WAS LATIN AMERICA CORRECT IN RELYING IN FOREIGN DIRECT INVESTMENT TO IMPROVE EMPLOYMENT RATES?

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Abstract: *This paper examines the effect of foreign direct investment (FDI) on employment generation for a group of Latin American countries in the period 1980-2006. Using a dynamic panel model, which is estimated with the Arellano-Bover/Blundell-Bond system estimator, I find that FDI has a positive and significant effect on the employment generation in host countries, which is driven by its effect on male labor force. This positive effect is particularly important for less developed economies, periods with low inflation, and for the later period of the sample, but suggests that only countries with high level of informality and those attracting low average inflows of FDI accrue this benefit.*

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1. Introduction

While there is an increasing movement of capital around the world, a noticeable shift in the components of international capital flows has occurred in Latin America. Aggregate foreign direct investment (FDI) flows into Latin America and the Caribbean have reached record levels in the past decade according to the World Bank, jumping from $8.35 billion in 1990 to $79 billion in 2000 and to a remarkable $132 billion in 2009. These flows are shown in Figure 1. The major recipients in the region are Brazil, Mexico, and Argentina, accounting for around 60 percent of total flows. 20 percent of FDI is accounted by privatization of public firms and another 75-80 percent is accounted for mergers and acquisitions (Andersen and Hainaut (1998)).

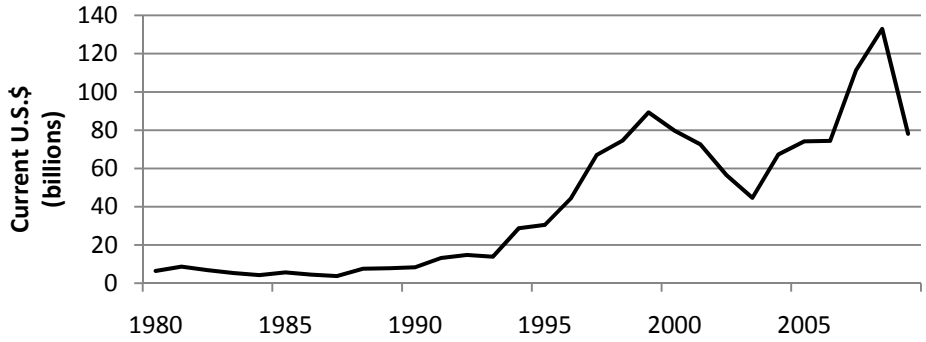

Figure 1: Trends of net FDI into Latin American and the Caribbean

This impressive rise in FDI may have increased the efficiency with which global capital is being used, stimulating productivity growth on its way. FDI is perceived as an engine of growth as it can potentially generate productivity spillovers for the host economy, increase the volume of investment and its efficiency, augment the existing stock of knowledge, facilitate the access to leading technology, and generate chains of new local suppliers, all potentially fostering economic growth (e.g. Borenztein *et. al.* (1998), Blomstrom *et al*. (1997), Li and Liu (2005)). FDI can also affect the standard of living of people in countries receiving this inflow through its effect on employment generation – by the direct hiring of people for their plants, through their links with domestic suppliers and service providers, by increasing the participation of other affiliates that are attracted to the country by their entry, and by its potential contribution towards higher incomes, leading to higher levels of consumption, savings and investment[1].

FDI can also contribute to long-term employment gains if it raises the competitiveness, efficiency and export orientation of domestic firms (Lee and Vivarelli (2006)), but this effect can be diminished if it also induces local competitors to reduce their labor force to become more competitive, force existing firms out of business, or shed employees themselves if entry is by

[1] See Lall (2004) for a comprehensive review.

acquiring control of local firms. This potential beneficial impact on employment is one of the reasons why most countries in the region have made extensive use of incentives to attract foreign investment, pushing through institutional and structural reforms to provide a favorable environment. In fact, they increasingly relied on FDI for the propulsion of growth and the generation of employment.

However, despite the economic growth of the 1990s and early 2000s, partially attributed to the enhanced FDI, the rate of growth in employment has been lower than in the latter half of the 1980s, both in the region as a whole and in most individual countries (Marquez and Pages (1997), Lora and Olivera (1998)). This disappointing pace of job creation has prompted governments to reassess their strategies in job creation, with many countries reverting previous initiatives in favor of FDI and even nationalizing again former State Owned Enterprises (SOE). Such challenge of the effect of FDI on employment is magnified by the lack of research in the area at the regional level, and filling this gap is the objective of this study.

This study goes beyond the analysis of the effect of FDI on economic growth and concentrates on its relevance on employment generation, a factor perhaps more relevant to domestic governments – or its people. This is related to the study of Braunstein and Epstein (2002), but differs in the modeling strategy, the analysis of Latin American economies instead of Chinese provinces, and the examination of potentially different effects according to gender. Using a panel of 12 Latin American countries and 26 years of data it is found that FDI exerts a positive and statistically significant effect on employment generation in host countries, which is mainly driven by its effect on the male labor force. This finding suggests that the initiatives to open up to international trade were actually beneficial in terms of employment generation.

In the next section the literature review on the subject is presented, while in section 3 the data and methodology used is the study is explained. Section four analyzes the results obtained with the Arellano-Bover/Blundell-Bond system estimator, providing an extensive robustness check to investigate the consistency of the main results. Section five presents the conclusions, relates these findings to the existing analysis of the effects of FDI, and provides direction for further research.

2. Literature Review

Understanding the effects of FDI on employment requires the recognition of the existence of factors that inherently cause employment rates to vary. Structural factors that are commonly used to understand employment levels are age, fertility, education, labor laws, and minimum wage levels, which are complemented with cyclical factors that affect aggregate economic

activity, like changes in the interest rate, productivity, terms of trade, and openness of the economy. This last one, in particular, is perceived to affect employment generation through its positive impact on GDP and the internationalization of production, generating opportunities through changes in the composition of production, production techniques, and methods of work organization.

Initial theoretical research in international trade used the traditional Heckscher-Ohlin (H-O) model to predict that an increase in trade will lead to an increase in the demand for the products that use the relatively abundant factor more intensively, presumably labor in the developing countries. In the full employment model this implies that there will be a reallocation of output towards labor-intensive goods, implicitly increasing the demand for unskilled labor. This then causes an inter-sectoral shift towards labor-intensive activities, not greater employment. Once labor market rigidities and unemployment are allowed, an increase in trade is predicted to result in an increase in employment in labor abundant developing countries, result that is usually recognized for manufactures (Lall (2004)). However, this expected increase in employment from greater openness to trade is based on strong simplifying assumptions.

