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Does Inflation Targeting Matter for Attracting Foreign Direct Investment into Developing Countries?

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Abstract:

This paper investigates the effect of Inflation Targeting (*IT*) on Foreign Direct Investment (FDI). Based on panel data of 53 developing countries over the period 1980-2007, this study is the first, to the best of the author's knowledge, to evaluate directly the effect of *IT* on FDI. Using a variety of *propensity scores*-matching methods which allow controlling for *self-selection* in policy adoption, it finds that the *treatment* effect of *IT* on FDI is positive, statistically significant and robust to a set of alternative specifications. In terms of policy recommendations, this finding therefore suggests that if well implemented, *IT* adoption can be a legitimate part of the policy toolkit available to policymakers in developing countries in their competition to attract more FDI.

JEL Codes : C21, E31, E52, E58, F21, G11.

Keywords: Inflation Targeting, Foreign Direct Investment, Propensity Scores-Matching, Developing Countries.

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1. Introduction

Does Inflation Targeting –IT hereafter- help attracting Foreign Direct Investment – FDI hereafter- into developing countries? This paper aims to address this question on the basis of an empirical study on a sample of 53 developing countries over the period 1980-2007. Since its first adoption by the Central Bank of New Zealand in 1990, the popularity of *IT* has grown considerably. Twenty-six central banks use it currently as their operational framework for the conduct of monetary policy and many others, especially in Developing countries, are planning to move towards it.[1] According to the proponents of *IT*, this new monetary policy framework, by increasing the transparency and the accountability of the central bank, enhances its credibility, allowing it to tackle the time inconsistency problem (Bernanke et *al.*, 1999).[2] Accordingly, *IT* adoption helps anchoring credibly inflation expectations and stabilizing the macroeconomic environment. However, Epstein (2007) challenged the merits of *IT*, namely its ability, *inter alia*, to attract more FDI. Attempting to answer the question whether or not *IT* has helped developing countries to attract more FDI, he pointed out the lack of direct studies evaluating the effect of *IT* on FDI. It is therefore important to fill this gap in the empirical literature by highlighting the effect of *IT* on FDI.

The classical FDI *push-pull* factors literature distinguishes two kinds of factors affecting the inflows of FDI: the external or *push* factors and the domestic or *pull* factors (Asiedu, 2002; Calvo et *al.*, 1996; Fernandez-Arias, 1996; Gastanga et *al.*, 1998; Kim, 2000; Kinda, 2010; Montiel and Reinhart, 1999; Root and Ahmed, 1979; Schneider and Frey, 1985). *Push* factors represent the economic conditions in the developed countries and reflect the

[1] See Roger (2009). Three other countries, Finland, Spain and the Slovak Republic adopted IT but abandoned it when they began to use the euro as their currency.

[2] *IT* is a framework for monetary policy characterized by five main elements: " (i) the public announcement of medium-term numerical targets for inflation; (ii) an institutional commitment to price stability as the primary goal of monetary policy, to which other goals are subordinated; (iii) an information-inclusive strategy in which many variables, and not just monetary aggregates or the exchange rate, are used for deciding the setting of policy instruments; (iv) increased transparency of the monetary-policy strategy through communication with the public and the markets about the plans, objectives, and decisions of the monetary authorities; and (v) increased accountability of the central bank for attaining its inflation objectives" (Mishkin, 2000).

opportunity cost in investing in these countries. *Pull* factors concern the macroeconomic conditions and the institutional environment in the recipient countries. With respect to this literature, *IT* may be related to the *pull* factors in that it affects the domestic macroeconomic conditions. Indeed, the increased credibility that *IT* gives the central bank makes it easier for the financial markets and the private sector to infer the central bank's intentions from monetary policy announcements (Geraats et *al.*, 2006). *IT* adoption therefore gives the financial markets and the private sector a transparent and predictable framework to plan their future investment decisions. This increased transparency and predictability lower policy uncertainty, which in turn decreases the transaction and the access to information costs. As a result, the expected return rates and the productivity prospects increase, making investment decisions easier, especially the longer-term ones since the cash-flows attached to them become less uncertain (Serven, 1998). Given that FDI requires long term investment decisions, such a sound macroeconomic environment induced by *IT* should be conducive to larger inflows of FDI into Developing countries. Indeed, due to the large sunk costs involved by FDI, their levels and their localization depend heavily on the confidence of the foreign investors regarding the soundness of the macroeconomic environment (Fischer, 1993).

A vast strand of the empirical literature also found evidence supporting the idea that *IT* allows creating a sound and stable macroeconomic environment, especially in Developing countries. *IT* adoption has been followed by a downward trend in inflation dynamics, interest rates levels and exchange rate pass-through, and this has been achieved without an increase in output volatility, particularly in Developing countries (Batini and Laxton, 2007; Gonçalves and Salles, 2008; IMF, 2005; Lin and Ye, 2009; Mishkin, 2007). By improving key macroeconomic variables, especially average inflation and its volatility, *IT* should help attracting more FDI into Developing countries since inflation is known to be negatively associated with FDI in the *pull* factors literature.

However, it is worth noting that some empirical studies challenged these macroeconomic benefits of IT. On a sample of developed countries, Ball and Sheridan (2005) find no significant difference between the *IT* countries and the non *IT* countries in terms of inflationary performances. More recently, Brito and Bystedt (2010) showed that in the emerging *IT* countries, the lower inflation levels recorded have been achieved at the cost of a lower real output growth rate. In other words, the sacrifice ratios associated with *IT* have not decreased in these emerging countries relatively to those induced by the alternative frameworks for monetary policy. Accordingly, one could also assume that *IT* might lead to lower FDI into the emerging countries. Indeed, in line with the FDI *pull* factors literature, a lower real output growth rate may makes less optimistic the expectations of productivity gains and profit prospects, discouraging foreign investors to enter the economy.

Overall, it follows that the effect of *IT* on FDI into Developing countries is ambiguous *à priori* and needs to be addressed empirically. Using panel data of 53 Developing countries, of which 20 that have adopted *IT* by the end of 2007, this paper analyzes the relationship between *IT* and FDI over the period 1980-2007. Such an exercise is interesting in that it will not only shed light on the debate relative to the question raised by Epstein (2007), but might also reveal an additional ingredient helping developing countries to attract more FDI. Attracting FDI is especially important for developing countries because it is well-known that they are sometimes characterized by an insufficient mobilization of domestic resources, though essential to sustain economic growth and pursue the development agenda. In the current context of drying in aid inflows toward these countries, combined with their lesser access to financial markets, attracting more FDI may therefore be a solution to close the domestic saving gaps in these countries. In addition, FDI is not only the most stable external capital flowing into Developing countries, but also an excellent vehicle for the transfer of technology, knowledge and managerial skills into these countries.

The remainder of the paper is organized as follows: section two presents the econometric methodology and introduces the dataset. Section 3 shows the estimation results while section 4 considers some robustness checks. Section 5 briefly concludes and draws some policy recommendations.

