, the crucial explanatory variable is the net FDI inflow over the GDP i.e.: NFDI / GDPN. Both the numerator and the denominator are in nominal terms. This is the variable that should have a tempering effect on SPR: the higher is this variable the lower is SPR.

The second explanatory variable is the relative inflation rate of the country vis à vis the US, i.e.: INFL. We introduce INFL since we should compare real interest rates spreads and inserting, among the explanatory variables of interest rates spread, INFL is equivalent to compare real interest rates spreads.

As the third variable, we use a monetary indicator of growth of money supply (M2) called GRMON since we expect that a larger money supply increases the spread.

As the fourth variable we introduce the ratio of Foreign Exchange Reserves over the External Debt TRES/EXDB. The higher this ratio the lower should be SPR as we expect that the country is less liable to incur in any illiquidity crisis, since the larger is the amount of reserves it holds, vis à vis the external debt, the higher is the ability to pay back monetary and short term financial obligations.

As a fifth variable we consider the terms of trade, TOT. They are an indicator of the competitiveness of an economy and, therefore, of the ability to pay back foreign debt.

The sixth variable we use is a measure of soundness of real external accounts. Named CAR, it is given by the CA balance relatively to GDP, a prime indicator of a country economic imbalance on its foreign relationships.

The seventh variable we add is a dummy, DLATAM, to separate the economies of Latin America from countries of other areas. In that region specific sustainability criteria are adopted both by the countries themselves and by international investors.

As the eighth variable we add lagged real GDP in Logs so as to capture the ability to grow of a country and therefore the capacity to produce sufficient resources to pay back, via trade surpluses, its international obligations.

Other explanatory variables are presented in the specific econometric exercise in which they are used.

4.1 TEST 1

In the first test we conduct we use a static panel based on annual data over the period 1992-2003 for a group of emerging countries represented by Asian (and Middle East) and South American emerging economies.

The group is made up of Indonesia, Malaysia, Philippines, India, Sri Lanka, Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Uruguay, Venezuela, Egypt, Jordan.

The results of the econometric tests are summarized in Table 1 below.

Table 1

Method	Pooled	EGLS
Observations	238	
Dependent var.:	SPR	

	coefficient	Std. error	t-stat.	prob.
Explan. var.s				
INFL	.41	.20	2.07	.04
NFDI / GDPN	-1.07	.31	-3.45	.00
GRMON	.34	.11	3.25	.00
TRES / EXDB	-8.77	3.24	-2.70	.01
$DLog(TOT_{-1})$	-16.15	7.59	-2.12	.03
CAR_{-1}	-.39	.20	-1.91	.06
DLATAM	14.63	2.36	6.20	.00
$DLog(GDPR_{-1})$	-6.84	37.69	-.18	.86
R-squared	0.425		Mean dep. var.	20.63
Adj. R-squared	0.39		S.D. dep. var.	22.35
S.E.of regression	17.40		Akaike info crit.	8.59
Sum squared resid.	69305.41		Schwarz crit.	8.72
Log Likelihood	-1012.91		D.B. stat.	.42

COMMENTS

From Table 1 we can draw some inferences as to the role of FDI and other variables in the explanation of SPR.

FDI seems to play the expected role and be able to reduce the spread of lending rates - the dependent variable - which is the signal of stress in the NEP of a country. The weight and significance of the coefficient of the explanatory variable containing FDI confirms our theoretical prior that FDI helps a country to make its NEP lighter.

The expected sign can be found also in the estimated coefficients of other variables. This is the case of the degree of international liquidity of a country. The more liquid an economy is in terms of foreign exchange reserves, the lower will be SPR.

Inflation adds, of course, to the spread since it provides the nominal wedge between the interest rates of countries. Moreover, a looser monetary policy increases SPR as the coefficient of GRMON indicates.

Significant and relevant is the regional dummy whose high positive coefficient proves that Latin America is perceived as more risky and is, therefore, suffering a higher spread than countries belonging to other regions.

The sign of the delayed terms of trade (TOT) is at first sight puzzling. However, the association between a lower price of exports relatively to imports and a higher spread is simply the result of exchange rates variations which are mirrored in the TOT of a country. An exchange rate devaluation makes for lower export prices and higher import prices and it is usually associated to larger interest rates spreads.

Finally, it appears that the worse is the CA the higher is the spread a country faces. A result which confirms textbook priors.