Economists were able to gain further insight with the introduction of technological differences, scale economies, and externalities with the new trade theory, best exemplified by Grossman and Helpman (1990), but the determination of a specific trade pattern arising from greater openness remained allusive, and consequently its effect on employment too – opening up to trade does not show how factor use will change. This limits our ability to predict *a priori* which will be the effect of trade on aggregate employment, and we can only claim that aggregate employment tends to rise in developing countries because trade exposure benefits export-oriented industries, which are usually more labor-intensive than other industries.

In the empirical front, most studies tend to confirm such theoretical arguments, although with some caveats. Revenga (1997) shows that the measure used to proxy for trade openness is important, as she finds that trade liberalization does not affect employment at the industry level when it is proxied by a reduction in tariffs, but also shows that when one uses the reduction in the restrictions on imported inputs (including capital goods) and in the licensing coverage of inputs and output quotas as measures for trade such effect on employment becomes positive. Lang (1998) reveals the importance of wage concessions, as he finds that trade liberalization in New Zealand only decreased employment in protected industries by a small percentage because its significant effect on wages diminished the final effect on employment, thus reducing the post liberalization shift in the industrial composition of employment. The structure of the economy also becomes important in the determination of manufacturing employment, with studies like

those of Ghose (2000 and 2003) showing that higher trade in manufactured products has resulted in a large positive effect on employment in Mexico, but other studies like that of Currie and Harrison (1997) showing that there is not a statistically significant effect of trade reform on employment in the case of Morocco.

Ghose (2000) also argues that, in developing countries, job gains seem to accrue to both skilled and unskilled workers though unskilled workers generally derive larger benefits (because more of them work in the export-oriented industries). However, results on the increases of skilled workers' employment are also found in studies. Wood (1997), Hanson and Harrison (1999), and Robertson (2000), among others, show that the relative employment of skilled workers increased after trade liberalization in Mexico. These results could be driven by the fact that unskilled labor-intensive industries were the ones that have been more heavily protected than the skill labor-intensive industries, contrary to trade theory, so that one of the effects of trade liberalization has been a relative decline of unskilled labor-intensive industries.

Since trade liberalization is usually implemented with other complementary policies, recent research also has also accounted for adjustments of the exchange rate. International trade theory suggests that depreciations of the domestic currency can have positive effects on exports and thus potentially on employment. Marquez and Pages (1997) examine this link in Latin American countries and find that the appreciation of the real exchange rate has exacerbated the negative effect of trade liberalization on employment generation. This notion that depreciations of the real exchange could give specific sectors a competitive edge against international rivals is corroborated by others (i.e. Lora and Olivera (1998) and Klein *et. al.* (2003)), and is especially important for manufacturing employment.

However, while trade liberalization was implemented to achieve gains from trade, the subsequent awareness about the importance of new technologies for economic growth has also generated a special interest in foreign investment. In fact, international organization like the World Bank, World Trade Organization, and the International Monetary Fund are actively promoting FDI, as they see it as the best way to channel investment funds to promote stability and higher rates of economic growth. Because MNC's bring relatively new technology, its impact on employment depends on the interaction between productivity growth, output growth, and the specialization of labor. The importance of FDI is accentuated by the fact that MNCs are usually large, and large firms are the ones that have the greatest effect on employment creation (Levinsohn (1999)).

According to the theory of comparative advantage, FDI should take advantage of the relative abundance of labor in the developing countries and trigger a trend of specialization in

labor-intensive activities. This should generate an expansion in employment in the host countries. But whether FDI is induced by the relative abundance of "unskilled" labor, or the lower production costs, in the host country, foreign firms have shown to have a tendency to invest in relatively high-wage industries within a host country, in high-wage locations within the country, or to hire higher-wage higher-skill workers. Blomstrom *et. al*. (1997) find that MNCs allocate the more labor-intensive stages of production to their foreign operations, increasing their demand for unskilled labor in the host country. However, the introduction of skill-biased technology by MNCs could also force domestic firms to invest in advanced technology in order to remain competitive, increasing the demand for skilled labor instead of the demand for unskilled labor. This is shown by Feenstra and Hanson (1997) in their study of Mexico, where they find the existence of positive effects of FDI on the demand for skilled labor, but in a more recent study Lall (2004) finds instead that no general conclusions can be made about the correlation between FDI and domestic employment skills.[2]

Further complications for the prediction of its effect on employment are brought by the chosen mode of entry. FDI in the form of "greenfield" investment is assumed to have the greater and most direct positive impact on employment for its creation of new subsidiaries, but its potential for crowding-out non-competitive and previously sheltered domestic firms can diminish its expected positive effect. The alternative mode of entry takes advantage of already established assets – through mergers and acquisitions – and thus is broadly conceived to be neutral to employment in the short run (just a transfer of ownership) or even negative as the pursue of efficiency leads to downsizing and layoffs. Of course, in the long run the potentially greater efficiency induced by the takeover should lead to better quality – and perhaps more jobs.

Despite the importance of FDI and the increased desire of countries to attract it, regional studies of the impact of FDI on aggregate employment have received scant attention in the empirical literature. To my knowledge, the only two studies that explicitly account for the effect of FDI and examine its impact on economy wide aggregate employment are the studies of Braunstein and Epstein (2002) and Spiezia (2004)[3]. Braunstein and Epstein (2002) find that FDI has no independent effect on employment in Chinese provinces, and even if a positive effect is found by adjusting their investment measure, the potential impact of FDI on employment is nonetheless very small. In the second study, Spiezia (2004) finds that the impact of FDI on

[2] However, when adequate absorptive capacities are present, FDI was seen to have a positive impact on domestic employment.

[3] Lee and Vivarelli (2006) point out that even if trade and FDI are expected to positively affect employment, employment creation cannot be automatically assured, as the employment effect can be very diverse in different areas of the world.

employment is increasing with per-capita income for a group of 49 countries, but such effect is not significant for low-income developing countries.

So, while the quantification of the overall impact of FDI on employment is still uncertain, both theoretically and empirically, the need to determine the direction and magnitude of such effect becomes more pressing as governments increasingly rely on FDI to generate growth and consequently improve employment rates. To the extent that FDI contributes to economic growth then it may be contributing indirectly to the creation and improvement of employment. Aggressive policies in Latin America in the 1990s have foster increases in FDI that have presumably caused renewed economic growth that indirectly should have promoted employment generation through greater output levels. However, many new governments in place are increasingly challenging this view, reverting incentives to foreign investment and even nationalizing again previously privatized state-owned enterprises.