2. Methodology and Data

Our objective is to evaluate the *treatment* effect of *IT* on FDI in the countries having adopted *IT* (*ITer* hereafter), the so-called average treatment effect on the treated (*ATT*),

$$ATT = E[(Y_{i1} - Y_{i0}) | IT_i = 1] = E[Y_{i1} | IT_i = 1] - E[Y_{i0} | IT_i = 1] \quad (1)$$

where IT_i is the *IT* dummy variable. Y_{i1} is the value of the outcome variable when the country *i* has adopted *IT* and Y_{i0} if not. $Y_{i0} / IT_i = 1$ is the outcome value that would have been observed if an *ITer* had not adopted *IT* regime, and $Y_{i1} / IT_i = 1$ the outcome value really observed on the same *IT* country. Equation (1) is telling us that a simple comparison between the outcome value (FDI in our case) observed in the *treatment* group (*ITers*) and the outcome value observed in the same countries if they had not adopted *IT* would give us an unbiased estimate of *ATT*. Unfortunately, it is not possible to observe this latter outcome value since we cannot observe the FDI flowing into an *IT* country had it not adopted *IT*. We face here, as it is common in non-experimental studies, an identification problem.

A common approach to circumvent this difficulty is to compare the sample mean FDI of the *treatment* group (*ITers*) with that of the *control* group (*non ITers*) if and only if assignment to the *treatment* is random. However, *IT* adoption may be non-random, as it may be correlated with a set of observable variables that also affects the outcome variable, leading

to the so-called *self-selection* problem.[3] Simple comparison of the sample mean FDI between the two groups would then produce biased estimates of the *ATT*. As in Lin and Ye (2007), to address this problem of selection on observables, we make use of a variety of *propensity scores matching* methods recently developed in the *treatment* literature.

2.1. Matching on Propensity Scores

Propensity Scores Matching (*PSM* hereafter) consists of pairing the *ITers* with *non ITers* that have similar observed characteristics, so that the difference between the outcome of an *ITer* and that of a matched counterfactual is attributable to the *treatment* (*IT* adoption). A key assumption needed to apply the *PSM* is "conditional independence" $(Y_0, Y_1 \perp IT | X)$ which requires that conditional on the observables (*X*), the outcome be independent of the *treatment* variable. Under this assumption, equation (1) can be rewritten as

$$ATT = E[Y_{i1} | IT_i = 1, X_i] - E[Y_{i0} | IT_i = 0, X_i] \quad (2)$$

where we have replaced $E[Y_{i0} | IT_i = 1, X_i]$ with $E[Y_{i0} | IT_i = 0, X_i]$ which is observable. Yet, as the number of covariates in *X* increases, matching on *X* would be difficult to implement in practice. Rosenbaum and Rubin (1983) suggested overcoming this high dimension problem by basing the matching on the *propensity scores* instead of *X*. The *propensity score* is the probability of adopting the *IT* regime conditional on the observable covariates (*X*):

$$p(X_i) = E[IT_i | X_i] = \Pr(IT_i = 1 | X_i) \quad (3)$$

The validity of the *PSM* needs a further assumption, the so-called "common support" assumption ($p(X_i) < 1$), which requires the existence of some comparable *control* countries for each treated countries. Hence, the *ATT* can be estimated as

$$ATT = E[Y_{i1} | IT_i = 1, p(X_i)] - E[Y_{i0} | IT_i = 0, p(X_i)] \quad (4)$$

[3] See Dehejia and Wahba (2002) and Heckman et *al.* (1998). Note also that the selectivity problem here is neither selection on unobservables (omitted variables) nor a Heckman-type sample selection problem. Indeed, matching on the propensity scores implicitly assumes that unobservables play no role in the *treatment* assignment.

2.2. Data

Our dataset consists of 53 Developing countries examined over the period 1980-2007. This is an unbalanced panel because of missing data on some variables such as Central Bank Turnover rate, control of corruption, financial openness and financial reforms. The sample is composed of 20 Developing countries that have adopted *IT* by the end of 2007 (called *ITers* or *treatment group*) and 33 *non ITers* (*control group*). For purpose of comparability, our sample relies on Lin and Ye (2009) and has been enriched thereafter in several aspects.[4] While the sample in Lin and Ye (2009) spanned from 1985 to 2005, ours covers a larger period, spanning from 1980 to 2007. Accordingly, some countries such as Guatemala, Romania, Slovak Republic and Turkey that adopted *IT* between 2005 and 2006 and were therefore in the *control group* in Lin and Ye (2009) are treated as *ITers* in our study. Furthermore, Serbia and Ghana that adopted *IT* respectively in 2006 and 2007 are included in our sample whereas they were absent in Lin and Ye (2009).

ITers along with their starting dates can be found at *Appendix B*. Data on the starting dates come from Rose (2007) and have been supplemented with data from Roger (2009) regarding *IT* adoption between 2005 and 2007. An important issue in evaluating the *treatment* effect of *IT* is the sensitivity of the result regarding the chosen starting dates. Following Rose (2007), we consider two kinds of dates: *default* starting dates and *conservative* starting dates.[5] Indeed, some central banks first implemented a "partial" *IT* before moving gradually to *Full-Fledged IT*. For instance, Chile has two *IT* starting dates: a *default* starting date (1991) corresponding to a "partial" *IT*, characterized by a mixture of *IT* and a crawling exchange rate regime, and a *conservative* starting date (1999) corresponding to a *full-fledged IT*. Israel also implemented *IT* together with a widening exchange rate band in 1992 before abandoning the

[4] The country list can be found at *Appendix A*. China Macao has been dropped because of lack of available data. The developing countries category considered here refers to the World Bank classification, thus includes both low-income countries and emerging-market countries.

[5] The *conservative* starting dates refer to dates corresponding to the implementation of a *Full-fledged IT*, while the *default* starting dates refer to a "partial or informal" *IT*. Under *partial* IT, the central bank does not have *IT* as its framework for monetary policy exclusively: it sometimes accompany *IT* with a monetary targeting or an exchange rate targeting.

exchange rate target in 1997 and to commit explicitly to *full-fledged IT*. Mexico's *default* starting date (1999) corresponds to a mixture of *IT* and monetary targeting while its *conservative* starting date (2001) refers to *Full-Fledged IT*. Accordingly, it is important to make sure that the estimated *treatment* effect of *IT* upon FDI is not driven by the chosen starting dates of *IT*. We therefore employ alternatively the two kinds of starting dates to investigate whether the effect of *IT* on FDI differs depending on the starting dates employed.

Data on FDI come from the World Development Indicators (WDI, 2009). These are the net inflows of FDI as GDP percentage and represent the net inflows of investments aiming to acquire a lasting management interest (10 percent or more of voting right) in an enterprise operating in an economy other than that of the investor. Definitions, sources and descriptive statistics of the other variables can be found in *Appendices I* and *J*.

3. Estimation results

3.1. Estimating the propensity scores (*PS*)

We estimate the *PS* using a *probit* model with the binary variable *IT* as the dependent variable.[6] The explanatory variables are twofold: on the one hand, we account for the fact that a country should reasonably adopt *IT* after having met some preconditions, and on the other hand, we consider the likelihood for a country to adopt an alternative framework for monetary policy (exchange rate targeting and money growth targeting).[7]

As *precondition* variables we include the lagged inflation rate, central bank governors' turnover rates (reverse proxy for the independence of the central bank), public debt over GDP, Real per capita GDP growth rate, Domestic Credit to private sector as GDP percentage (proxy for financial development) institutional quality (proxied by the ICRG index for control of corruption), and financial openness. We expect a negative correlation between the probability

[6] *Logit* model does not change the results significantly.

