DOES CHINA HAVE AN IMPACT ON FOREIGN DIRECT INVESTMENT TO LATIN AMERICA?

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Abstract

We analyze empirically whether the emergence of China as a large recipient of FDI has affected the amount of FDI received by Latin American countries. Allowing for the structural break related to China's WTO accession, we found a significant negative impact of Chinese inward FDI on that of Mexico until 2001 and on that of Colombia after that date. The rest of Latin American countries do not seem to be affected by Chinese inward FDI. For the region as a whole, there is no significant Chinese effect on Latin America's FDI.

Keywords: China, Latin America, FDI

JEL classification: F21, F3

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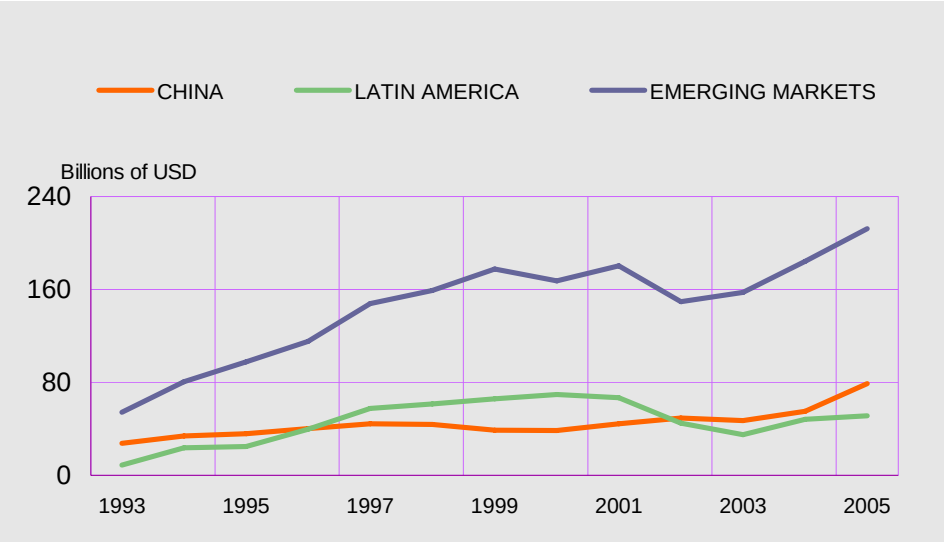
1 Introduction

The rapid emergence of China as an important player in the global economy is a remarkable issue with consequences for the rest of the world. An important aspect is foreign direct investment (FDI) since China has been attracting a growing share of FDI flows since 1990s. After receiving an average of $28 billion in the 1990s, China's annual FDI inflows have increased to $47 billion on average since World Trade Organization (WTO) membership in 2001[1] (Figure 1) and have continued to grow even faster, reaching $79 billion in 2005. In a relatively short period of time, China has accumulated the third largest stock of inward FDI after the US and the UK. Foreign firms are attracted by China's rapid economic growth, increasing demand for consumer goods, a relatively skilled and educated workforce for the wages paid, improved infrastructure and a more predictable business environment. Since the early 1980s, China has drawn significant investment from regional conglomerates in Hong Kong, Taiwan, Macao and Singapore, but also from the largest industrial economies, particularly Japan and the US.

Figure 1. Net FDI flows into Emerging Countries, Latin America and China



Sources: People's Bank of China, WEO database (IMF)

In the same way as many countries fear China as a competitor in the export markets, there is a growing concern, especially in developing countries, that FDI may be diverted into China. FDI is very important for Latin America since it has been the major source of external financing in the last few years and has also helped modernize the region´s economic structure. Nonetheless, FDI flows to Latin America started to fall in 2000 while FDI to China was accelerating (Figure 1). Given its relevance for the future of the region, deepening our knowledge of the determinants of inward FDI seems clearly warranted. This is what this study does, focusing on the impact of China as an always more important recipient of FDI.

[1] These figures are drawn from IMF International Financial Statistics.

Whether external financing is diverted from Latin American countries into China will depend on a number of factors. A first one is the degree of integration of capital markets. If capital markets are not fully integrated across countries –or, more likely, regions– an increase in Chinese inward FDI will not necessarily imply a reduction in FDI to another country or region. The large regional FDI flows in Asia may fit into this description. In fact, Hong Kong, Taiwan, Macao and Singapore have been the main suppliers of FDI to China while practically irrelevant for other parts of the world, including Latin America.

A second aspect is the impact of Chinese inward FDI on worldwide FDI flows. If foreign direct investors reap large benefits from their presence in this country, or there are spillovers in other countries, more savings may be converted into FDI also in other areas of the world. This would imply that the supply of FDI flows is elastic to changing conditions. In the same vein, China's contribution to raising the rate of return of FDI could twist investors' preference towards FDI instead of other private capital flows (mainly portfolio or cross-border lending), particularly if their returns were hardly correlated with those of FDI.

A third aspect is the nature of Chinese inward FDI. If oriented towards exports, it might reduce FDI in other countries which compete in the same export markets. This will be less so if FDI is oriented towards China's domestic demand. In addition, if FDI substantially increases Chinese imports, it might foster FDI to other countries which are suppliers of Chinese imports. This will particularly be the case for exporters of commodities, which China is scarce of.

It seems, thus, clear that the impact of Chinese inward FDI on Latin American countries is an empirical question. There have been very few attempts in the literature to address this issue. A first step –even if only descriptive– is found in a recent publication by the IADB (2004). The report depicts the evolution of cumulative bilateral FDI flows to Latin America and to China and calculates a coincidence index of FDI home countries, which appears to be low. Chantasasawat et al. (2004) analyze empirically whether China is taking FDI away from other Asian and Latin American countries. They find that the level of Chinese inward FDI is positively related to other Asian economies' inward FDI and that there is practically no impact on Latin American countries. They also conduct their same exercise on the shares of FDI to total FDI flows where they do show a negative Chinese effect on the Asian and Latin American shares.

In our paper, we continue with the empirical approach and go beyond Chantasasawat et al. (2004) in a number of ways. First, we use bilateral (home-host) data and not aggregate one. Bilateral data describes much better investor's behaviour, avoids a potential aggregation bias and limits collinearity problems.

Second, we not only estimate the impact of Chinese inward FDI on Latin America as a whole, but also differentiate among countries since their productive structure and the type of FDI they attract is very different. For instance, Mexico and Central America have generally received export-oriented FDI while South America has mainly attracted FDI into the non tradable sector (financial services and utilities), as well as for the extraction of natural resources. We would, therefore, expect China to have a negative impact of the first group of countries but not on the second. In the latter case, it could even turn positive as China steps up its demand for commodities.