4.2 TEST 2

In the second test reported in Table 2 below we turn to an enlarged sample of countries. The previous group is supplemented by economies belonging to Eastern Europe. Some of them now belong to the enlarged EU as from May 2004, but our investigation is not affected by that since the time span of our data is 1992-2003. The new entries in our sample are Bulgaria, Russia, Czech Republic, Estonia, Latvia, Lithuania, Poland, Slovakia, Slovenia.

In this test we change the method of estimation introducing fixed effects. The different sample and estimation method lead to a fresh specification whereby we have changed some explanatory variables. Data availability has also played a role. FDI is now utilized relatively to the CA balance, both measured in local currency (NFDI / CAL). We also add the variable DLog(XN) which stands for rate of growth of the value of exports at current prices. Finally we use a constant (C) as the estimation is carried out with fixed effects.

Table 2

Method	Pooled	EGLS	Fixed effects
Observations	358		
Dep.var.:	SPR		

	coefficient	Std. error	t-stat	prob.
Explan. var.s				
INFL	.21	.09	2.18	.03
NFDI / CAL	-.04	.01	-2.19	.03
GRMON	.19	.05	4.01	.00
DLog (XN)	-7.25	2.18	-3.33	.00
DLog (GDPR)	-.37	.23	-1.56	.11
CAR_{-1}	-.03	.04	-.76	.45
C	18.68	5.33	3.50	.00
R-squared	0.83		Mean dep. var.	44.99
Adj. R-squared	0.81		S.D. dep. var.	44.46
S.E.of regression	21.12		D.B. stat.	1.01
Sum squared resid.	143218.2		F - stat.	42.29

COMMENTS

With an enlarged sample containing also emerging European countries results change only slightly, while the effect of FDI on the lending interest rates spread maintains the expected sign. New variables, like exports, increase the ability of the specification to fit the data. All other variables included in the previous test appear with the same sign as before, even though with different degree of significance. This is the case of the CA balance (CAR) that is losing grip, probably because it is crowded out by Exports.

As a partial conclusion, we can again state that the role of FDI in the explanation of the sufferance signal (SPR) is still crucial, proving our theoretical supposition. The fact that this conclusion extends to some Eastern Europe countries means that the importance of FDI to improve the sustainability of NEP obtains also in areas which are more integrated and financially close to the EU.[4]

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[4]The same analysis we are conducting for emerging countries cannot be carried out in Euroland, since the SPR is quite compressed by the collateral policies of the ECB that tends to equalize interest rates all across the Euro area (see Buiter and Sibert, 2005).

4.3   TEST 3

Here we consider a different sample of countries grouped according to their presumed similarity as far as the role of FDI in financing CA imbalances is concerned. We keep the economies of the former group of Test 2 excluding those belonging to the Middle East and to Asia.

The rationale lies in some macroeconomic affinities existing between Latin America countries and Eastern Europe. These similarities concern the external variables and the fact that Latin American countries have gone through a transition, during the 1990s, from highly regulated and protected (sometimes semi-autarkic) structures to quite open and flexible markets.

Table 3

Method	Pooled	EGLS	Fixed effects
Observations	252		
Dep. var.:	SPR		

	coefficient	Std. error	t-stat	prob.
Expl. var.s				
C	20.37	4.39	4.63	.00
INFL	.21	.05	4.44	.00
NFDI / GDPN	-.07	.03	-2.45	.01
GRMON	.32	.06	4.81	.00
DLog(GDPR)	-85.06	22.55	-3.77	.00
DLog (TOT)	1.39	8.28	.16	.87
CAR	-.19	.24	-.77	.44
NFALC/GDPLC	4.20	11.97	.35	.73
R-squared	0.81		Mean dep var	50.02
Adj. R-squared	0.79		SD dep var	50.71
S.E.of regression	24.93		prob (F-stat)	.00
Sum squared resid	136688.7			
F-stat	30.76		DB stat	1.21

COMMENTS

Here a new variable has been introduced, i.e. net financial assets over GDP at current local prices. Changing the specification of the set of explanatory variables and using a more targeted sample with countries displaying, supposedly, more homogeneous behavior does not eliminate the influence of FDI as it appears from the coefficient which is still of the expected sign and significative. In all cases FDI seems to reassure markets and have a positive influence on the reduction of SPR.

As a partial conclusion it seems that the inclusion of fixed effects, the changing specification and the changed sample may alter the importance of FDI as an inverse determinant of SPR. Nonetheless the influence is always significant and of the expected sign.