[7] According to the *conditional independence* assumption, omitting in the *probit* model, variables that systematically affect the targeting probability but do not affect FDI, has little influence on results (Persson, 2001). In other words, an estimate bias occurs only if we omit an explanatory variable that simultaneously affect FDI and the probability of adopting *IT*. We give much attention to this issue when selecting variables in the *probit* model.

of *IT* adoption and the first three variables.[8] We expect a negative correlation between the probability of *IT* adoption and the real per capita GDP growth rate. Indeed, a high GDP growth rate may be viewed as the result of successful macroeconomic policies, which implies no need to adopt an alternative monetary policy framework. Regarding financial development and financial openness, we expect them to be correlated positively with the probability of *IT* adoption. Indeed, a well developed financial system gives the central bank a higher capacity to implement monetary policy more effectively. Financial development should therefore be correlated positively with *IT* adoption. Moreover, for some countries, namely Central and Eastern European Countries (CEEC), *IT* has been adopted simultaneously with a wave of other reforms, including financial openness (Roger, 2009). Consequently, one should expect a positive correlation between financial openness and the probability of *IT* adoption. The expected sign on institutional quality is ambiguous *à priori*. On the one hand, a high institutional quality may reflect a better capacity to implement *IT* credibly. Indeed such a high quality of institutions will be viewed by financial markets as a signal that the central bank will be supported by the government to hit its inflation target. As a result, a higher institutional quality should affect the probability of adopting *IT* positively. But on the other hand, it may be assumed that a country chooses to adopt *IT* as a tool to "tie its own hand" and to improve the quality of its institutions. In this sense, the expected sign of the effect of institutional quality on the probability of *IT* adoption should be negative. Concerning the *second* set of controls, we choose trade openness and exchange rate flexibility. We expect them to be correlated negatively with the probability of *IT* adoption (see Lin and Ye, 2009).

[8] Indeed, a country should adopt IT when its inflation rate is at reasonably low level, preferably after a successful disinflation (Masson et *al.*, 1997). Moreover, a high debt ratio should determine negatively *IT* adoption since this may be interpreted by the financial markets as the sign of a future pressure of the government on the central bank for monetizing the public debt, which will prevents it from hitting its inflation target. Finally, Operational independence –and not necessarily independence of goal- of the central bank is a desirable precondition for *IT* adoption (Mishkin, 2000). It is therefore reasonable to expect a negative correlation between the reverse proxy for central bank independence –turnover rate- and the probability of *IT* adoption.

Table 1 below reports the *probit* estimates of the *PS*. The benchmark model [1] based on the *conservative* starting dates of *IT* supports our intuition, as most coefficients are significant and have the expected sign.[9] Lagged inflation, central bank governors' turnover rate, debt ratio, control of corruption and trade openness are correlated negatively with *IT* adoption, while real per capita GDP growth rate, domestic credit to the private sector and exchange rate flexibility enhance the targeting probability. The overall fit of the regression is also quite reasonable, with the pseudo-R-squared around 0.432.

3.2. Results from matching

Based on the *PS* estimated above, we employ four commonly used methods to match each *ITer* with *non-ITers*, depending on the closeness of their scores to that of the *ITer*.[10] First, the *nearest neighbor matching* with replacement, which matches each *treated* country to the N *control* countries that have the closest *PS* (we use $N=1$, $N=2$ and $N=3$). Second, the *radius matching*, which performs the matching based on *PS* falling within a certain *radius* or "caliper" R (we use a small radius *R=0.005*, a medium radius *R=0.01* and a wide radius *R=0.03*). The third method is the *regression-adjusted local linear matching* developed by Heckman et *al.* (1998). Fourth, we consider the *kernel matching*, which matches an *ITer* to all *non-ITers* weighted proportionally to their closeness to the *treated* country. As the matching estimator presents no analytical variance, we compute standard errors by bootstrapping (i.e. by re-sampling the observations of the *control* group, see Dehejia and Wahba, 2002).

The upper panel of *Table 2* below reports the estimated *ATT* of *IT* on FDI based on the *conservative* starting dates. Irrespective of the matching method, the estimation results show

[9] Except the estimated coefficient of the real per capita GDP growth rate which is positive whereas we expected it to be negative.

[10] While matching *ITers* to *non-ITers*, we employ the "common support" option. With this option, we exclude the *treated* countries whose the *PS* is higher than the maximum or less than the minimum *PS* of the *untreated* countries.

Table 1: Probit estimates of the propensity scores (using the *Conservative* Starting Dates)

Dependent Variable	IT (Conservative Starting Dates)							
	[1]	[2] Post-1990	[3] No CEEC	[4] No New ITers	[5] No hyper-inflation	[6]	[7]	[8]
Inflation lagged one year	-0.125***	-0.123***	-0.174***	-0.125***	-0.125***	-0.127***	-0.129***	-0.147***
	(0.023)	(0.023)	(0.032)	(0.023)	(0.023)	(0.0254)	(0.0246)	(0.0288)
Governors' turnover rate	-1.785***	-1.147**	-3.146***	-1.785***	-1.771***	-1.864***	-2.425***	-1.237**
	(0.534)	(0.566)	(0.766)	(0.534)	(0.542)	(0.630)	(0.610)	(0.587)
Debt ratio	-0.015***	-0.017***	-0.020***	-0.015***	-0.016***	-0.0126***	-0.00825**	-0.0088*
	(0.004)	(0.004)	(0.005)	(0.004)	(0.004)	(0.0039)	(0.0035)	(0.0048)
Real per capita GDP growth rate	0.016	0.010	0.005	0.016	0.010	0.00004	0.00112	0.0260
	(0.023)	(0.024)	(0.028)	(0.023)	(0.024)	(0.0254)	(0.0217)	(0.0252)
Domestic credit to private sector	0.001	-0.001	0.003	0.001	0.001	-0.0043	-0.0005	-0.0022
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.0027)	(0.0025)	(0.0035)
Financial openness	0.154**	0.086	0.1498*	0.154***	0.156**	0.159**	0.0625	-0.289**
	(0.075)	(0.079)	(0.088)	(0.075)	(0.075)	(0.0701)	(0.0720)	(0.113)
Control of corruption	-0.260**	-0.297***	-0.455***	-0.260***	-0.283***	-0.204**	-0.469***	-0.380***
	(0.102)	(0.110)	(0.129)	(0.102)	(0.104)	(0.101)	(0.114)	(0.124)
Trade openness	-0.004*	-0.004*	-0.007***	-0.004*	-0.004*	-0.0023	-0.0096***	-0.0062***
	(0.002)	(0.002)	(0.003)	(0.002)	(0.002)	(0.0015)	(0.0021)	(0.0018)
Exchange rate flexibility	0.360***	0.372***	0.414***	0.360***	0.368***	0.337***	0.337***	0.360***
	(0.051)	(0.053)	(0.064)	(0.051)	(0.052)	(0.0475)	(0.0451)	(0.0481)
Log of Real GDP						0.468***		
						(0.0824)		
Log of real per capita GDP							1.368***	
							(0.254)	
Financial reforms								0.278***
								(0.0532)
No of observations	663	506	575	663	564	663	665	589
Pseudo R^2	0.432	0.434	0.526	0.432	0.410	0.489	0.506	0.579

Note: Robust standard errors are reported in brackets. *, **, and *** indicate the significance level of 10%, 5%, and 1%, respectively. Constant are included (not reported).