A third difference between Chantasasawat et al. (2004)'s approach and ours is that they assume the supply of FDI to be inelastic. This is quite a restrictive assumption for emerging countries, which have to compete for financing. We allow for the possibility of an elastic supply of FDI by introducing other capital flows as an additional regressor. In this way, we capture potential substitution or complementarities among flows. Fourth, we take into account the adjustment cost of FDI, which is known to be relevant for long-term (generally physical) investment, such as FDI. Fifth, we improve on the econometric technique to take better account of endogeneity. We us the generalized method of moments, instrumenting potentially endogenous variables with lags, exogenous variables and other valid instruments, in order to obtain unbiased and consistent estimators and as efficient as possible. Finally, we compare different time spans, so as to assess whether China's impact on other countries inward FDI is a recent phenomenon, linked to the negotiations and final participation in the WTO, or began already after China announced it would open up its economy at the end of the 1970s. Our results show that there is virtually no "Chinese effect" on Latin American inward FDI from 1993 to 2003. However, when we allow for a structure break coinciding with WTO accession, Mexico and Colombia seem to be negatively affected prior to China's WTO entry.

This paper is organized as follows: section 2 reviews the literature of FDI determinants; section 3 describes the dataset, the variables included, their sources and the expected relation with Latin American inward FDI; section 4 sets out our econometric strategy and its advantages and caveats; section 5 reviews the results; and, finally, section 6 draws the main conclusions and policy implications.

2 Determinants of FDI

A wealth of empirical literature has analyzed which are the main determinants of inward FDI and very little consensus exists, except perhaps for the size of the host country's economy.[2]

For a long time, the general view was that the "better" a country, in terms of its macroeconomic situation and institutional environment, the more easily it would attract FDI. For example, Albuquerque et al. (2003) find that macroeconomic stability increases FDI. Hines (1995) and Wei (1997) show that corruption discourages it, and the same is true for poor business operating conditions (Singh and Jun, 1995) or the inability to repatriate profits (Mody et al., 1998). In the same vein, a survey conducted to over 1000 chief executives of multinational enterprises concludes that macroeconomic and political stability, as well as the regulatory environment and country size are keys for foreign direct investors to decide where to establish themselves (AT Kerney, 2003).

Haussmann and Fernandez-Arias (2000), however, challenged the view showing evidence that poor-performers, in terms of lower GDP per capita and more macroeconomic stability, tend to attract more FDI. They also find that countries with poorer institutions tend to attract more FDI as a share of total private capital flows.

[2] Reviewing the reasons behind the lack of consensus is beyond the scope of this paper but two very important ones are the lack of reliable data (Singh and Jun, 1995) and the difference between horizontal and vertical FDI (Ewe-Ghee Lim, 2001).

Another variable for which there is clearly no consensus is human capital. While it generally helps increase the marginal productivity of capital, this might not be the case in low-skill labour intensive countries where FDI is mostly attracted by low salaries (Chantasasawat et al., 2003).

More recently, the literature on the determinants of FDI has started using gravity models, following the trade literature.[3] In its simplest formulation, bilateral FDI flows are set to depend negatively on the distance between countries and positively on their size. Jaumotte (2004) and Love and Lage-Hidalgo (2000), among others, show evidence that the host country's total GDP and GDP per capita, respectively, help receiving more FDI. In addition, openness to trade also appears to be a relevant determinant of FDI (Singh and Jun, 1995; and Albuquerque et al., 2003) as well as as so-called push factors (either from the investor country or global ones). Albuquerque et al. (2003) report that push factors explain more than 50% of FDI developments. In the same vein, Levy-Yeyati et al. (2002) show that the economic cycle in industrial countries is a relevant determinant of FDI but the direction of influences changes for the US, Japan and Europe.

Finally, another strand of the FDI literature has concentrated on the relation between trade and FDI (Brainard, 1997). Some find evidence of a substitution effect between the two while others argue in favour of complementarities. Substitution implies, in principle, that a country stops exporting a certain good and starts producing it in the destination country so as to avoid import or export tariffs. Complementarities could exist if FDI is export-oriented and requires importing inputs from the home country.

3 Variables and data issues

Our *dependent variable* is composed of real annual bilateral inward FDI flows from the different OECD home countries towards the six largest host economies of Latin America, expressed in millions of US dollars (2000 constant prices). These are Argentina, Brazil, Chile, Colombia, Mexico and Venezuela (the full list of home and host countries is shown in Table A-1). The reason to limit our analysis to these six countries is that they are the major Latin American ones included in the only database available for bilateral FDI flows for a large number of countries, namely the OECD's International Direct Investment Statistics.

We consider a time span from 1993 to 2003. The starting date reflects the time in which China's decided to transform its economy into a market based one through the "open door policy" and coincides with the FDI boom worldwide. The final date is the last available observation. This yields an unbalanced panel of 1903 observations of bilateral FDI flows. Nonetheless, due to the missing values in the explanatory variables, this model is estimated with a maximum of 915 observations.[4]

[3] See Eaton and Tamura (1994) is one of the first examples.
[4] This is the number of observations in the restricted model (after eliminating jointly non-significant parameters). In the general model the number of observations is lower, 844, because of the existence of missing values in the not-significant regressors.

Our variable of interest is the real bilateral inward FDI flows from different OECD countries to China. If there were a substitution effect from Latin American inward FDI towards China, the sign of this coefficient would be negative. The data is drawn from the same OECD source, so that important suppliers of FDI to China are excluded, being in the Asian region but outside the OECD. In reality, it is hard to think of a potential competition between China and Latin America for FDI from Asian countries such as Hong Kong, Macao, Taiwan or Singapore. In other words, for Asian non-OECD countries, there does seem to be a fragmentation in the FDI market. Including these countries as FDI providers could actually distort our results since the question we are interested in is whether global foreign direct investors have reduced their FDI in Latin America because of China. Moreover, as this Chinese effect could be different depending on the size of the recipient country, we include the interaction between China's inward FDI with the host country's GDP. In addition, since the foreign investors' could change in the light of China's entrance in the WTO, we explore the possibility of a structural break in 2001.

Finally, we run a robustness test, by including bilateral inward FDI to Hong Kong. This is to take into account the reinvesting takes place between the two economies and is not adequately accounted for in the statistics. One of the most apparent problems is round-tripping, starts with China's exporting capital to Hong Kong, to escape foreign exchange controls. This capital, then, returns to China in the form of FDI. In addition, foreign direct investors might prefer to place their funds in Hong Kong (with clearer rules for investor protection) although the funds are then redirected to China.

More specifically, potentially relevant determinants of FDI can be classified into: (i) capital flows, (ii) bilateral variables, (iii) host country factors, (iv) home country variables and (v) global factors. The model estimated is the following:

$$\begin{aligned} FDI_{i,t}^{j} = {} & \lambda + \mu_i^j + \eta_1 \times FDI_{China,t}^{j} + \gamma \times FDI_{i,t-1}^{j} \\ & + \sum \alpha \times \text{capital flows}_t + \sum \beta \times \text{bilateral factors}_{i,t}^{j} + \sum \chi \times \text{host factors}_{i,t} \\ & + \sum \delta \times \text{home factors}_t^{j} + \sum \phi \times \text{global factors}_t + \varepsilon_{i,t}^{j} \end{aligned} \quad (1)$$

i= host country (Latin America)

j= home country (OECD)

Where λ is a constant, μ_i^j represents the time invariant bilateral effect between home-host FDI, η_1 is the coefficient of –the Chinese FDI effect-, γ captures the persistence of bilateral FDI flows, and $\alpha, \beta, \chi, \delta, \phi$,are the coefficients of the different types of control variables as described in the previous section. Finally, $\varepsilon_{i,t}^{j}$ represents the error term.