This study is the first one to analyze the effect of FDI on employment rates at the regional level, quantifying such effect, and examining the differential effect according to genders. To this end, I abstract from the implications of varying and changing labor laws and the inherent aggregation problems of the employment measure used in the paper, and provide general findings of how employment rates are affected in the short run by changes in FDI in the last quarter century. This task is done in the following sections.

3. Data and Methodology

The data for this study comes from the World Bank's World Development Indicators 2007 (WDI), the Economic Commission for Latin America and the Caribbean (ECLAC) 2007 Social Indicators and Statistics (BADEINSO), and the International Labour Office's (ILO) LABORSTA. The sample is based on 12 Latin American countries covering the period 1980-2006, with yearly observations. It ends in 2006 to avoid noise from the international financial crisis, and it excludes countries that serve as offshore financial centers, are too small, have special governmental controls, or lack adequate data. The sample includes Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, México, Nicaragua, Paraguay, Perú, Uruguay, and Venezuela.

While it is not possible to control directly for the evolving structure of domestic labor laws and policies geared to promote employment, which affect the employment rate performance, the use of panel data methods allows for the control of unobservable time-invariant country-specific characteristics that determine the employment rate. The econometric specification includes standard determinants of employment (Revenga (1997), Marquez and Pages (1997)), but also considers macroeconomic determinants. In this specification, the employment rate is

determined by wages, economic activity, investment (both domestic and foreign), and factors related to international trade, like exports, terms of trade, and openness of the economy. The econometric model is:

$$emp_{i,t} = \alpha_0 + \alpha_1 emp_{i,t-1} + \alpha_2 \ln RGDP_{i,t} + \alpha_3 wages_{i,t} + \alpha_4 DI_{i,t} + \alpha_5 EX_{i,t}$$
$$+ \alpha_6 TOT_{i,t} + \alpha_7 OPEN_{i,t} + \alpha_8 FDI_{i,t} + \beta\tau_t + \delta year + \varepsilon_{i,t}$$

where $emp_{i,t}$ denotes the employment rate in country *i* in period *t* [4], $\ln RGDP_{i,t}$ is the output measure given by the natural logarithm of the GDP of country *i* in period *t*, $wages_{i,t}$ is the real average wage in each country, $DI_{i,t}$ is the ratio of domestic investment to GDP, $EX_{i,t}$ is the share of exports to GDP, $TOT_{i,t}$ is the terms of trade measured as the ratio of price of exported goods over the price of imported goods, $TRADE_{i,t}$ is the traditional measure of trade openness (imports plus exports over GDP), and $FDI_{i,t}$ is the ratio of FDI to GDP. The subscript *i* denotes the country and the subscript *t* the year. The vector of time dummy variables that controls for common time-varying effects is denoted by τ_t, and the error term follows the standard one-way error specification

$$\varepsilon_{i,t} = \mu_i + \nu_{i,t}$$

where μ_i denotes the unobservable individual specific effect and $\nu_{i,t}$ denotes the remainder disturbance, i.i.d. over the whole sample with variance σ_ν^2.

The employment rate in this specification is assumed to depend on the previous level of employment, with the average wage in the country, the output level, and investment being the main domestic determinants. External shocks are expected to affect employment levels by altering the terms of trade and the magnitude of exports, affecting cost differentials and market size. The inclusion of these two measures indirectly accounts for the effect of the stabilization policies that manipulate the exchange rate following large capital inflows. The variable of interest, FDI, should increase the level of the productive capacity as well as its efficiency, so its impact is usually expected to be positively related to employment. However, as discussed in the previous section, it could also be neutral or even negative if the higher levels of foreign investment are geared to technological upgrades, are channeled through mergers and acquisitions, or is intended to service the domestic market – creating competition to domestic firms.

[4] The employment rate is not consistently available for Latin American countries, so I have used the alternative measure given by the complement of the unemployment rate. To allow for a balanced panel, I used the average of the previous and next data point in case of one missing observation. These were only a few cases

This econometric specification is dynamic in nature, but since the linear generalized method of moments (GMM) estimator obtained after first differencing has large finite sample bias and poor precision (Arellano and Bover (1995), Blundell and Bond (1998), Bond, Hoeffler, and Temple (2001), Baltagi (2001)), I test for its validity and as a result I turn to the Arellano-Bover/Blundell-Bond system estimator for the estimation[5]. The system GMM estimator is asymptotically more efficient relative to either of the alternatives. Bond, Hoeffler, and Temple (2001) also note the considerable strength of the system GMM estimator to obtain consistent parameter estimates even in the presence of measurement error and endogenous variables, so that endogeneity concerns arising from independent variables like the level of the economic activity (output) or average wages can be disregarded.

4. Empirical Results

It is worth it to mention that this study does not control for the inherent dynamics of the labor market or the continuous impact of governmental policies enacted to influence employment generation. Also, since the emphasis of this study is the estimation of the effects of FDI on employment rates, here we only control for demand pressures (as the cost of labor could exert) and supply incentives (as higher wages could introduce) through the use of the real average wage. However, since we also have data on employment rate by gender, and since female participation rate has increased significantly in Latin America – while male participation rate have stagnated – and some researches attribute this rise to the greater opportunities brought by foreign investment, I also estimate FDI's effect on each of these employment rates.

The main regression results are presented below in Table 1. One can immediately observe the high degree of persistence that the employment rate presents. The broader specification – in column one – shows that FDI has a positive and significant impact on total employment rate, indicating that a 10 percentage point increase in foreign investment raises employment in the host country by almost 0.7 percentage point. It also shows that domestic investment also has a positive and significant effect on employment, rising by slightly more than 1.1 percentage point in

[5] As it is well known, the OLS on levels will give an estimate of the autoregressive parameter that is biased upwards in the presence of individual-specific effects (estimate of 0.8569) and the within group estimator will give an estimate of the autoregressive parameter that is seriously biased downward in relatively short panels (estimate of 0.6439). The autoregressive parameter estimate using the traditional first-differenced Arellano and Bond (1991) method is 0.6340, which lies below the within group estimate, a signal that biases due to weak instruments may be important in the first-difference estimator. The parameter estimate of the autoregressive coefficient using system GMM is 0.7248, which lies comfortably above the fixed-effects estimate and below the OLS estimate. The additional instruments from the system GMM seem to be valid and highly informative in this context. In addition, neither the Hansen's over-identification test nor the tests for second-order serial correlation detect any problems with neither instrument validity nor the serial correlation assumptions. The results suggest that there is a finite sample bias problem caused by weak instruments in the first-differenced GMM results. Complete results are available from the author – temporarily included in the Appendix in Table A.3.

response to a 10 percentage point increase in domestic investment. These results suggest that independently of the type of investment, any additional investment in productive capacity in the domestic economy contributes to the generation of employment. With respect to the changes in exports, the results show that its effect is also positive and significant, with its impact being somewhat smaller than that of foreign investment – an increase of 10 percentage points in the share of exports to GDP raises total employment rate by 0.6 percentage point. Again, increases in exports indirectly induce increases in productive capacity. While the remaining explanatory variables help control for economic conditions and trade policies, they are not statistically significant at any conceivable level.