Table 2: Matching results (Using the *Conservative* Starting Dates)

Dependent Variable :	1-Nearest-Neighbor	2-Nearest-Neighbor	3-Nearest Neighbor	Radius Matching			Local Linear Regression	Kernel Matching
FDI over GDP	Matching	Matching	Matching	r=0.005	r=0.01	r=0.03	Matching	
Treatment Effect of IT on FDI: using the conservative starting Dates								
[1] : ATT	1.985***	1.721***	1.782***	1.404*	1.805***	1.493***	1.509***	1.568***
	(0.734)	(0.605)	(0.638)	(0.808)	(0.652)	(0.523)	(0.474)	(0.479)
Number of Treated Obs.	42	42	42	28	35	42	42	42
Number of Controls Obs.	607	607	607	607	607	607	607	607
Total Observations (Obs.)	649	649	649	635	642	649	649	649
Robustness Checks								
[2] : Post-1990 Period	1.894***	1.836***	2.047***	1.641**	1.711***	1.733***	1.738***	1.678***
	(0.655)	(0.620)	(0.535)	(0.718)	(0.630)	(0.535)	(0.441)	(0.435)
[3] : Excluding CEEC	1.502**	1.446**	1.430**	1.327*	1.393**	1.630***	1.678***	1.642***
	(0.749)	(0.603)	(0.607)	(0.802)	(0.632)	(0.570)	(0.474)	(0.516)
[4] : Excluding New ITers	1.985***	1.721***	1.782***	1.404*	1.805***	1.493***	1.509***	1.568***
	(0.757)	(0.661)	(0.601)	(0.754)	(0.622)	(0.497)	(0.445)	(0.466)
[5] : Excluding hyperinflation episodes	1.211*	1.424**	1.400**	0.944	1.305**	1.572***	1.398***	1.511***
	(0.706)	(0.655)	(0.610)	(0.757)	(0.639)	(0.522)	(0.484)	(0.501)
[6] : Adding Log of real GDP	1.829**	1.909**	1.867***	1.828**	1.694**	1.668***	1.789***	1.875***
	(0.787)	(0.766)	(0.679)	(0.929)	(0.763)	(0.598)	(0.492)	(0.602)
[7] : Adding log of real per capita GDP	1.403*	1.545**	1.396**	0.694	1.234*	1.353**	1.360***	1.426***
	(0.835)	(0.699)	(0.632)	(0.883)	(0.722)	(0.574)	(0.503)	(0.531)
[8] : Adding Financial reforms	1.228*	1.106*	1.382**	1.619**	1.762***	1.245**	1.135**	1.190**
	(0.689)	(0.630)	(0.574)	(0.807)	(0.674)	(0.536)	(0.487)	(0.542)

Note: in brackets the bootstrapped standard errors (with 500 replications). *, **, and *** indicate the significance level of 10%, 5%, and 1%, respectively.

that *IT* adoption enhances FDI inflows, as the estimated *ATT* is positive and statistically significant. The amplitude of the estimated *ATT* ranges from 1.404 (*radius* matching R=0.005) to 1.985 (*1-Nearest-neighbor*) percentage points of GDP.

4. Robustness checks

Now we test the sensitivity of the results above to a set of alternative specifications. First, we perform regressions on different sub-samples. We restrict the regressions to the post-1990 period (*column* [2], *Table 1*) and exclude Central and Eastern European Countries (CEEC) (*column* [3] in *Table 1*).[11] Also, we exclude the New *ITers* (*column* [4] in *Table 1*) from the *treatment* group. *New ITers* consist of the countries having adopted *IT* only since 2005 (Slovak Republic, Guatemala, Indonesia, Romania, Turkey, Serbia and Ghana) and were therefore not included in the *treatment group* in Lin and Ye (2009).[12] Accordingly, excluding them from the analysis make our sample comparable to Lin and Ye (2009). As depicted by *columns* [2], [3] and [4] of *Table 1* and the first three lines in the bottom panel of *Table 2*, the *probit* results and their corresponding results for the *ATT* are qualitatively similar to the ones from the benchmark model.

Second, we discard the hyperinflation episodes (*column* [5] in *Table 1*).[13] The *probit* results and their corresponding results for the *ATT* (fourth line in the bottom panel of *Table* 2) remain almost identical to the benchmark.

The third set of robustness checks consists of considering the *default* starting dates of *IT* rather than the *conservative* ones, in order to make sure that our previous results are not driven by the chosen starting dates. *Columns* [1] to [8] of *Appendix C* report the *probit*

[11] As *IT* starts in 1990, performing the regression on the post-1990 period allows focusing more on the cross-countries differences in FDI (*ITers* versus *non-ITers*) rather than on time-differences (*pre-IT* versus *post-IT* period). Also, carrying out matching only on the post-1990 period allows us to check whether or not the benchmark matching results are not driven by a possible common-time trend effect. Regarding the exclusion of the CEEC, it allows testing whether the results above are not sensitive to the fact that the majority of the CEEC were created after 1990 whereas our sample spans from 1980 to 2007.

[12] Note that Slovak Republic ceased IT to join the Euro area in 2009. But as our sample ends in 2007, this does not affect our results.

[13] We discard observations for inflation higher than 40 percent (proxy for hyperinflation episodes) to check whether our results are not sensitive to these outliers.

estimates of the *PS* using this time the *default* starting dates. Except the coefficient on real GDP growth rate which become statistically significant, the *probit* results do not change significantly compared to those found previously with the *conservative* starting dates. The matching results corresponding to these *default* starting dates are reported in *Appendix D.* Irrespective of the matching estimator used, the results are almost similar to those found with the *conservative* starting dates. The *ATT* of *IT* on FDI in Developing countries still is positive and statistically significant.

Fourth, to make sure that we filter out sufficiently any possible polluting effect resulting from observables known to affect both FDI and the targeting probability, we augment the *probit* model by controlling respectively for country's economic size (logarithm of total GDP), country's stage of development (logarithm of real GDP per capita) and for macroeconomic financial reforms (financial reform index, Abiad et *al.* (2008)).[14] *Columns* [6], [7] and [8] of *Table 1* show the *probit* results for the *conservative* starting dates of *IT* while their corresponding results for the *ATT* are depicted in *Table 2* (lines [6] to [8]). The results remain robust to these new specifications: the *probit* results and the estimated *ATT* do not change qualitatively and quantitatively. Note however that because of missing observations, the inclusion of *financial reform* reduced considerably the sample size.

Finally, for the sake of further robustness check, we follow Vega and Winkelried (2005) and apply matching to cross-sectional pretreatment observations. This approach enables us to make sure that the results found previously with matching to panels do not skew our conclusions. The main results do not change significantly with respect to this approach.[15]

[15] For purpose of space economy, these results are not reported but are available upon request to the author.