Given the large size of potential FDI determinants shown in the previous section, we shall need to reduce the number of controls to those that are significant in explaining Latin American inward FDI. To do so, we first introduce potentially relevant -but not highly correlated- variables (as it is shown in Table A-6). We, then, test the joint hypothesis that the coefficients of the variables that are not significant individually are equal to zero.

We first consider developments in other capital flows (namely portfolio and cross-border or non-FDI capital flows) in the host country so as to account for the

potential substitution between different types of investment. If such substitution existed, the coefficient would have to be negative and significant. We use aggregate data, since no bilateral one is available. The data is drawn from the IMF International Financial Statistics (IFS). Second, we allow for the possible persistence of FDI flows since investment requires time to adjust to desired levels. We do so by taking the lag of the dependent variable. Third, we also consider the possibility that FDI decisions may be taken at a regional level. In other words, if a country invests in, say, Chile, it could encourage additional investment in other Latin American countries.[5] Fourth, FDI to OECD is introduced to test whether foreign direct investors prefer to be present only in industrial countries, discouraging FDI to Latin America. Finally, we control for global trends in FDI flows. The idea behind is that it should be easier for Latin American countries to receive FDI in boom years. All these variables are drawn from the above-mentioned OECD database.

As for *bilateral* factors, we include the bilateral nominal exchange rate because it affects the cost of the investment –if paid in local currency– but also the value of repatriated profits. A depreciation of the host country currency against the home country one reduces the cost of the investment but also profits repatriated. The data is drawn from the IFS; and an increase implies a depreciation of the host currency against the home one. We add a measure of the relative investment cost, measured by the difference in the short-term interest rate between the host and the home country, and which is also drawn from the IFS. The coefficient of this variable should, in principle, be negative but only if the investment is financed locally; otherwise it would be the home interest rate or an international one to matter. In addition, we take bilateral exports and imports from the IMF Direction of Trade Statistics. This allows us to control for the potential sustituibility or complementarity between exports/imports and inward FDI. Finally, we include an index of the similarity in the production structure between the home and the host countries, based on two-digit manufactured value added data from United Nations Industrial Development Organization (UNIDO).[6] This variable should indicate how similar their economies are and to what extent the may compete in third markets.

There are a number of potentially relevant *host factors.* First, macroeconomic conditions measured by GDP, GDP growth, GDP per capita, domestic investment and the debt service. The first three should, in principle, bear a positive relation with inward FDI while the last one, should be negatively related. All these variables are drawn from the IFS and the World Bank World Development Indicators (WDI). Finally, due to the restrictions imposed by the methodology used –only time variant variables can be considered– only a few host country institutional characteristics are included, namely capital account restrictions, drawn from Lane and Milesi-Ferretti (2004), the quality of creditor rights from the International Country Risk Guide database, and the country's endowment of natural resources, drawn from Haussmann and Fernandez-Arias (2000).

[5] To capture this effect while avoiding endogeneity problems, we build a control variable that includes the direct investment of each home country into the rest of Latin America.

[6] The construction of this measure of economic similarity follows García-Herrero and Ruiz (2005). It is expressed as

$$S_{j,i,t} = -\sum_{n=1}^{N} \left| s_{n,j,t} - s_{n,i,t} \right|$$

where N is the number of sectors. Note that $S_{i,j,t}$ represents the average of discrepancies in economic structures in the period t. $S_{i,j,t}$ might take values between 0 for identical structures and –2 for disjoint productive structures. Therefore higher values for $S_{i,j,t}$ imply more similarity between the host and home productive structure.

The first should discourage capital flows, including FDI, and the last one should, in principle, yield a positive effect. However, as for macroeconomic variables, there is no strong consensus in the literature.

Other potentially relevant host country factors are financial crises. We include one dummy variable for each type of crisis, sovereign, currency or banking, which take the value of one in each year in which a country finds itself in a crisis. The variables are drawn from Díaz-Cassou, García-Herrero and Molina (2006)[7]. While we should generally expect crises to discourage foreign investors, it is also true that banking crises tend to be followed by the opening up of the banking system to foreign competition, mainly through privatization. This could attract FDI.

Home county effects are considered, such as home GDP growth from the IFS database. Finally, we take developments in oil prices as the main *global* factor affecting FDI. These are drawn from Datastream. Table A-2 gives additional details on data sources and definitions. Table A-3 shows their descriptive statistics. Table A-6 shows a matrix of bilateral correlations between all these regressors. None of the correlations is high enough to lead to collinearity problems.[8]

4 Empirical methodology

The paper aims at assessing the most accurate way whether China's inward FDI affects that of Latin America. To that end, we face one major challenge: endogeneity. Endogeneity could lead to a biased estimation of such impact. Other potential problems are how to deal with the adjustment costs of FDI and unobserved heterogeneity. To tackle potential endogeneity, but also the existence of adjustment costs and unobserved heterogeneity, we use the Generalized Method of Moments (GMM), following Arellano and Bover (1995).

The Arellano-Bover estimator –also called system GMM estimator– combines the regression expressed in first differences (lagged values of the variables in levels are used as instruments) with the original equation expressed in levels (this equation is instrumented with lagged differences of the variables) and allows to include some additional instrumental variables.

We prefer this option to a fixed-effects estimator for several reasons. First, it also allows us to tackle into account unobserved time-invariant bilateral specific effects. Second, we can deal with the potential endogeneity arising from the inclusion of the lagged dependent variable (to capture the adjustment costs) and other potentially endogenous variables.[9]. Third, it deals with the possibility that the dependent variable is

[7] Since banking crises tend to extend over years, we construct two types of dummies, a first one which takes the value of one only when the crisis erupts and another which equals one during the years in which the crisis is ongoing (considered the benchmark case).

[8] In addition, traditional collinearity tests (based on variance inflation factors) do not detect any major problems of collinearity.

[9] In our model, we assume that endogenous variables are predefined, i.e., that are known at the beginning of the current time period. Thus, the lags of the endogenous variables and the exogenous variables are not related to the contemporaneous shocks -do not help to predict the current bilateral FDI- while they do affect the endogenous variables of the model. Then, we used as instruments the first lags of the predetermined variables and strictly exogenous variables of our model. Through the GMM procedure, we treat the following regressors as potentially endogeneous: bilateral FDI flows, to China or Latin America, other FDI flows, bilateral trade and bilateral nominal

not stationary. Finally, we achieve a high degree of efficiency by considering all possible instruments.

However, there are several disadvantages with this approach. First, it is related to the GMM estimator whose properties hold asymptotically. Then, it would be safer to use this methodology with a very large number of observations, as could be the case.[10] Anyway, as robustness test, we run all regressions as a fixed-effect panel with robust standard errors. The results do not differ too much. Other disadvantage related to the use of panel data methodology and it is that we cannot include time-invariant regressors since their coefficients are hardly identifiable with this methodology. This does not imply however that there is a problem of omitted variables since they are all included in the time-invariant country-specific effects.