Table 1 – Effect of FDI on Employment Rate

	Total	Male	Female
Constant	2409.838	3132.394	4045.13***
	(1552.754)	(2315.989)	(2458.191)
Lagged Employment	.7248*	.7210**	.7266*
	(.0325)	(.0356)	(.0300)
Real Remuneration	.0044	.0017	.0063**
	(.0030)	(.0036)	(.0026)
FDI	.0717***	.0855***	.0227
	(.0436)	(.0456)	(.0711)
Dom. Investment	.1148*	.0883*	.1576*
	(.0243)	(.0297)	(.0377)
Exports	.0596**	.0598***	.0660***
	(.0259)	(.0337)	(.0373)
lnRDGP	-.1395	.1276	-.0859
	(.1529)	(.1776)	(.1386)
Trade Openness	-.9258	-.6567	-1.0773
	(.8373)	(.9811)	(1.2464)
Terms of Trade	-.0056	.002	-.0049
	(.0053)	(.0034)	(.0075)
Hansen Over-Id.	0.1610	0.3987	0.1083
AR(1) Test	0.0073	0.0296	0.0210
AR(2) Test	0.5775	0.7817	0.1985
N. Observations	312	282	282

*Note: Statistical significance given by *** for 1% confidence level, ** for 5% confidence level, and * for 10% confidence level. Time dummies are included but not reported. Standard Errors in parentheses.*

These results suggest that the implemented policies in the region to attract FDI have indeed increased domestic employment rates. Also, finding that both types of investment exert a positive effect on employment is consistent with the results found by Spiezia (2004), indicating that increases in productive capacity – investment – are important for employment generation. While FDI presumably improve productivity in their foreign affiliates, this productivity increases seem to spill over domestic firms through at least some of the positive externalities brought about by FDI. If this higher productivity raises the demand in domestic firms, outweighing the

reduction in the labor-output ratio brought about by such increase in productivity, then higher levels of FDI translate in employment gains in both foreign and domestic firms, driving the positive impact found here.

The estimation using the employment rate of males as the dependent variable is presented in the second column. The results show that while the effect of FDI on the employment rate is also positive and statistically significant, it is larger than the effect on total employment rate – almost 20 percent larger. Domestic investment also has a positive and statistically significant effect on male employment rate, with its impact of similar magnitude of that of foreign investment but with its effect being almost 25 percent smaller than its effect on total employment rate. I also find that exports exert a positive and statistically significant effect on male employment rate, of similar magnitude as the one observed on total employment rate. This greater impact of FDI on the employment rate could be driven by the fact that most MNCs hire predominantly skilled workers (professionals, technicians, and workers with a given experience), attributes predominantly characteristic of males in Latin America. In addition, since most of the inflows of FDI were directed to male-dominated productive sectors like industry and mining, these increases in FDI tend to benefit more male participants.

The results in the third column are those for the specification using the employment rate of females, and shows that FDI has a smaller positive impact on the employment generation of this gender group but lacks any statistical significance. Although previous work has documented improved work opportunities in export processing zones (i.e. assembling products in maquiladoras), which increased with FDI, most of the growth in female employment has been found in sectors in which most of them already work. While this has led to an increase in female employment, it has also resulted in the attraction of more females into the labor market, raising the female labor force – female participation rate rose from 39 percent in 1990 to 50 percent in 2002 – and diminished the potential improvements in the employment rate arising from higher levels of FDI for this gender group. However, for this group the effect of both domestic investment and exports remain statistically significant, being somewhat stronger than their effect on total employment rate, with domestic investment's impact being 35 percent larger while export's impact being 10 percent larger. The effect of real average wages on employment is positive and statistically significant in this case, indicating that a 10 percentage point increase in wages results in a 0.06 percentage point increase in female employment rates.

The results of Table 1 show that the main determinants of employment generation for these set of countries are foreign investment, domestic investment, and exports, with the last two being consistently statistically significant for the whole and particular employment rates. While

FDI exerts a positive effect on total employment rate, it seems to reflect only gains in male employment but not in female employment. This suggests that the rise in female labor force participation rate observed in the late 1990s by Duryea, Cox, and Ureta (2004) diminished somewhat the potential effect on their employment rate, even after the positive role that increases in education, in participation rates at given schooling levels, and in female wages had in increasing female employment in Latin America.

Also, since the estimated effect of FDI above is for current flows, and since there are some arguments that FDI's effect on employment should be delayed, I have also estimated the same specification using lagged FDI by one and two years. The results show that lagged-one-year FDI has a larger and statistically significant positive effect on total employment rate (0.0985), but the effect while positive is statistically insignificant for male and female employment rates (0.0618, and 0.1825 respectively). This provides partial support to the idea that the full effect of foreign investment on employment materializes in more than one cycle – perhaps incorporating expansionary activities to the initial set-up and establishment of these new ventures. The lagged-two-year FDI effect on employment becomes negative and is statistically significant for male employment rates only, perhaps suggesting that as MNCs become established in the domestic economies they exert greater pressure for technological upgrade of domestic firms, and thus a negative pressure on employment rates, or that the transition towards the efficient management of the newly acquired firms entails shedding off employees in the process.[6]

In order to exploit the dimensionality of the data and investigate the robustness of these results, in Table 2 below I also consider the potentially different effects that FDI could have on employment according to the level of development of the receiving country, as less developed countries are hypothesized to be able to reap greater benefits from FDI than do more developed countries because of their low levels of capital per worker, with its corresponding repercussion on output and consequently employment. The differentiation is done with the introduction of the dummy variable DEV that takes the value of one for countries that had an average real GDP per capita higher than U.S. $3,500 in the sample period, and zero otherwise. This differentiation shows that while FDI is around 6 percent larger in the more developed countries of the sample, the employment rates are statistically the same.