5. Conclusion and policy implications

In this paper, we highlight the effect of Inflation Targeting (*IT*) on Foreign Direct Investment (FDI) inflows into developing countries. Based on panel data of 53 Developing countries over the period 1980-2007, this paper is the first, to the best of our knowledge, to evaluate directly the effect of *IT* on FDI. Relying on the *pull* factors literature and using a variety of *propensity scores* matching methods allowing us to control for *self-selection* in policy adoption, we find that the Average Treatment effect (*ATT*) of *IT* on FDI is positive and statistically significant. The magnitude of the contribution of *IT* to FDI inflows is rather important, as *IT* enhances FDI inflows by at least 1.404 (*radius* matching *r=0.005*) and up to 1.985 percentage points of GDP (*1-Nearest-neighbor*), and the result is found to be robust to several robustness checks.

Regarding the question raised by Epstein (2007), this paper fills the gap in the literature by shedding light on the debate relative to the effect of *IT* on FDI: *IT* does help attracting more FDI inflows into Developing countries. Consequently, in terms of policy recommendations, this paper suggests that if well implemented, namely by fulfilling the necessary prerequisites for a credible adoption, IT can be, in addition to the traditional pull factors, another legitimate part of the policy toolkit available to policymakers in developing countries in their competition to attract more FDI flows. This result is particularly important, since not only it is well-known that FDI is the most stable external capital flowing into Developing countries, allowing them to close their domestic savings gaps and finance the development agenda, but also exhibit growth-promoting effects through the transfers of technology, knowledge and managerial skills. However, it is worth noting that we are not suggesting that *IT* is the best framework for monetary policy in Developing countries. We are just suggesting that in these countries, when it comes to the competition for FDI attraction, *IT* seems to be more appropriate.

References

Abiad, A., Detragiache, E., Tressel, T., 2008. A New Database of Financial Reforms. IMF Working Paper 08–266.

Asiedu, E., 2002. On the determinants of foreign direct investment to developing countries: Is Africa different? World Development. 30(1), 107–119.

Ball, L., Sheridan, N., 2005. Does inflation targeting matter? In: Bernanke, B., Woodford, M. (Eds.), The inflation targeting debate. The University of Chicago Press, Chicago, pp. 249–276.

Batini, N., Laxton, D., 2007. Under what conditions can inflation targeting be adopted? The experience of emerging markets, In: Mishkin, F.S., Schmidt-Hebbel, K., (Eds.), Monetary Policy under Inflation Targeting. Central Bank of Chile, 11, pp. 467–506.

Bernanke, B.S., Laubach, T., Mishkin, F.S., Posen, A.S., 1999. Inflation Targeting: Lessons from the International Experience. Princeton University Press, Princeton.

Brito, R.D., Bystedt, B., 2010. Inflation targeting in emerging economies: Panel evidence. Journal of Development Economics, 91(2), 198–210.

Calvo, G.A., Leiderman, L., Reinhart, C.M., 1996. Inflows of capital to developing countries in the 1990s. Journal of Economic Perspectives, 10(2), 123–139.

Chinn, M., Ito, H., 2008. A New Measure of Financial Openness. Journal of Comparative Policy Analysis: Research and Practice, 10(3), 309–322.

Dehejia, R.H., Wahba, S., 2002. Propensity score-matching methods for nonexperimental causal studies. The Review of Economics and Statistics, 84(1), 151–161.

Epstein, G., 2007. Central banks, inflation targeting and employment creation. International Labor Office, Economic and Labor Market Working Paper 2007–02.

Fernandez-Arias, E., 1996. The new wave of private capital inflows: Push or pull? Journal of Development Economics, 48(2), 389–418.

Fischer, S., 1993. The Role of Macroeconomic Factors in Growth. Journal of Monetary Economics, 32(3), 485–512.

Gastanaga, V.M., Nugent, J.B., Pashamova, B., 1998. Host country reforms and FDI inflows: How much difference do they make? World Development, 26(7), 1299–1314.

Geraats, P.M., Eijffinnger, S.C., van der Cruijsen, C.A., 2006. Does central bank transparency reduce interest rates? Netherlands Central Bank Research Department Working Paper 085.

Ghosh, A.R., Gulde, A.M., Wolf, H.C., 2003. Exchange Rate Regimes: Choices and Consequences. The MIT Press.

Gonçalves, C.E.S., Salles, J.M., 2008. Inflation targeting in emerging economies: What do the data say? Journal of Development Economics, 85(1-2), 312–318.

Heckman, J.J., Ichimura, H., Todd, P., 1998. Matching as an econometric evaluation estimator. Review of Economic Studies, 65(2), 261–294.

International Monetary Fund, 2005. World Economic Outlook. International Monetary Fund Washington, September.

Jaimovich, D., Panizza, U., 2010. Public debt around the world: a new data set of central government debt. Applied Economics Letters, 17(1), 19–24.

Kinda, T., 2010. Increasing Private Capital Flows To Developing Countries: The Role Of Physical And Financial Infrastructure In 58 Countries, 1970-2003. Applied Econometrics and International Development, Euro-American Association of Economic Development, 10(2).

Lin, S., Ye, H., 2007. Does inflation targeting really make a difference? Evaluating the treatment effect of inflation targeting in seven industrial countries. Journal of Monetary Economics, 54(8), 2521–2533.

Lin, S., Ye, H., 2009. Does inflation targeting make a difference in developing countries? Journal of Development Economics, 89(1), 118–123.

Masson, P., Savastano, M., Sharma, S., 1997. The scope for inflation targeting in developing countries. IMF Working Paper 97–130.

Mishkin, F.S., 2000. Inflation targeting in emerging-market countries. American Economic Review, 90(2), 105–109.

Mishkin, F.S., Schmidt-Hebbel, K.., 2007. Does inflation targeting make a difference? NBER Working Paper 12876.

Montiel, P.J., Reinhart, C., 1999. Do capital controls and macroeconomic policies influence the volume and composition of capital flows? Evidence from the 1990s. Journal of International Money and Finance, 18(4), 619–635.

Persson, T., 2001. Currency unions and trade: how large is the treatment effect? Economic Policy, 16(33), 433–462.

Reinhart, C.M., Rogoff, K.S., 2004. The modern history of exchange rate arrangements: A reinterpretation. The Quarterly Journal of Economics, 119(1), 1–48.

Roger, S., 2009. Inflation targeting at 20: Achievements and challenges. IMF Working Paper 09–236.

Root, F.R., Ahmed, A.A., 1979. Empirical determinants of manufacturing direct foreign investment in developing countries. Economic Development and Cultural Change, 27(4), 751–67.

Rose, A.K., 2007. A stable international monetary system emerges: Inflation targeting is Bretton woods, reversed. Journal of International Money and Finance, 26(5), 663–681.

Rosenbaum, R., Rubin, B. 1983. The central role of the propensity score in observational studies for causal effects. Biometrika, 70(1), 41–55.

Schneider, F., Frey, B.S., 1985. Economic and political determinants of foreign direct investment. World Development, 13(2), 161–175.

Servén, L., 1998. Macroeconomic uncertainty and private investment in developing countries - an empirical investigation. The World Bank Working Paper 2035.

Truman, E.M., 2003. Inflation Targeting in the World Economy. Institute for International Economics, Washington DC.

Vega, M., Winkelried, D., 2005. Inflation targeting and inflation behavior: a successful story? International Journal of Central Banking, 1(3), 153-175.