Finally, to choose the determinants of FDI, we need to strike a balance between not losing heterogeneity and the choice of the control variables not to lose too many degrees of freedom while avoid a missing variable problem. We tackle any potential omitted variable problem by first estimating a general equation including all control variables considered [columns (1), (3) of Tables A-4 and A-5]. We, then, test –through a Wald test– the joint hypothesis that the coefficients of the variables that are not significant individually are equal to zero. If not rejected, we re-estimate the model only with the controls which were significant in the general regression. Otherwise, we test a less restrictive hypothesis but still trying to reduce the number of regressors to the maximum extent possible. This is a sequential –from general to specific[11]– strategy, which we follow until we reject that the remaining set of coefficients of the control variables is equal to zero [columns (2) and (4) of Tables A-4 and A-5 and Table 1 and 2]. In this way, we achieve more efficient coefficients of the remaining parameters, including that of the variable of interest, Chinese inward FDI.

At in all, we have estimated four different models that combine the possibility of an individual effect of Chinese FDI in each Latin America country and a structural break in 2001. First, we deal with a general model with a common effect for Latin America (Table A-4, Columns 1 and 2). Second, we allow for a different effect of Chinese inward FDI across Latin American countries (Table A-4, Columns 3 and 4). Third, we estimate a model with a structural break in 2001 with a common effect for Latin America (Table A-5, Columns 1 and 2). Fourth, we jointly allow for a structural break and an individual Latin America country effects (Table A-5, Columns 3 and 4).

5 Results

As previously described, we regress the six largest Latin American countries' *inward FDI on bilateral FDI into China* and control for the all aforementioned regressors in an unrestricted model.

exchange rates. The Sargan Test for validity of instruments cannot be rejected in the restricted specifications considered

[10] In any event, the small sample problem is less acute for the Arellano-Bover estimator than the Arellano-Bond one, since it has been shown to provide more accurate estimations in small samples (Bond, 2002). Additionally, this estimator does not require time stationarity as long as T is small, which seems to be our case.

[11] See Campos et al. (2005) for details on the general to specific strategy.

We first concentrate on the impact of FDI into the Latin American region as a whole for the complete sample: from 1993 to 2003. This captures developments shortly after China started its market reforms until the most recent data. When all controls are introduced, we find no evidence of a substitution effect for Latin American FDI because of China (Table A-4, column 1). The same is true for Hong Kong inward FDI. When the number of control variables is reduced to the relevant ones, the same result is obtained. (Table 1 or Table A-4, column 2).

We, then, look into China´s impact on the inward FDI of each of the Latin American countries considered. None of the Latin American countries are negatively affected (Table A-4, column 4). In addition, we cannot reject the hypothesis that the coefficients of each Latin American country are the same and equal to zero. At in all, we can generally conclude that there is virtually no "Chinese effect" on Latin American inward FDI in this time span.

Moving to other potential determinants of FDI into Latin America, we concentrate on the restricted model since the estimators are more efficient. First, the amount of *bilateral exports* also appears to foster FDI, which supports the hypothesis of a complementarity –and not substitution– between FDI and trade. Second, a higher GDP and GDP per capita in the host country foster inward FDI. This indicates that investors expect better opportunities in larger and richer countries. Third, we tend to find a substitution effect between FDI and other private capital flows since the coefficient for *non-FDI capital flows* is negative and significant in most of regressions. This result supports the hypothesis of an inelastic supply of FDI. Fourth, there is no clear "regional behaviour" of investors, as FDI into a certain Latin American country from a given source does not significantly affect *bilateral FDI into Latin America* from a given source does not significantly affect bilateral FDI into Latin America. Fifth, as one would expect, *capital account restrictions and sovereign crisis* dampen inward FDI. Sixth, and interestingly, the occurrence of *banking crises* appears to foster FDI in all three specifications. This causal link is probably not so much the banking crisis itself but rather the privatization and opening-up to foreign competition which have followed these crises in virtually all Latin American countries in our sample.[12] Increase in oil prices reduces FDI in a significant way. Finally, it should be noted that the fixed effects estimated for each home-host pair are also picking up the information of the FDI determinants which barely change over time. This could help to explain why they are not found significant[13].

[12] The fact that this result is only found for the dummy which considers all crisis years, and not only the burst of the crisis, supports this interpretation.
[13] The *bilateral nominal exchange rate*, the *debt service* and *GDP growth* in the host country are only significant in the first specification with all regressors. The non-significance in the restricted model may be due to the increased number of observations and degrees of freedom.

Table 1. Results for 1993-2003 time span

	(1)	
Dependent variable: **Bilateral real FDI (millions of 2000 USD)**	***Common impact - restricted model***	
Objetive variables	**Coefficient**	**P-value**
Bilateral FDI to China	-0.107	(0.306)
*Bilateral FDI to China * GDP host*	0.000	(0.468)
Bilateral FDI to Hong Kong	0.145	(0.103)
Capital flows		
Lag of bilateral FDI over host GDP	0.029	(0.863)
Non FDI capital flows		
Bilateral FDI to Latin America	0.028	(0.208)
Bilateral FDI to OECD	0.002*	(0.081)
Total FDI of OECD countries		
Bilateral variables		
Bilateral exports	0.059***	(0.000)
Host country variables		
Nominal GDP	0.002**	(0.032)
GDP growth	1,032.421**	(0.011)
Domestic Investment	-0.007	(0.127)
Debt service		
Capital account restrictions	-104.653*	(0.060)
Occurrence of sovereign crisis	-80.531*	(0.062)
Occurrence of banking crisis	144.394***	(0.001)
Home country variables		
Home. GDP growth	1,743.275**	(0.038)
Global shocks		
Oil price	-11.094*	(0.052)
Constant	83.007	(0.501)
Observations	884	
Number of group(home host)	140	
Hansen test	(0.840)	
Arellano-Bond test for AR(1) in first differences	(0.019)	
Arellano-Bond test for AR(2) in first differences	(0.096)	

Robust p values in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Variables in italics are instrumented through the GMM procedure following Arellano and Bover (1995)

In a second set of exercises, we take into account the possibility of a change in the behaviour of investors since 2001, when China entered into the WTO. That means that we allow objective variables (Chinese bilateral inward FDI) to differ before and after 2001. Although not significant, we do find a higher negative effect of Chinese inward FDI on that to Latin America after 2001 (Table 2, column 1 and Table A-5, column 1 and 2). When analyzing the impact country by country, Mexico and Colombia are negatively affected by a reduction in Chinese inward FDI in a significant way although in different time spans. In Mexico, the negative impact happened before 2001 and in Colombia only thereafter (Table 2, column 2). These results can be interpreted in the following way: when Chinese inward FDI increases by $100 million, Mexican FDI is reduced by $20 million, and, after 2001, Colombian FDI by $29 million. This result is particularly interesting in the case of Mexico since its free trade agreement with the US (NAFTA) was in place during the most of the time span and inward FDI generally increased. In fact, it only fell 2002. This does not imply, however, that China had no effect. Our results should be read in terms of a counterfactual: Had Chinese inward FDI not been so strong, Mexico could have attracted more FDI than it actually did. Finally, if

we exclude the impact on Mexico and Colombia, no dislocation can be found from the other Latin America countries to China.[14]

Results for control variables are very similar to the previous exercise except for a. First, the substitution effect between FDI and non-FDI flows softens, signalling a higher independence between FDI and other capital flows. Second, from OECD countries now fosters significantly the inflow FDI in Latin America, suggesting that it is easier for Latin American countries to receive investment in boom years. Third, capital account restrictions loose their significance to explain the reduction of FDI.