While the effect of the control variables on employment rates are similar than those of Table 1, in particular those showing that the effects of domestic investment and exports on employment rates continue to be positive and significant for all employment rates, when I account for the level of development I find that FDI's effect on total employment rates and on

[6] See Table A.2 for magnitudes and standard errors of all FDI estimates.

male employment rates are statistically different according to their level of development. Column one shows that when one accounts for the level of development the effect of FDI on total employment rate is almost 40 percent larger in less developed countries relative to the main specification, but the interaction term is not statistically significant for the more developed countries. An increase in FDI of 10 percentage points – in less developed countries – results in slightly more than a 1.05 percentage point increase in total employment rate. While the effect of FDI on total employment rate seems to be negative for the more developed countries by adding up the individual coefficients, statistical testing of both estimates together reveal that this effect is not statistically different than zero. Although some studies have pointed out that the effect of FDI on economic growth is stronger for higher-income developing countries and for those with a minimum threshold stock of human capital, here it is shown that its particular effect

Table 2 – Effect of FDI on Employment Rate by the Level of Development

	Total	Male	Female
Constant	2476.794	3234.044	4132.426***
	(1565.118)	(2321.184)	(2457.933)
Lagged Employment	.7350*	.7244*	.7313*
	(.0322)	(.0350)	(.0324)
Real Remuneration	.0048	.0020	.0066***
	(.0034)	(.0040)	(.0035)
Dev	.8729	.5058	1.3429
	(.7524)	(.6092)	(1.1282)
FDI	.1052*	.1145***	.0538
	(.0511)	(.0653)	(.0972)
FDI*Dev	-.1163*	-.0938	-.0979
	(.0593)	(.0713)	(.1000)
Dom. Investment	.1158*	.0876*	.1633*
	(.0239)	(.0300)	(.0380)
Exports	.0590*	.0593***	.0666**
	(.0226)	(.0333)	(.0329)
lnRGDP	-.2377	.0642	-.2985
	(.2403)	(.2333)	(.3314)
Trade Openness	-1.0796	-.7775	-1.4384
	(.8536)	(1.0318)	(1.2649)
Terms of Trade	-.0044	.0008	-.0055
	(.0052)	(.0036)	(.0072)
Hansen Over-Id.	0.1559	0.4294	0.1456
AR(1) Test	0.0082	0.0327	0.0224
AR(2) Test	0.5815	0.8192	0.2103
N. Observations	312	282	282

*Note: Statistical significance given by *** for 1% confidence level, ** for 5% confidence level, and * for 10% confidence level. Time dummies are included but not reported. Standard Errors in parentheses.*

on employment is stronger for less developed countries. The almost indistinguishable levels of FDI seem to fuel higher levels of economic activity, and thus employment, in the relatively poorer countries, which can be explained if this higher production was intended for foreign markets (export platforms).

With respect to the specification for male employment rate (column two), the results show that an increase in FDI of 10 percentage points in less developed countries results in a 1.14 percentage point increase in the employment rate, and while FDI's effect in the more developed countries seem to impact positively male employment rate when adding the individual coefficients, further testing indicates that its effect is not statistically different than zero. This seems to be in line with the notion that MNCs tend to invest more in male-dominated sectors in relatively capital scarce countries, while at the same time preferring more experienced workers, and thus favoring male employment in less developed countries. These results show that FDI's effect on male employment is almost 10 percent larger than the effect on total employment rate for less developed countries.

In the last column I present the results for the effect of FDI on female employment rate, and it shows that while such effect is also positive for less developed countries, it is not statistically significant. Also, while the effect of FDI on female employment rate for the more developed countries seems negative when the estimates are added together, it is also not different than zero when tested together. These results show that while FDI still exerts a positive effect on total employment rates and male employment rates, it does so through its effect on less developed countries, and while this impact is stronger for male employment than for total employment, its differential effect relative to total employment is smaller than the overall impact found in Table 1 – 10 percent larger rather than 20 percent.

Related to this differential effect on employment rates according to the level of development is the potentially different effect that FDI can exert on the employment rate according to level of foreign investment that each country was able to attract during the sample period. While these inflows reflect the existence of incentives, it is also a clear reflection of the economic conditions of the receiving countries, which can influence how the spillovers of FDI affect employment. This is done by dividing the sample into two comparatively distinct groups of countries based on the average share of FDI to GDP that they were able to attract, which account for inherently better investment opportunities. To this end, the dummy variable *More* is introduced, which takes the value of zero for countries with average FDI inflows below 1.8 percent of GDP, and one otherwise. This differentiation shows in our sample that those countries receiving higher levels of FDI are the ones that have higher employment rates, around 1

percentage point higher, which seems to reflect that foreign investment is less concerned with labor costs and labor abundance than generally believed.

The results are shown in Table 3, and show that both domestic investment and exports continue to exert a positive and significant effect on total, male, and female employment rates, while it also shows that – when one controls for the degree of FDI inflows – real average wages exert a positive and significant effect on total and female employment rates, reflecting a supply-side effect on employment. The measure of trade openness of the receiving economy exerts a negative effect on employment rates, being statistically significant for total and female employment rates, which suggests that as countries open up to trade they are perhaps allowing for greater competition from abroad in the provision of consumer goods, which could erode employment levels if it outweighs the opening of new markets for domestic products.

Table 3 – Effect of FDI on Total Employment by Magnitude of Flows of Foreign Investment (Average Inflows less than 1.8% of GDP and greater than 1.8% of GDP)

	Total	Male	Female
Constant	2582.027	3293.405	4190.213
	(1582.772)	(2315.54)	(2467.645)
Lagged Employment	.6995*	.7050*	.6993*
	(.0246)	(.0290)	(.0245)
Real Remuneration	.0057**	.0029	.0079*
	(.0026)	(.0034)	(.0023)
More	1.6046*	1.0718*	2.2464*
	(.3313)	(.3076)	(.6158)
FDI	.1521***	.1443**	.0684
	(.0846)	(.0680)	(.1057)
FDI*More	-.1416	-.1237	-.1330
	(.1060)	(.0801)	(.1286)
Dom. Investment	.1214*	.0948*	.1620*
	(.0275)	(.0321)	(.0411)
Exports	.0799*	.0781**	.0986**
	(.0247)	(.0320)	(.0398)
lnRGDP	.0465	.1890	.0815
	(.1596)	(.1286)	(.1976)
Trade Openness	-1.6547**	-1.2660	-2.2218***
	(.7517)	(.8809)	(1.1815)
Terms of Trade	-.0068	.0005	-.0067
	(.0049)	(.0038)	(.0064)
Hansen Over-Id.	0.1539	0.3975	0.1036
AR(1) Test	0.0079	0.0295	0.0208
AR(2) Test	0.5369	0.7013	0.1947
N. Observations	312	282	282