Appendices

Appendix A: Country List

Treatment Group		Control group		
Brazil	Poland	Algeria	Georgia	Morocco
Chile	Romania*	Argentina	Hong Kong, China	Paraguay
Colombia	Slovakia*	Belarus	Iran	Russia
Czech Republic	South Africa	Bulgaria	Jamaica	Singapore
Guatemala*	South Korea	Cape Verde	Jordan	Slovenia
Hungary	Thailand	China	Kazakhstan	Syria
Indonesia*	Turkey*	Costa Rica	Latvia	Trinidad & Tobago
Israel	Serbia++	Croatia	Lebanon	Tunisia
Mexico	Ghana++	Dominican Republic	Lithuania	Ukraine
Peru		Egypt	Macedonia	Uruguay
Philippines		Estonia	Mauritius	Venezuela

*: *ITer* that was not *ITer* in Lin and Ye (2009) yet; ++: countries absent in Lin and Ye (2009)' sample.

Appendix B: Developing Inflation Targeters along with their starting dates

Countries	Soft IT: default starting dates	Full-Fledged IT: conservative starting dates
Chile	January 1991	August 1999
Israel	January 1992	June 1997
Czech Republic	January 1998	January 1998
South Korea	April 1998	April 1998
Poland	September 1998	September 1998
Mexico	January 1999	January 2001
Brazil	June 1999	June 1999
Colombia	September 1999	October 1999
Philippines	January 2002	January 2002
South Africa	February 2000	February 2000
Thailand	May 2000	May 2000
Hungary	June 2001	August 2001
Peru	January 2002	January 2002
Slovakia	January 2005	January 2005
Guatemala	January 2005	January 2005
Indonesia	July 2005	July 2005
Romania	August 2005	August 2005
Turkey	January 2006	January 2006
Serbia	September 2006	September 2006
Ghana	January 2007	January 2007

Source: Rose (2007) and Roger (2009). Note that Slovakia abandoned IT in 2009 and joined the euro area.

Appendix C: Probit estimates of the propensity scores (using the *Default* Starting Dates)

Dependent Variable	IT (Default Starting Dates)							
	[1]	[2] Post-1990	[3] No CEEC	[4] No New ITers	[5] No hyper-inflation	[6]	[7]	[8]
Inflation lagged one year	-0.072***	-0.074***	-0.073***	-0.072***	-0.070***	-0.0683***	-0.0750***	-0.0939***
	(0.015)	(0.015)	(0.017)	(0.015)	(0.016)	(0.0177)	(0.0191)	(0.0227)
Governors' turnover rate	-1.177**	-0.483	-1.657***	-1.177***	-1.106**	-1.001**	-1.903***	-0.625
	(0.458)	(0.491)	(0.533)	(0.458)	(0.464)	(0.464)	(0.532)	(0.508)
Debt ratio	-0.013***	-0.014***	-0.014***	-0.013***	-0.013***	-0.0089***	-0.0043	-0.0077**
	(0.003)	(0.004)	(0.004)	(0.003)	(0.003)	(0.0029)	(0.0030)	(0.0036)
Real per capita GDP growth rate	0.043**	0.036***	0.039*	0.043**	0.038*	0.0343*	0.0221	0.0539**
	(0.021)	(0.022)	(0.022)	(0.021)	(0.021)	(0.0206)	(0.0200)	(0.0244)
Domestic credit to private sector	0.004	0.002	0.005**	0.004	0.003	-0.0002	0.0032	0.0022
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.0026)	(0.0026)	(0.0039)
Financial openness	0.085	0.011	0.045	0.085	0.084	0.0676	-0.0253	-0.395***
	(0.067)	(0.071)	(0.073)	(0.067)	(0.067)	(0.0657)	(0.0732)	(0.103)
Control of corruption	-0.235***	-0.254***	-0.340***	-0.235***	-0.252***	-0.184**	-0.492***	-0.362***
	(0.091)	(0.098)	(0.103)	(0.091)	(0.092)	(0.0779)	(0.0976)	(0.109)
Trade openness	-0.003*	-0.004***	-0.004*	-0.003*	-0.003	-0.0021	-0.0104***	-0.0073***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.0013)	(0.0020)	(0.0021)
Exchange rate flexibility	0.290***	0.311***	0.283***	0.290***	0.295***	0.267***	0.263***	0.295***
	(0.041)	(0.043)	(0.046)	(0.041)	(0.042)	(0.0398)	(0.0413)	(0.0439)
Log of Real GDP						0.343***		
						(0.0681)		
Log of real per capita GDP							1.688***	
							(0.284)	
Financial reforms								0.325***
								(0.0543)
No of observations	663	506	575	663	564	663	665	589
Pseudo R^2	0.354	0.367	0.381	0.354	0.325	0.393	0.468	0.562

Note: Robust standard errors are reported in brackets. *, **, and *** indicate the significance level of 10%, 5%, and 1%, respectively. Constant are included (not reported).

Appendix D: Matching results (Using the *Default* Starting Dates)

Dependent Variable :	1-Nearest-Neighbor	2-Nearest-Neighbor	3-Nearest Neighbor	Radius Matching			Local Linear Regression	Kernel Matching
FDI over GDP	Matching	Matching	Matching	r=0.005	r=0.01	r=0.03	Matching	
Treatment Effect of IT on FDI: using the Default starting Dates								
[1] : ATT	1.624***	1.467**	1.500***	1.329**	1.459***	1.679***	1.778***	1.814***
	(0.565)	(0.577)	(0.493)	(0.617)	(0.506)	(0.410)	(0.368)	(0.373)
Number of Treated Obs.	60	60	60	41	47	59	60	60
Number of Controls Obs.	597	597	597	597	597	597	597	597
Total Observations (Obs.)	657	657	657	638	644	656	657	657
Robustness Checks								
[2] : Post-1990 Period	2.039***	1.727***	1.670***	1.521**	1.844***	1.873***	1.433***	1.660***
	(0.544)	(0.507)	(0.459)	(0.670)	(0.524)	(0.421)	(0.365)	(0.386)
[3] : Excluding CEEC	1.855***	1.830***	1.735***	1.239*	1.498***	1.786***	1.752***	1.824***
	(0.582)	(0.555)	(0.483)	(0.651)	(0.542)	(0.403)	(0.375)	(0.371)
[4] : Excluding New ITers	1.624***	1.467***	1.500***	1.329**	1.459***	1.679***	1.778***	1.814***
	(0.623)	(0.552)	(0.496)	(0.599)	(0.526)	(0.402)	(0.373)	(0.390)
[5] : Excluding hyperinflation episodes	2.056***	1.887***	2.070***	1.815***	2.054***	1.844***	1.907***	1.833***
	(0.700)	(0.563)	(0.530)	(0.613)	(0.526)	(0.403)	(0.396)	(0.372)
[6] : Adding Log of real GDP	1.878***	1.865***	1.979***	1.791***	1.912***	2.107***	1.972***	2.061***
	(0.665)	(0.552)	(0.553)	(0.694)	(0.551)	(0.424)	(0.375)	(0.407)
[7] :Including Log of real per capita GDP	2.112***	1.674**	1.551**	1.534**	1.741***	1.463***	1.324***	1.505***
	(0.768)	(0.694)	(0.667)	(0.736)	(0.591)	(0.493)	(0.465)	(0.453)
[8] : Adding Financial reforms	2.123***	1.834***	1.723***	1.773**	1.833***	1.766***	1.560***	1.771***
	(0.566)	(0.526)	(0.517)	(0.888)	(0.671)	(0.487)	(0.402)	(0.444)

Note: in brackets the bootstrapped standard errors (with 500 replications). *, **, and *** indicate the significance level of 10%, 5%, and 1%, respectively.