Table 2. Results for structural break model (in 2001)

	(1)		(2)	
Dependent variable: Bilateral real FDI (millions of 2000 USD)	***OMC effect - Common impact - restricted model***		***OMC effect - Individual country impact - restricted***	
Objetive variables	**Coefficient**	**P-value**	**Coefficient**	**P-value**
Bilateral FDI to China before 2001	-0.113	(0.384)		
Bilateral FDI to China after 2000	-0.183	(0.403)		
*Bilateral FDI to China * GDP host*	0.000	(0.517)		
Bilateral FDI to Hong Kong	0.133*	(0.081)	0.160**	(0.043)
Impact on FDI to China on FDI to Argentina before 2001			-0.004	(0.959)
Impact on FDI to China on FDI to Argentina after 2000			-0.388	(0.100)
Impact on FDI to China on FDI to Brazil before 2001			0.214	(0.288)
Impact on FDI to China on FDI to Brazil after 2000			-0.516	(0.364)
Impact on FDI to China on FDI to Chile before 2001			0.059	(0.613)
Impact on FDI to China on FDI to Chile after 2000			0.228	(0.176)
Impact on FDI to China on FDI to Colombia before 2001			(0.057)	(0.756)
Impact on FDI to China on FDI to Colombia after 2000			-0.288*	0.071
Impact on FDI to China on FDI to Mexico before 2001			-0.199**	(0.020)
Impact on FDI to China on FDI to Mexico after 2000			0.506	(0.435)
Impact on FDI to China on FDI to Venezuela before 2001			0.229	(0.176)
Impact on FDI to China on FDI to Venezuela after 2000			-0.137	(0.584)
Capital flows				
Lag of bilateral FDI over host GDP	(0.031)	(0.852)	-(0.009)	(0.962)
Non FDI capital flows			-0.001	(0.799)
Bilateral FDI to Latin America	0.027	(0.123)		
Bilateral FDI to OECD	0.002*	(0.069)		
Total FDI of OECD countries			0.000**	(0.013)
Bilateral variables				
Bilateral exports	0.060***	0.000	0.067***	0.000
Host country variables				
Nominal GDP	0.002**	(0.011)	0.002***	(0.003)
GDP growth	987.308***	(0.004)	1,457.622***	(0.000)
Domestic Investment	-0.007*	(0.064)	-0.009**	(0.016)
Capital account restrictions	-108.490*	(0.099)		
Occurrence of sovereign crisis	-81.454*	(0.052)	-99.167**	(0.025)
Occurrence of banking crisis	144.585***	(0.001)	206.964***	(0.004)
Home country variables				
Home. GDP growth	1,644.548*	(0.057)		
Global shocks				
Oil price	-10.872*	(0.076)	-16.791***	(0.007)
Constant	99.529	(0.438)	82.680	(0.351)
Observations	884		915	
Number of group(home host)	140		141	
Hansen test	(0.830)		(1.000)	
Arellano-Bond test for AR(1) in first differences	(0.020)		(0.010)	
Arellano-Bond test for AR(2) in first differences	(0.095)		(0.097)	

Robust p values in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%
Variables in italics are instrumented through the GMM procedure following Arellano and Bover (1995)

Finally, we conduct a number of robustness tests and most of them do not qualitatively change our results.[15] The first one tackles the close relation between Hong

[14] In other words, we can not reject that coefficients of Argentina, Brazil, Chile and Venezuela are the same and equal to 0.
[15] The results of these tests are available by request.

Kong's and Chinese inward FDI by taking the sum of FDI to China and Hong Kong. Second, we test the extreme hypothesis of complete substitution from Latin American inward FDI to that of China and it is rejected. Third, we run the regressions for the longest time span possible, 1980-2003. Fourth, we do not consider the potential endogeneity problems and we estimate all models using the fixed effects estimator.

6 Conclusions

In this paper we investigate how Chinese inward FDI affects FDI flows to Latin American countries. When taking into account the structural break which occurred with China's WTO entry in 2001, we do find evidence of FDI dislocation from Latin American countries to China. More specifically, we report a significant negative impact of Chinese inward FDI on that of Mexico until 2001 and on that of Colombia thereafter. Finally, the rest of Latin America countries are not affected. In addition, no effect is found for the whole sample period. All in all, Latin America's inward FDI seems to be only marginally -if at all- affected by China.

The more worrisome results from Mexico and Colombia, suggest that competing in the same sectors as China increases the likelihood of a substitution of FDI. Having a cursory look a the sector structure of FDI in Mexico and Colombia, we find that manufacturing accounts for 56% of total in the case of Mexico (the largest of all sectors) and 21% in the case of Colombia (the largest after financial services). By contrast, Brazil has a much smaller share of FDI in manufacturing (about 10%) while most of it concentrates on telecommunications and financial services.[16] In any event, this interpretation of the results should be taken with care since we do not have enough evidence that this is the main channel through which China affects Latin American FDI. To that end, we would need bilateral and sectoral FDI data, which are not available.

When looking into the future, there are reasons to expect that China will continue to receive large amounts of FDI, and perhaps even increase them: the country has embarked in a large privatization process, which has already been announced for some sectors. In addition, the wage differential with Latin American countries will probably be maintained for quite some time given China's large –for some close to infinite– elasticity of labour supply. Finally, even if wages increase substantially, purchasing power for a very large population would also do. This will make China a particularly attractive country for FDI targeting domestic demand.

This scenario, where China continues to attract a large share of world FDI, may seem worrisome for Latin American countries, particularly those with a more similar productive structure to that of China. However, it only reflects one side of the coin. At the same time, it provides tremendous opportunities in the medium term. Due to geographical and technological reasons, Latin American countries are not in such good position as Asian economies to profit from China's manufacturing needs.. However, they will clearly benefit from China's increasing demand for raw materials in a scenario where China continues to grow fast. This is not only true for Latin American exports but also for

[16] This has been estimated using FDI flows from the three main investors to Brazil, namely the US, Spain and Japan. Unfortunately, we cannot compare Mexico and Colombia with the other Latin American countries included in our analysis since we could not find sectoral information.

inward FDI in sectors related to raw materials. Interestingly, potential investors in the region are not only OECD countries, but also China, which will want to ensure its access to raw material. This is why the further opening of these sectors to foreign investors is an important condition for Latin American countries to reap these benefits of China's increasing global presence.