*Note: Statistical significance given by *** for 1% confidence level, ** for 5% confidence level, and * for 10% confidence level. Time dummies are included but not reported. Standard errors in parentheses.*

The particular effect of FDI on male employment rates shown in column one indicates that FDI has a positive and significant effect on total employment rate in countries with average foreign investment below 1.8 percent of GDP, which implies that a 10 percentage point increase in FDI results in around 1.52 percentage points increase in total employment rate. When the average foreign investment is above 1.8 percent of GDP, the effect is still positive but very close to zero, however, statistical testing shows that such effect is not different than zero. This finding is somewhat at odds with expectation, since the average share of FDI in the set of countries that attracted the biggest share is almost double the average of the alternative group, but it could be a reflection of the type of investment conducted in the latter set of countries. If a larger proportion of FDI is concentrated in the establishment of new firms – greenfield investment – instead of the acquisition of existing firms – mergers and acquisitions – then one can expect that even if a country is able to attract less FDI into its borders, the creation of new firms would create relatively more jobs. Such FDI can introduce new lines of products, with the potential to open up opportunities for the provision of intermediate inputs, and new potential markets for existing products, both with the potential repercussion on output and consequently employment.

With respect to the specification for male employment rate (column two), the results show that an increase in FDI of 10 percentage points in countries receiving an average of foreign investment below 1.8 percent of GDP result in a 1.44 percentage points increase in the employment rate, and while FDI's effect in countries with an average of FDI inflows above 1.8 percent of GDP seem to impact positively male employment rate when adding the individual coefficients, further testing indicates that its effect is not statistically different than zero. These results show that FDI's effect on male employment is almost 5 percent smaller than the effect on total employment rate for countries with low levels of FDI inflows. The type of foreign investment, larger proportions of Greenfield investment, together with the type of sectors in which these investment is injected, presumable industry and mining, could be the driven force behind this result. Again, if this investment generates additional production from additional firms, either domestic or foreign, it would further enhance its effect on male-dominated jobs.

The last column of Table 3 presents the results for the effect of FDI on female employment rate, and it shows that for countries with low foreign investment levels such effect is around half the effect on total and male employment rate but is statistically insignificant at any acceptable level. While the effect of FDI on female employment rate – for countries with high levels of foreign investment – seems negative when the estimates are added together, it is not statistically different than zero when tested together. The results of this Table show that while FDI still exerts a positive effect on total employment rates, it does so in countries with average

inflows of FDI below 1.8 percent of GDP, and this impact is being channeled through its effect on male employment rates.

In addition to the above differentiations, another natural threshold existent in the region is the one that encompasses the distinctive economic periods arising from the "lost decade". The 1980s saw a profound economic crisis in the region, which prompted a wave of structural reforms that transformed the institutional functioning of most economies in Latin America since the early 1990s. Particularly important to this study were those in charge of regulating the labor market (loosening wage controls and affecting job security), perhaps giving way to the continuous deterioration in employment rates observed in our sample since the 1990. To this end, I now turn the focus to the examination of the potentially different effect that FDI can exert on employment generation by dividing the sample into two comparatively distinct time periods, to account for the considered "lost decade" for economic development in Latin America. To this end, the dummy variable *Later* is introduced, which takes the value of zero for the years 1980-1992, and one for the later part of the sample. Here the sample shows that FDI inflows were almost four times larger in the second part of the sample but that employment rates have moved in the opposite direction, being almost two percentage points lower than in the first halve.

The results are shown in Table 4, and they continue to indicate the consistent positive and significant effect of both domestic investment and exports on employment rates. With regards to the measure of interest of this study, it shows that the effect of FDI on total, male, and female employment rates is not statistically different than zero in the earlier period of the sample (1980-92), and while such effect seems also not significant in the later period of the sample by examining the individual coefficients, statistical testing of both estimates together reveal that FDI has a positive and statistically significant impact on the overall as well as on male employment rates. Column one shows that a 10 percentage point increase in FDI leads to a 0.8 percentage point increase in total employment rate during the period 1993-2006, while column two shows that the same 10 percentage point increase in FDI leads to a 1.1 percentage point increase in male employment rate during this later period.

Here I find that FDI's effect on male employment rate is almost 40 percent larger than its effect on total employment rate. This positive effect on the later period of the sample should reflect the improved economic conditions of the region that made it more attractive for foreign investment, and its consequent positive effect on economic growth, production, and employment. While economic growth is not linked directly with improvements in employment rates, the results suggest that higher levels of FDI reflect the optimization of the productive processes emanating from the privatization and capitalization of the vast amount of public enterprises transferred to

private hands during this latter part of the sample period. Being this the case, then finding the relatively larger effect on male employment confirms the tendency of expanding existing firms, which were traditionally dominated by predominantly male workers.

Table 4 – Effect of FDI on Employment Rate by Time Periods
(1980-1992 and 1993-2006)

	Total	Male	Female
Constant	2457.627	3210.398	4039.485
	(1554.095)	(2271.594)	(2455.247)
Lagged Employment	.7236*	.7182*	.7268*
	(.0335)	(.0372)	(.0308)
Real Remuneration	.0042	.0013	.0063**
	(.0031)	(.0037)	(.0028)
Later	31.0379	19.0517	23.9836
	(19.2784)	(13.7034)	(14.8176)
FDI	.0017	-.0652	.0335
	(.1579)	(.1277)	(.2241)
FDI*Later	.0783	.1721	-.0123
	(.1719)	(.1616)	(.2461)
Dom. Investment	.1148*	.0878*	.1577*
	(.0249)	(.0306)	(.0375)
Exports	.0604**	.0609**	.0660***
	(.0269)	(.0352)	(.0373)
lnRGDP	-.1332	.1437	-.0874
	(.1517)	(.1781)	(.1396)
Trade Openness	-.9211	-.6236	-1.0802
	(.8428)	(1.0041)	(1.2477)
Terms of Trade	-.0056	.0022	-.0049
	(.0053)	(.0035)	(.0075)
Hansen Over-Id.	0.1560	0.3798	0.1118
AR(1) Test	0.0069	0.0275	0.0210
AR(2) Test	0.5961	0.6948	0.1994
N. Observations	312	282	282

*Note: Statistical significance given by *** for 1% confidence level, ** for 5% confidence level, and * for 10% confidence level. Time dummies are included but not reported. Standard Errors in parentheses.*

The effect of FDI on female employment rate is also positive for this later period, as shown in column three, but it is no longer statistically significant. Although FDI affected positively both sexes, the improvements in female employment rates were mainly driven by expansions in trade and services, sectors that are predominantly weak in foreign investment. However, here it is found that average wages affect female employment rates in a marginal but positive way, signaling a supply-side response to adjustments in wages.