Appendix E: Cross-sections-based Probit estimates of the propensity scores

Dependent Variable	IT (Conservative Starting Dates)						
	[1]	[2] No CEEC	[3] No New ITers	[4] No hyper-inflation	[5]	[6]	[7]
Inflation	-0.003***	-0.003**	-0.001	-0.071***	-0.003***	-0.003***	-0.0004
	(0.001)	(0.002)	(0.001)	(0.019)	(0.001)	(0.001)	(0.001)
Governors' turnover rates	1.490**	2.739***	0.768	1.791**	1.063*	1.808***	1.036
	(0.62)	(0.941)	(0.748)	(0.827)	(0.634)	(0.652)	(0.850)
Debt Ratio	-0.006*	-0.007	-0.016***	-0.010**	-0.003	-0.011***	-0.007
	(0.003)	(0.004)	(0.004)	(0.004)	(0.003)	(0.004)	(0.005)
Real per capita GDP growth rate	0.055	-0.004	0.018	-0.065	0.049	0.065*	0.247***
	(0.037)	(0.055)	(0.045)	(0.046)	(0.036)	(0.037)	(0.078)
Domestic credit to private sector	0.017***	0.018***	0.043***	0.008*	0.011***	0.021***	0.017***
	(0.004)	(0.005)	(0.007)	(0.005)	(0.003)	(0.004)	(0.005)
Financial openness	0.044	0.044	0.420***	-0.042	0.056	0.164	-0.770***
	(0.106)	(0.109)	(0.141)	(0.103)	(0.110)	(0.103)	(0.209)
Control of corruption	0.003	-0.547***	0.527***	0.023	0.024	0.193	-0.553***
	(0.127)	(0.169)	(0.174)	(0.148)	(0.129)	(0.125)	(0.169)
Trade openness	-0.009***	-0.009***	-0.015***	-0.010***	-0.007***	-0.008***	-0.010***
	(0.002)	(0.003)	(0.002)	(0.002)	(0.001)	(0.002)	(0.002)
Exchange rate flexibility	0.182***	0.247***	0.308***	0.396***	0.140***	0.237***	0.093**
	(0.039)	(0.046)	(0.055)	(0.065)	(0.041)	(0.039)	(0.047)
Log of Real GDP					0.256***		
					(0.076)		
Log of per capita Real GDP						-0.723**	
						(0.281)	
Financial reforms							0.450***
							(0.081)
Observations	45	34	45	38	45	45	39
Pseudo R^2	0.256	0.331	0.411	0.338	0.283	0.280	0.466

Note: Robust standard errors are reported in brackets. *, **, and *** indicate the significance level of 10%, 5%, and 1%, respectively. Constant are included (not reported).

Appendix F: Cross-sections-based Probit estimates of the propensity scores

Dependent Variable	IT (Default starting Dates)						
	[1]	[2] No CEEC	[3] No New ITers	[4] No hyper-inflation	[5]	[6]	[7]
Inflation	0.004***	0.061***	0.006***	0.039***	0.003**	0.004***	0.004***
	(0.001)	(0.017)	(0.002)	(0.013)	(0.001)	(0.001)	(0.001)
Governors' turnover rates	-0.224	1.405**	-0.549	0.117	-0.043	0.295	-1.380**
	(0.570)	(0.712)	(0.792)	(0.631)	(0.548)	(0.671)	(0.621)
Debt Ratio	0.00003	-0.001	-0.007*	-0.001	0.003	-0.009**	-0.002
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)
Real per capita GDP growth rate	-0.055	0.051	-0.088*	0.004	-0.047	-0.047	-0.113**
	(0.041)	(0.049)	(0.048)	(0.043)	(0.042)	(0.047)	(0.051)
Domestic credit to private sector	0.018***	0.013***	0.036***	0.019***	0.013***	0.024***	0.018***
	(0.004)	(0.003)	(0.005)	(0.004)	(0.004)	(0.004)	(0.004)
Financial openness	0.101	0.089	0.196	0.131	0.122	0.243***	-0.139
	(0.087)	(0.077)	(0.120)	(0.082)	(0.091)	(0.092)	(0.111)
Control of corruption	0.329***	-0.127	1.019***	0.303***	0.362***	0.685***	0.486***
	(0.114)	(0.137)	(0.156)	(0.113)	(0.118)	(0.130)	(0.114)
Trade openness	-0.010***	-0.006***	-0.016***	-0.008***	-0.008***	-0.008***	-0.012***
	(0.002)	(0.002)	(0.003)	(0.002)	(0.002)	(0.002)	(0.002)
Exchange rate flexibility	0.245***	0.233***	0.285***	0.218***	0.218***	0.331***	0.314***
	(0.046)	(0.052)	(0.062)	(0.058)	(0.043)	(0.054)	(0.052)
Log of Real GDP					0.242***		
					(0.082)		
Log of per capita Real GDP						-1.299***	
						(0.287)	
Financial reforms							0.079*
							(0.043)
Observations	42	31	42	39	42	42	37
Pseudo R^2	0.286	0.330	0.503	0.290	0.307	0.349	0.382

Note: Robust standard errors are reported in brackets. *, **, and *** indicate the significance level of 10%, 5%, and 1%, respectively. Constant are included (not reported).

Appendix G: Matching results (Using the Conservative Starting Dates and cross-sections-based Propensity scores)

Dependent Variable :	1-Nearest-Neighbor	2-Nearest-Neighbor	3-Nearest Neighbor	Radius Matching			Local Linear Regression	Kernel Matching
FDI over GDP	Matching	Matching	Matching	r=0.005	r=0.01	r=0.03	Matching	
	Treatment Effect of IT on FDI: using the conservative starting Dates							
[a] : ATT	3.465***	3.365***	3.256***	3.465***	2.387***	2.324***	2.477***	2.346***
	(0.522)	(0.421)	(0.362)	(0.497)	(0.329)	(0.355)	(0.321)	(0.321)
Number of Treated Obs.	42	42	42	28	35	42	42	42
Number of Controls Obs.	607	607	607	607	607	607	607	607
Total Observations (Obs.)	649	649	649	635	642	649	649	649
	Robustness Checks							
[b] : Excluding CEEC	2.617***	2.499***	2.462***	2.617***	1.724***	1.649***	1.820***	1.672***
	(0.365)	(0.346)	(0.310)	(0.427)	(0.175)	(0.225)	(0.219)	(0.219)
[c] : Excluding New ITers	3.581***	3.471***	3.346***	3.581***	2.573***	2.777***	2.674***	2.681***
	(0.571)	(0.429)	(0.364)	(0.538)	(0.330)	(0.368)	(0.385)	(0.352)
[d] : Excluding hyperinflation episodes	2.998***	2.845***	2.791***	2.998***	2.087***	2.163***	2.047***	2.232***
	(0.533)	(0.435)	(0.392)	(0.488)	(0.353)	(0.361)	(0.406)	(0.314)
[e] : Adding Log of real GDP	3.465***	3.365***	3.256***	3.465***	2.661***	2.582***	2.483***	2.541***
	(0.502)	(0.415)	(0.362)	(0.537)	(0.351)	(0.355)	(0.332)	(0.360)
[f] : Adding Log of real per capita GDP	3.465***	3.365***	3.256***	3.465***	2.234***	2.453***	2.385***	2.590***
	(0.485)	(0.427)	(0.390)	(0.519)	(0.310)	(0.342)	(0.330)	(0.337)
[g] : Adding Financial reforms	3.446***	3.343***	3.253***	3.446***	2.339***	2.352***	2.412***	2.324***
	(0.455)	(0.396)	(0.338)	(0.474)	(0.291)	(0.322)	(0.304)	(0.308)