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Appendix: List of Tables

Table A - 1. List of countries considered

Home country	Host country	Additional countries or areas
Australia	Argentina	China
Austria	Brazil	Hong Kong
Belgium	Chile	Latin America
Czech Republic	Colombia	OECD
Denmark	Mexico	World
Finland	Venezuela	
France		
Germany		
Greece		
Hungary		
Iceland		
Italy		
Japan		
Korea		
Mexico		
Netherlands		
New Zealand		
Norway		
Poland		
Portugal		
Slovak Republic		
Spain		
Sweden		
Switzerland		
Turkey		
United Kingdom		
United States		

Table A - 2. Variables and data sources

Variable type	Name	Description	Units	Source
Dependent variable	Bilateral FDI	Bilateral FDI	Millions of USD (constant prices 2000)	OECD
Objetive variable	Bilateral FDI to China	Level of FDI flows of each home country in China	Millions of USD (constant prices 2000)	OECD
Objetive variable	Bilateral FDI to Hong Kong	Level of FDI flows of each home country in Hong Kong	Millions of USD (constant prices 2000)	OECD
Capital flows	Non FDI capital flows	Portfolio and other investment inflows in host country	Millions of USD (constant prices 2000)	IFS, IMF
Capital flows	Bilateral FDI to Latin America	FDI flows of each home country in the six Latin American countries included except host country	Millions of USD (constant prices 2000)	OECD
Capital flows	Bilateral FDI to OECD	Level of FDI flows of each home country in OECD	Millions of USD (constant prices 2000)	OECD
Capital flows	Total FDI of OECD countries	FDI of all OECD's countries in the world	Millions of USD (constant prices 2000)	OECD
Bilateral	Bilateral exchange rate	Bilateral exchange rate. Increase implies depreciation in home currency	Host per home currency	IFS, IMF
Bilateral	Bilateral exports	Bilateral Export flows	Millions of USD (constant prices 2000)	Direction of Trade Statistics, IMF
Bilateral	Bilateral imports	Bilateral Import flows	Millions of USD (constant prices 2000)	Direction of Trade Statistics, IMF
Bilateral	Similarity in productive structure		Index	UNIDO
Bilateral	Host home interest rate differential	Host home differential in short term interest rates	Percentage	IFS, IMF
Host	GDP	Gross domestic product	Millions of USD (constant prices 2000)	WEO, IMF
Host	GDP growth	Real GDP annual growth rate	Percentage	IFS, IMF
Host	GDP per capita	Gross domestic product per capita, constant prices	US dollars (constant prices 2000)	WEO, IMF
Host	Domestic Investment	National Accounts. Investment	Millions of USD (constant prices 2000)	IFS, IMF
Host	Debt service	Interest expenditures plus amortizations	Millions of USD (constant prices 2000)	World Bank
Host	Capital account restrictions	Dummy. 1 if the country had capital account restrictions	Dummy	Milesi-Ferretti (1998)
Host	Investment Profile	Contract Viability, Profits Repatriation, Payment Delays	Index	PRS Group
Host	Natural Resources	Natural resources valuation	Millions of USD (PPP)	Haussmann and Fernandez Arias (2000)
Host	Occurrence of sovereign crisis	Dummy. 1 if the country has been under default in that year.	Dummy	Diaz-Cassou, García-Herrero and Molina (2006)
Host	Occurrence of banking crisis	Dummy. 1 if the country has undergone a banking crisis in a certain year.	Dummy	Diaz-Cassou, García-Herrero and Molina (2006)
Host	Occurrence of exchange crisis	Dummy. 1 if the country has undergone a currency crisis in a certain year.	Dummy	Diaz-Cassou, García-Herrero and Molina (2006)
Home	Home. GDP growth	Real GDP annual growth rate	Percentage	IFS, IMF
Global	Oil price	Brent Crude	Current Month, fob USD per barrel	Datastream

Table A - 3. Descriptive statistics

Name	obs	mean	sd	min	p 1%	p 99%	max
Bilateral FDI	1137	284	1099	-1470	-612	4963	16633
Bilateral FDI to China	1306	303	677	-409	-235	2883	4985
Bilateral FDI to Hong Kong	1252	238	842	-5009	-668	4544	4922
Bilateral FDI to OECD	1606	18951	34348	-3028	-722	192470	232390
Bilateral FDI to Latin America	1092	2067	4341	-7611	-2435	18811	36853
Bilateral exchange rate	1903	288	2420	0	0	3311	86307
Bilateral exports	1875	990	6225	0	0	11910	108751
Bilateral imports	1875	1151	7988	0	0	14901	135080
Non FDI capital flows	1903	3706	9917	-14923	-14923	37308	37308
Total FDI of OECD countries	1903	567297	302590	255214	255214	1227067	1227067
Similarity in productive structure	1823	-0.59	0.22	-1.20	-1.10	-0.17	-0.14
Host home interest rate differential	1823	1.27	6.84	-0.86	-0.27	48.13	48.18
Host. Debt service	1903	18375	18142	2819	2819	71069	71069
Host. Nominal GDP	1903	260310	223184	47694	47694	808045	808045
Host. GDP growth	1903	0.02	0.04	-0.11	-0.11	0.11	0.11
Host. GDP per capita	1903	4519	1882	1735	1735	8831	8831
Host. Domestic Investment	1903	54585	48219	8259	8259	173709	173709
Host. Natural Resources	1903	904	590	383	383	2093	2093
Host. Capital account restrictions	1903	0.91	0.29	0	0	1	1
Host. Investment Profile	1903	6.85	2.01	3.00	3	11.5	11.5
Host. Occurrence of sovereign crisis	1903	0.15	0.36	0	0	1	1
Host. Occurrence of banking crisis	1903	0.27	0.45	0	0	1	1
Host. Occurrence of exchange crisis	1903	0.14	0.34	0	0	1	1
Home. GDP growth	1903	0.03	0.03	-0.1	-0.1	0.1	0.1
Oil price	1903	22.4	5.8	12.8	12.8	35.4	35.4