Somewhat related to these distinctive time periods are the inflationary pressures experienced by many countries in Latin America. These abrupt changes in inflation levels could have potentially affected the macroeconomic fundamentals of the economies being examined, with its consequent repercussion in employment generation. Her I allow for the slope of FDI to

vary according to the level of inflation. The dummy variable used for this purpose is HY and it has the value of one for years when inflation reached levels higher than 50 percent, and zero otherwise.

Table 5 below presents the results. Here I find that the effect of the main determinants of employment that were found to be statistically significant in the base specification – Table 1 – continue to be significant when one accounts for the level of inflation, with the exception of the effect of exports on employment rates, which has a somewhat larger impact. The effect of FDI on total employment rate is positive and significant for periods with low inflation level, suggesting that a 10 percentage point increase in FDI results in almost a 1.14 percentage point increase in the employment rate. However, the effect of interaction term on total employment rate for periods with high inflation levels is negative and statistically significant, indicating that a 10 percentage point increase in FDI result in a 2.7 percentage point decrease in the employment rate when both estimates are added. Clearly, that increases in FDI generate higher employment in periods of low inflation imply that economic conditions are favorable to the well functioning of productive facilities and the expansion of their particular markets, both enhancing this positive effect, but the decrease in employment rates emanating in periods of high inflation suggests that increases in FDI goes in hand with employment contractions required to maintain the profitability of MNCs.

In column two we observe that FDI's effect on male employment rate, which is statistically significant and still larger than its effect on total employment rate for low inflation years – around 30 percent larger. As the results show, a 10 percentage point increase in FDI in low inflation years results in 1.45 percentage points increase in male employment rate. The interaction term is also statistically significant and negative for this case, but when we add the estimates that show its overall effect on the employment rate for periods with high inflation levels we find that while the negative effect dominates for this gender group, it is no longer statistically significant. In line with previous results, while periods of low inflation generate favorable conditions for the well functioning of foreign affiliates, the sector concentration of such investment could be driven this positive effect on male employment.

When controlling for inflationary periods I find that the effect of FDI on female employment rate is positive but statistically insignificant for low inflation years. However, the interaction term is negative and statistically significant, leading to a negative and statistically significant effect on female employment rate for periods of high inflation when both estimates are added together. This negative effect is larger than the overall effect on total employment rate, and almost 10 percent larger than its effect on male employment rate. It shows that a 10 percentage point increase in FDI results in almost 3.5 percentage point decrease in female employment rate

Table 5 – Effect of FDI on Employment Rate by the Level of Inflation (Yearly Inflation less than 50% and greater than 50%)

	Total	Male	Female
Constant	2672.87***	3313.397	4238.774***
	(1493.582)	(2219.911)	(2352.375)
Lagged Employment	.7115*	.7088*	.7106*
	(.0345)	(.0370)	(.0313)
Real Remuneration	.0034	.0005	.0042
	(.0029)	(.0037)	(.0029)
HY	.3509	.3929	.1454
	(.4253)	(.4460)	(.6844)
FDI	.1144**	.1450***	.0837
	(.0531)	(.0765)	(.0929)
FDI*HY	-.3870*	-.3825**	-.4375**
	(.1402)	(.1754)	(.1734)
Dom. Investment	.1177*	.0920*	.1694*
	(.0221)	(.0322)	(.0398)
Exports	.0618**	.0629***	.0813**
	(.0284)	(.0374)	(.0384)
lnRGDP	-.0918	.1844	.0117
	(.1748)	(.1773)	(.1466)
Trade Openness	-.9766	-.6920	-1.2862
	(.8736)	(1.0164)	(1.2177)
Terms of Trade	-.0074	.0013	-.0079
	(.0047)	(.0030)	(.0063)
Hansen Over-Id.	0.1290	0.4202	0.1004
AR(1) Test	0.0068	0.0277	0.0194
AR(2) Test	0.9318	0.4424	0.2340
N. Observations	312	282	282

*Note: Statistical significance given by *** for 1% confidence level, ** for 5% confidence level, and * for 10% confidence level. Time dummies are included but not reported. Standard Errors in parentheses.*

in periods with high inflation. This negative impact is larger than the overall effect on total employment rate by almost 35 percent. Decreases in female employment rates in periods of high inflation show that the restructuring in the labor market required to maintain the profitability of MNCs is done through the shedding off of female workers, reflecting the high volatility that female occupations carry, relative to male occupations.

Table 5 also shows that FDI exerts its greater positive effect on male employment rate for periods of low inflation, reinforcing the results found in the previous tables, but unveils the negative effect on employment rates when inflation is high. It also shows that both domestic investment and real remunerations have a consistent positive and statistically significant effect on total, as well as on male and female, employment rates.

Another interesting aspect that affects the employment rate is the growing percentage of workers that end up holding jobs in the informal sector, particularly in Latin American labor

markets. Many Latin American countries suffer from high levels of employment in the informal sector, and that such high levels of informal activity may affect how enacted policies – and FDI in particular – affect the employment rate. The International Labour Office estimates that six out of every ten new jobs that were created in the region since 1990 were in the informal sector (ILO, 2004). Such informality generally diminish productivity growth prospects due to the inherent diseconomies of scale and low levels of capital and technology, but the potential of these microenterprises and its vast pool of entrepreneurial motivated workers to provide supportive services to large firms make them potential facilitators of employment creation.

In order to control for the degree of informality in employment I introduce the dummy variable *Infor* that takes the value of zero for countries with an informality level below 50 percent, and one otherwise. This differentiation shows that countries with low levels of informal activity received approximately 6 percent more inflows of FDI, and that the employment rates in this group of countries are almost 2 percentage points higher than in the countries with high informality levels.

Table 6 below presents the results, and shows similar effects of the main determinants of employment than those found in the base specification – Table 1 – even after the level of the informal sector is accounted for. In addition, the dummy variable that accounts for the informality level is statistically significant, and uncovers additional measures affecting the employment rates. In column one I find that FDI's effect on total employment rate is small but positive in countries with low levels of informal activity, but such effect is statistically insignificant at any conceivable level. However, for countries with high levels of informality in the productive sector I find that a 10 percentage point increase in FDI results in almost 0.7 percentage points increase in total employment rate, and this positive effect is statistically significant. This positive effect on total employment rate perhaps reflects the fact that while greater foreign investment increases production in the formal sector, the readily available pool of labor available in countries with high levels of activity in the informal sector makes the generation of further employment easier. This result seems to stem from the formalization of economic activity and increased links brought about by higher participation of MNCs in the production process, as domestic production – both formal and informal – expand their activities as FDI rises.