Note: in brackets the bootstrapped standard errors (with 500 replications). *, **, and *** indicate the significance level of 10%, 5%, and 1%, respectively.

Appendix H: Matching results (Using the Conservative Starting Dates and cross-sections-based Propensity scores)

Dependent Variable :	1-Nearest-Neighbor	2-Nearest-Neighbor	3-Nearest Neighbor	Radius Matching			Local Linear Regression	Kernel Matching
FDI over GDP	Matching	Matching	Matching	r=0.005	r=0.01	r=0.03	Matching	
Treatment Effect of IT on FDI: using the Default starting Dates								
[a] : ATT	3.438***	3.332***	3.217***	3.438***	2.559***	2.690***	2.601***	2.732***
	(0.497)	(0.399)	(0.376)	(0.484)	(0.297)	(0.339)	(0.324)	(0.327)
Number of Treated Obs.	60	60	60	41	47	59	60	60
Number of Controls Obs.	597	597	597	597	597	597	597	597
Total Observations (Obs.)	657	657	657	638	644	656	657	657
Robustness Checks								
[b] : Excluding CEEC	2.676***	2.551***	2.499***	2.676***	1.798***	1.813***	2.053***	1.766***
	(0.379)	(0.350)	(0.302)	(0.429)	(0.290)	(0.266)	(0.229)	(0.297)
[c] : Excluding New ITers	3.542***	3.426***	3.296***	3.542***	2.454***	2.658***	2.858***	2.658***
	(0.512)	(0.370)	(0.406)	(0.475)	(0.322)	(0.354)	(0.295)	(0.368)
[d] : Excluding hyperinflation episodes	3.111***	2.831***	2.710***	3.111***	1.950***	1.934***	1.734***	2.025***
	(0.834)	(0.574)	(0.447)	(0.794)	(0.359)	(0.354)	(0.363)	(0.387)
[e] : Adding Log of real GDP	3.438***	3.332***	3.217***	3.438***	2.487***	2.507***	2.622***	2.684***
	(0.494)	(0.411)	(0.359)	(0.490)	(0.306)	(0.310)	(0.306)	(0.319)
[f] : Adding Log of real per capita GDP	3.438***	3.332***	3.217***	3.438***	2.685***	2.656***	2.603***	2.626***
	(0.498)	(0.385)	(0.354)	(0.481)	(0.299)	(0.319)	(0.310)	(0.324)
[g] : Adding Financial reforms	3.325***	3.216***	3.126***	3.325***	2.523***	2.515***	2.581***	2.489***
	(0.400)	(0.398)	(0.301)	(0.506)	(0.287)	(0.245)	(0.272)	(0.283)

Note: in brackets the bootstrapped standard errors (with 500 replications). *, **, and *** indicate the significance level of 10%, 5%, and 1%, respectively.

Appendix I: Sources and definitions of data

Variables	Definition	Sources
FDI over GDP Domestic credit to private sector (GDP percent) Total GDP	Net Inflows of Foreign Direct Investments, as GDP per cent Proxy of the financial development: credit offered by the banks to the private sector, as GDP per cent. Gross Domestic Product (constant 2000US$). Proxy for a country's economic size.	World Development Indicators (WDI, 2009), World Bank
Fully Fledged *IT* Soft *IT*	Dummy Variable taking the value 1 if in a given year the country practices *IT*, the starting dates considered being the *conservative* ones. Dummy Variable taking the value 1 if in a given year the country practices IT, the starting dates considered being the *default* ones.	Rose (2007) and Roger (2009)
Inflation	Annual growth rate of average CPI	World Economic Outlook (WEO, 2009)
Corruption	Index ranged from 0 to 6, assessing the corruption in the political system. The higher the index, the less corrupt the political system is.	International Country Risk Guide (ICRG, 2009)
Real per capita output growth rate Real GDP per capita Trade Openness (GDP percent)	Annual growth rate of the real output per capita Real GDP per capita, constant prices. Proxy for a country's stage of development. Sum of imports and exports divided by GDP	Penn World Table (PWT6.3)
Exchange rate Flexibility	Fine classification codes for exchange rates regimes, ranging from 1 (no separate legal tender) to 15 (Dual markets in which parallel market data is missing). The higher the code value, the more flexible the exchange rate regime.	Reinhart and Rogoff (2004), updated
Debt (GDP percent)	Outstanding central government debt to GDP	Jaimovich and Panizza (2010)
Turnover Rates	Central Banks' governors turnover rates	Ghosh et al. (2003), updated
Financial Openness	Index measuring the extent of openness in external account transactions, with respect to four aspects: i) presence of multiple exchange rates; ii) restrictions on current account transactions; iii) restrictions on capital account transactions; and iv) requirement of the surrender of export proceeds. The higher the index, the more open the external accounts.	Chinn and Ito (2008)
Financial reforms	Multi-faceted measure of reforms, covering seven aspects of financial sector policy: i) credit controls and reserves requirements; ii) interest rate controls; iii) entry barriers; iv) state ownership in the banking sector; v) capital account restrictions; vi) prudential regulations and supervision of the banking sector; and vii) security market policies. The higher the index, the better the reforms in the financial sector.	Abiad et al. (2008)

Appendix J: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
FDI (percentage of GDP)	1 239	2.798	3.767	-2.758	36.617
Full Fledged *IT*	1 483	0.086	0.280	0	1
Soft *IT*	1 483	0.096	0.294	0	1
Inflation rate	1 253	59.929	338.275	-3.959	7 481.664
Central bank governor turnover rate	1 039	0.292	0.259	0	1.2
Real per capita GDP growth rate	1 268	2.297	5.945	-43.388	49.863
Trade openness (percentage of GDP)	1 282	79.276	54.644	6.320	456.936
Financial openness	1 008	-0.267	1.471	-1.831	2.5
Exchange rate Flexibility	1 259	9.294	3.633	1	15
Public Debt (percentage of GDP)	1 156	53.190	36.555	0.971	289.554
Domestic credit to private sector (percentage of GDP)	1 253	58.608	37.202	-4.645	233.265
Control of Corruption	1 016	2.924	1.087	0	6
Log of Real GDP	1 322	24.221	1.541	19.179	28.849
Log of Real per capita GDP	1 282	8.872	0.601	7.033	10.706
Financial reforms	930	11.233	5.585	0	21