Table A – 4. Detailed results for 1993-2003 time span

	(1)	(2)	(3)	(4)
Dependent variable: Bilateral real FDI (millions of 2000 USD)	***Common impact - unrestricted model***	***Common impact - restricted model***	***Individual country impact - unrestricted***	***Individual country impact - restricted***
Objetive variables				
Latin America as whole				
Bilateral FDI to China	-0.078	-0.107		
	(0.366)	(0.306)		
*Bilateral FDI to China * GDP host*	0.000	0.000		
	(0.503)	(0.468)		
Bilateral FDI to Hong Kong	0.131	0.145	0.121	0.132
	(0.114)	(0.103)	(0.130)	(0.125)
Country specific				
Impact on FDI to China on FDI to Argentina			-0.098	-0.095
			(0.146)	(0.110)
Impact on FDI to China on FDI to Brazil			0.047	-0.009
			(0.674)	(0.934)
Impact on FDI to China on FDI to Chile			-0.001	-0.003
			(0.989)	(0.966)
Impact on FDI to China on FDI to Colombia			-0.279	-0.125
			(0.116)	(0.528)
Impact on FDI to China on FDI to Mexico			-0.042	-0.031
			(0.786)	(0.817)
Impact on FDI to China on FDI to Venezuela			0.370*	0.138
			(0.072)	(0.399)
Control variables				
Capital flows				
Lag of bilateral FDI over host GDP	0.050	0.029	0.070	0.052
	(0.766)	(0.863)	(0.668)	(0.766)
Non FDI capital flows	-0.009***		-0.009***	-0.005**
	(0.002)		(0.002)	(0.033)
Bilateral FDI to Latin America	0.022	0.028	0.018	0.027
	(0.203)	(0.208)	(0.276)	(0.229)
Bilateral FDI to OECD	0.002	0.002*	0.001	0.001
	(0.141)	(0.081)	(0.176)	(0.162)
Total FDI of OECD countries	0.000		0.000	0.000
	(0.263)		(0.163)	(0.191)
Bilateral variables				
Bilateral exchange rate	0.013		0.028	
	(0.845)		(0.713)	
Bilateral exports	0.117*	0.059***	0.132**	0.061***
	(0.055)	(0.000)	(0.035)	(0.000)
Bilateral imports	-0.043		-0.054	
	(0.414)		(0.311)	
Similarity in productive structure	20.238		84.536	
	(0.891)		(0.564)	
Host home interest rate differential	-0.579		2.072	
	(0.803)		(0.412)	
Host country variables				
Macroeconomic factors				
Nominal GDP	0.003**	0.002**	0.004***	0.003**
	(0.038)	(0.032)	(0.010)	(0.014)
GDP growth	1,665.245***	1,032.421**	1,956.568***	1,724.096***
	(0.002)	(0.011)	(0.001)	(0.000)
GDP per capita	0.021		0.008	
	(0.249)		(0.690)	
Domestic Investment	-0.008	-0.007	-0.012**	-0.008
	(0.101)	(0.127)	(0.021)	(0.119)
Debt service	-0.009		-0.010	-0.007
	(0.102)		(0.112)	(0.180)
Institutional characteristics				
Capital account restrictions	-134.262	-104.653*	-123.377*	-113.266**
	(0.107)	(0.060)	(0.093)	(0.038)
Investment Profile	4.748		3.585	
	(0.824)		(0.866)	
Natural Resources	0.195**		0.065	
	(0.029)		(0.441)	
Ocurrence of Crisis				
Occurrence of sovereign crisis	-139.721**	-80.531*	-170.952**	-146.861***
	(0.041)	(0.062)	(0.012)	(0.003)
Occurrence of banking crisis	152.950***	144.394***	165.843***	162.287***
	(0.003)	(0.001)	(0.005)	(0.008)
Occurrence of exchange crisis	-53.795		-69.393	
	(0.427)		(0.285)	
Home country variables				
Home. GDP growth	1063.965	1,743.275**	905.345	1169.730
	(0.151)	(0.038)	(0.211)	(0.110)
Global shocks				
Oil price	-11.926	-11.094*	-13.361*	-12.858**
	(0.146)	(0.052)	(0.091)	(0.045)
Constant	-69.477	83.007	67.295	57.715
	(0.795)	(0.501)	(0.786)	(0.677)
Observations	844	884	844	884
Number of group(home host)	136	140	136	140
Hansen test	(1.000)	(0.840)	(1.000)	(1.000)
Arellano-Bond test for AR(1) in first differences	(0.024)	(0.019)	(0.028)	(0.021)
Arellano-Bond test for AR(2) in first differences	(0.096)	(0.096)	(0.102)	(0.094)

Robust p values in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Variables in italics are instrumented through the GMM procedure following Arellano and Bover (1995)

Table A – 5 Detailed results for structural break model

	(1)	(2)	(3)	(4)
Dependent variable: **Bilateral real FDI (millions of 2000 USD)**	***OMC effect - Common impact - unrestricted model***	***OMC effect - Common impact - restricted model***	***OMC effect - Individual country impact - unrestricted***	***OMC effect - Individual country impact - restricted***
Objetive variables				
Latin America as whole				
Bilateral FDI to China before 2001	-0.090	-0.113		
	(0.423)	(0.384)		
Bilateral FDI to China after 2000	-0.108	-0.183		
	(0.651)	(0.403)		
*Bilateral FDI to China * GDP host*	0.000	0.000		
	(0.550)	(0.517)		
Bilateral FDI to Hong Kong	0.119*	0.133*	0.118*	0.160**
	(0.093)	(0.081)	(0.058)	(0.043)
Country specific				
Impact on FDI to China on FDI to Argentina before 2001			-0.062	-0.004
			(0.326)	(0.959)
Impact on FDI to China on FDI to Argentina after 2000			-0.700***	-0.388
			(0.005)	(0.100)
Impact on FDI to China on FDI to Brazil before 2001			0.109	0.214
			(0.446)	(0.288)
Impact on FDI to China on FDI to Brazil after 2000			-1.036*	-0.516
			(0.073)	(0.364)
Impact on FDI to China on FDI to Chile before 2001			-0.042	0.059
			(0.536)	(0.613)
Impact on FDI to China on FDI to Chile after 2000			0.285	0.228
			(0.212)	(0.176)
Impact on FDI to China on FDI to Colombia before 2001			-0.291	0.057
			(0.116)	(0.756)
Impact on FDI to China on FDI to Colombia after 2000			-0.324*	-0.288*
			(0.050)	(0.071)
Impact on FDI to China on FDI to Mexico before 2001			-0.198**	-0.199**
			(0.029)	(0.020)
Impact on FDI to China on FDI to Mexico after 2000			1.376	0.506
			(0.224)	(0.435)
Impact on FDI to China on FDI to Venezuela before 2001			0.346	0.229
			(0.141)	(0.176)
Impact on FDI to China on FDI to Venezuela after 2000			0.166	-0.137
			(0.531)	(0.584)
Control variables				
Capital flows				
Lag of bilateral FDI over host GDP	0.051	0.031	0.049	-0.009
	(0.762)	(0.852)	(0.711)	(0.962)
Non FDI capital flows	-0.009***		-0.008***	-0.001
	(0.002)		(0.006)	(0.799)
Bilateral FDI to Latin America	0.022*	0.027	0.024*	
	(0.099)	(0.123)	(0.061)	
Bilateral FDI to OECD	0.001	0.002*	0.002	
	(0.148)	(0.069)	(0.140)	
Total FDI of OECD countries	0.000		0.000	0.000**
	(0.249)		(0.182)	(0.013)
Bilateral variables				
Bilateral exchange rate	0.029		0.053	
	(0.765)		(0.414)	
Bilateral exports	0.115**	0.060***	0.152***	0.067***
	(0.034)	(0.000)	(0.002)	(0.000)
Bilateral imports	-0.041		-0.073*	
	(0.380)		(0.071)	
Similarity in productive structure	13.827		281.617	
	(0.934)		(0.163)	
Host home interest rate differential	-0.627		-1.542	
	(0.790)		(0.633)	
Host country variables				
Macroeconomic factors				
Nominal GDP	0.003**	0.002**	0.002**	0.002***
	(0.026)	(0.011)	(0.013)	(0.003)
GDP growth	1,654.138***	987.308***	1,858.373***	1,457.622***
	(0.001)	(0.004)	(0.001)	(0.000)
GDP per capita	0.022		0.016	
	(0.204)		(0.455)	
Domestic Investment	-0.009*	-0.007*	-0.009***	-0.009**
	(0.066)	(0.064)	(0.008)	(0.016)
Debt service	-0.009*		-0.009*	
	(0.098)		(0.068)	
Institutional characteristics				
Capital account restrictions	-137.317	-108.490*	-49.129	
	(0.107)	(0.099)	(0.492)	
Investment Profile	3.942		12.440	
	(0.820)		(0.497)	
Natural Resources	0.202**		0.289*	
	(0.028)		(0.067)	
Ocurrence of Crisis				
Occurrence of sovereign crisis	-143.315**	-81.454*	-156.125**	-99.167**
	(0.028)	(0.052)	(0.021)	(0.025)
Occurrence of banking crisis	150.884***	144.585***	237.299***	206.964***
	(0.005)	(0.001)	(0.003)	(0.004)
Occurrence of exchange crisis	-57.610		-53.379	
	(0.407)		(0.425)	
Home country variables				
Home. GDP growth	1063.387	1,644.548*	956.080	
	(0.131)	(0.057)	(0.221)	
Global shocks				
Oil price	-12.163	-10.872*	-11.797	-16.791***
	(0.178)	(0.076)	(0.115)	(0.007)
Constant	-64.496	99.529	-42.079	82.680
	(0.832)	(0.438)	(0.868)	(0.351)
Observations	844	884	844	915
Number of group(home host)	136	140	136	141
Hansen test	(1.000)	(0.830)	(0.000)	(1.000)
Arellano-Bond test for AR(1) in first differences	(0.024)	(0.020)	(0.004)	(0.010)
Arellano-Bond test for AR(2) in first differences	(0.095)	(0.095)	(0.061)	(0.097)