5　Epilogue

The aim of this paper is to reassess the role of FDI on the NEP of a country. FDI represents an item of the FA of the BOP. FDI inflows may finance the CA deficit of an economy as any other inflow of financial assets. Unlike other financial assets, FDI does not contribute to the NEP of a country. This is what dictates the International code for the compilation of external accounts. In the extreme case, a country can run CA deficits for ever without worsening its NEP, if sufficient FDI net inflows allow it.

This taxonomy rule is no fiction and comes from the very nature of FDI which represent pieces of an economy which are the property of nonresidents.

We add some flesh to this statement by showing theoretically and empirically that markets actually view FDI as a special "asset" which does not contain any definite obligation to pay back the holder. FDI reduces the amount of resources that a country has to give to foreigners through Trade Balance surpluses in order to reimburse an external debt.

The empirical proof of that comes from three tests conducted on panels of emerging countries during the "hot" 1990s. In all tests FDI net inflows reduce the spread (SPR) between the lending of US and that of the emerging country examined. SPR is one of the mostly used indicator of distress of the external position of a country and plays a crucial role as alarm clock of country risk. Differences appear according to the sample of countries we consider.

In the first sample where countries of Latina America and Asia are included we see a strong effect of FDI on the reduction of SPR. Latin American countries suffer a larger idiosyncratic SPR due to their weak financial system. In this sense they reveal similarities with Eastern Europe countries (Test 3). Both areas during the 1990s have gone through a transition process which turned their economies from quite closed and regulated into financially open countries increasingly integrated with the rest of the world.

As we have seen in the three tests, other variables affect SPR. Their coefficients mostly behave in an orthodox manner. Nonetheless, none of them is able to crowd out or reverse the expected effect of FDI on the SPR.

This is the first of two investigations we are carrying out on the effect of CA and FA composition on the sustainability of external debt. The second concerns geographic and industrial trade specialization and its effect on the sustainability of a NEP of an economy.

References

[1] Beim, David, and Charles Calomiris, 2001, *Emerging Financial Markets.* New York, McGraw-Hill.

[2] Buiter, Willem, H. and Anne Sibert, 2005, "How the Eurosystem's Treatment of Collateral in its Open Market Operations weakens Fiscal Discipline in the Eurozone (and what to do about it)." *CEPR* WP No. 5387.

[3] Ghosh, Swati, and Atish Ghosh, 2002, "Structural Vulnerabilities and Currency Crisis" IMF WP No. 02/9. Washington, International Monetary Fund.

[4] IMF (1993) *Balance of payments manual.* 5th Ed. Washington.

[5] Lane, Philip, 2004, "The Macroeconomics of International Financial Trade." In: Driver, Rebecca - Sinclair, Peter – Thoenissen, Christoph, eds. "*Exchange Rates and Capital Movements*". Routledge, London.

[6] Lane, Philip, 2005, "Global Bond Portfolios and EMU," *ECB* WP n.553.

[7] Lane, Philip and Gian Maria Milesi-Ferretti, 2005 a, "Financial Globalization and Exchange Rates." *IMF* WP/05/03.

[8] Lane, Philip and Gian Maria Milesi-Ferretti,2005 b, "A Global Perspective on External Positions." *IMF* WP/05/161.

[9] Manasse, Paolo, Nouriel Roubini and Axel Schimmelpfennig, 2003, Predicting Sovereign Debt Crises. IMF WP No. 03/221.

[10] Milesi-Ferretti, Gian Maria and Assaf Razin, 1996, "Current - Account Sustainability," *Princeton Studies in International Finance*, No. 81.

[11] Min, Hong, G., 1998, "Determinants of Emerging Market Bond Spread: do Economic Fundamentals Matter?" *World Bank Policy Research* WP. No. 1899.

[12] Obstfeld, Maurice, and Kenneth Rogoff, 1996, *Foundations of International Macroeconomics.* Cambridge MA, MIT Press.

[13] Obstfeld, Maurice, and Kenneth Rogoff, 2000, "Six Puzzles in International Macroeconomics," *NBER WP No. 7777.*

[14] OECD, 2004 and various years, *Main Economic Indicators.* Paris, OECD.

[15] Rossini, Gianpaolo and Paolo Zanghieri, 2003, A Simple Test of the Role of Foreign Direct Investments in the Feldstein-Horioka puzzle. *Applied Economics Letters,* **10**, 39-42.

[16] World Bank, 2005, "How to do a Debt Sustainability Analysis for Low-Income Countries." *WB* report n. 35620.

[17] World Bank, 2005, "*World Development Indicators.*" Washington.