Robust p values in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%
Variables in italics are instrumented through the GMM procedure following Arellano and Bover (1995)

Table A - 6. Correlation among variables

	Bilateral FDI	Bilateral FDI to China	Bilateral FDI to Hong Kong	Bilateral FDI to OECD	Bilateral FDI to Latin America	Bilateral exchange rate	Bilateral exports	Bilateral imports	Non FDI capital flows	Total FDI of OECD countries	Similarity in productive structure	Host home interest rate differential	Host. Debt service	Host. Nominal GDP. Billions of USD	Host. GDP growth	Host. GDP per capita	Host. Domestic Investment	Host. Natural Resources	Host. Capital account restrictions	Host. Investment Profile	Host. Occurrence of sovereign crisis	Host. Occurrence of banking crisis	Host. Occurrence of exchange crisis	Home. GDP growth
Bilateral FDI	1																							
Bilateral FDI to China	0.21	1																						
Bilateral FDI to Hong Kong	0.40	0.43	1																					
Bilateral FDI to OECD	0.23	0.29	0.26	1																				
Bilateral FDI to Latin America	0.37	0.43	0.63	0.43	1																			
Bilateral exchange rate	-0.05	0.09	0.11	0.18	0.14	1																		
Bilateral exports	0.56	0.22	0.39	0.26	0.26	-0.01	1																	
Bilateral imports	0.54	0.21	0.38	0.25	0.24	-0.01	0.99	1																
Non FDI capital flows	0.02	0.04	0.02	-0.06	0.01	-0.02	0.02	0.00	1															
Total FDI of OECD countries	0.11	-0.05	-0.01	0.31	0.24	-0.04	0.02	0.02	-0.27	1														
Similarity in productive structure	0.15	-0.14	-0.07	-0.05	-0.07	-0.01	0.04	0.03	0.15	-0.10	1													
Host home interest rate differential	0.01	0.00	0.00	-0.05	-0.03	-0.06	0.00	0.00	0.17	-0.17	0.10	1												
Host. Debt service	0.20	-0.01	-0.01	0.08	-0.02	-0.09	0.13	0.11	-0.11	0.28	0.45	-0.04	1											
Host. Nominal GDP. Billions of USD	0.22	0.00	0.00	0.02	-0.05	-0.10	0.13	0.11	0.24	0.06	0.52	0.18	0.82	1										
Host. GDP growth	0.01	0.03	0.00	-0.04	0.01	0.03	0.02	0.01	0.37	-0.18	0.11	0.12	0.00	0.06	1									
Host. GDP per capita	0.10	0.01	0.02	0.04	0.05	-0.10	0.04	0.02	0.38	0.08	0.22	-0.09	0.09	0.25	0.15	1								
Host. Domestic Investment	0.22	0.00	0.01	0.02	-0.04	-0.09	0.14	0.11	0.27	0.07	0.50	0.19	0.81	0.99	0.11	0.24	1							
Host. Natural Resources	0.17	0.00	0.00	0.00	-0.05	-0.09	0.07	0.06	0.11	0.00	0.40	0.34	0.73	0.83	-0.04	-0.08	0.82	1						
Host. Capital account restrictions	0.05	0.01	0.01	0.06	0.06	0.02	0.03	0.03	-0.21	0.17	0.02	0.06	0.20	0.14	-0.06	-0.29	0.15	0.22	1					
Host. Investment Profile	0.01	-0.04	0.00	-0.03	-0.09	-0.02	0.07	0.07	-0.02	-0.03	0.07	-0.12	0.22	0.15	0.22	0.27	0.17	-0.13	-0.25	1				
Host. Occurrence of sovereign crisis	-0.05	0.00	0.00	-0.06	-0.03	-0.03	-0.04	-0.03	-0.12	-0.21	-0.01	0.40	-0.21	-0.11	-0.02	-0.04	-0.13	0.08	-0.01	-0.32	1			
Host. Occurrence of banking crisis	0.11	0.03	0.01	-0.03	-0.06	-0.07	0.02	0.01	-0.14	-0.11	0.32	0.13	0.43	0.45	-0.15	-0.10	0.43	0.58	0.08	-0.29	0.22	1		
Host. Occurrence of exchange crisis	0.00	-0.01	0.01	0.00	0.01	-0.01	-0.02	-0.01	-0.30	0.03	-0.02	-0.06	0.05	-0.05	-0.29	-0.18	-0.09	0.08	0.13	-0.26	0.08	0.25	1	
Home. GDP growth	0.10	-0.06	-0.01	0.00	0.14	0.06	-0.01	0.00	0.00	0.17	0.04	-0.03	0.04	0.03	0.05	0.07	0.04	0.00	0.08	-0.10	-0.06	0.04	0.00	1
Oil price	-0.02	-0.01	-0.07	0.13	-0.01	-0.02	0.01	0.02	-0.29	0.50	-0.07	-0.13	0.21	0.02	-0.11	-0.09	-0.02	0.00	0.01	0.10	-0.11	-0.04	-0.10	0.04