In addition to the standard measures found statistically significant in the main specification, here is also found that increases in the real average wage result in improvements in the total employment rate, perhaps as a response of better remuneration – supply response. With regards to the magnitude of economic activity, the results indicate that increases in real GDP result in declines in the employment rate when one accounts for the informality level, which is

counterintuitive from the arguments laid out in the previous sections but one that could reflect the disconnect between economic growth and employment observed in the last few years in the region, where periods of economic recovery coexisted with declining rates of employment.

Table 6 – Effect of FDI on Employment Rate by Level of Informality (Average Informality less than 50% and greater than 50% of Econ. Activity)

	Total	Male	Female
Constant	2550.523	3367.677	4034.149***
	(1542.308)	(2284.265)	(2392.867)
Lagged Employment	.7151*	.7076*	.7092*
	(.0302)	(.0289)	(.0270)
Real Remuneration	.0063**	.0041	.0097*
	(.0028)	(.0030)	(.0029)
Infor	-1.5770*	-1.2856*	-2.0551*
	(.4547)	(.4891)	(.6304)
FDI	.0287	.0461	-.0106
	(.0829)	(.0528)	(.1200)
FDI*Infor	.0420	.0279	.0015
	(.0658)	(.0697)	(.1041)
Dom. Investment	.1270*	.0982*	.1801*
	(.0264)	(.0293)	(.0379)
Exports	.0591*	.0601**	.0657**
	(.0228)	(.0326)	(.0382)
lnRGDP	-.3677**	-.1125	-.4482**
	(.1516)	(.1785)	(.1978)
Trade Openness	-1.0626	-.8603	-1.2334
	(.7986)	(.9213)	(1.2044)
Terms of Trade	-.0050	-.0001	-.0071
	(.0044)	(.0024)	(.0060)
Hansen Over-Id.	0.1791	0.4401	0.1708
AR(1) Test	0.0080	0.0321	0.0216
AR(2) Test	0.5821	0.7107	0.2112
N. Observations	312	282	282

*Note: Statistical significance given by *** for 1% confidence level, ** for 5% confidence level, and * for 10% confidence level. Time dummies are included but not reported. Standard Errors in parentheses.*

In column two I find that FDI also exerts a positive impact on male employment rate in countries with informality levels below 50 percent, but this effect is not statistically significant. Furthermore, the effect of the interaction term on male employment rate is also positive and statistically insignificant for countries with informality levels above 50 percent, making the overall effect of FDI on the employment rate positive but statistically insignificant when both estimates are tested together. Similarly, the results of column three show that while FDI's effect on female employment rate is negative for countries with low levels of informality, its effect is not statistically significant. This effect remains negative and statistically insignificant for countries with informality levels above 50 percent. As in the case for total employment rates, here

is also found that increases in average wages result in improvements in the female employment rate – supply response – and that increases in real GDP result in declines in the female employment rate when one accounts for the informality level.

Table 6 shows that the effect of FDI on employment rates in only found statistically significant for total employment rate in countries with high informality levels, but it cannot discern through which gender this effect materializes. While the bulk of new employment was generated in the informal sector, as large enterprises replaced labor by capital equipment and technology, the restructuring of productive processes – including those performed by MNCs – have facilitated the inclusion of this sector in the provision of supportive services and even production of intermediate inputs.

Beyond the limitations inherent in the data (regional characteristics, the firm specific dynamics, and the changing structure of the labor market), we corroborate the finding of a beneficial impact of domestic investment and exports on employment generation, irrespective of the way in which one controls for the peculiarities of the sample. The results also indicate that increases in FDI consistently lead to improvements in total employment rates, except for highly inflationary periods, which is in accord with results of both Braunstein and Epstein (2002) and Spiezia (2004). However, here we show that the positive effect of FDI on total employment rates seems to be driven by improvements in male employment rates, while female employment rates are largely unaffected.

To conclude this section, it is noteworthy to point out that the data and econometric methodology used in this study is unable to control for the potential heterogeneity of the slope parameters of the data (Pesaran and Smith (1995), and Lee, Pesaran and Smith (1997)), the reshuffling of jobs that can potentially create significant reallocation costs, the participation changes that occur through changes in worked hours, the industry participation of foreign investment, or the changes in net employment through job creation or job destruction (Klein *et. al*. 2003). While we acknowledge these limitations, their solutions involve a different approach and thus cannot be addressed in this study.

5.- Conclusions

Inflows of FDI are believed to affect employment rates through the direct hiring of people for their plants, through their links with suppliers and service providers, and through their potential contribution towards higher incomes that presumably fuel higher demand. In addition to its the well documented externalities, increased MNCs activity can potentially improve working conditions and labor benefits for the participants. These potential benefits – and the structural

crisis – have led most countries in the region to rely on private initiatives – including FDI – to complement, if not substitute, state initiatives to generate acceptable levels of employment. But were they correct?

This study shows that FDI has a positive and significant effect on the employment generation in Latin American countries. Such beneficial impact is driven by its positive effect on male labor force, which experiences larger gains than those of the whole labor force – almost 20 percent larger. Together with the fact that increases in domestic investment translate on improvements in employment rates, these results show that increases in productive capacity – irrespective of their source – are the main determinants of employment generation in Latin America during the sample period. However, the fact that this period of higher levels of FDI has been accompanied by a significant inclusion of women in the labor market seems to have thwarted the expected impact in female employment rates.

This positive effect of FDI on employment rates in Latin America is particularly important for less developed countries, for the later period of the sample, for countries that traditionally receive small amounts of FDI, for periods with low inflation levels, and for countries with larger activity in the informal sector. It seems that higher levels of foreign investment induce businesses operating in the informal sector to expand and formalize their activities, and that the expected externalities of FDI can be maximized in stable investment environments and countries with significant underutilized resources.

These results give support to the economic policies implemented in Latin America for the last decades in order to spur economic growth, especially with regards to employment generation through larger foreign investment. It now becomes imperative to examine if such beneficial impact is also present when one examines the firm-specific dynamics in the region, if there is any differential effect according to the sector in which these inflows come in, and if the results still hold in a broader world sample. These are left for future research.

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Appendix (Not for Publication):

Table A.1 – Evolution of Employment Rates and FDI (as a % of GDP)

	Total Employment Rate	Male Employment Rate	Female Employment Rate	FDI
1980-2006	91.692	92.538	90.055	2.176
Evolution during sample period				
1980-84	92.585	92.670	91.406	.7246
1985-89	92.979	93.742	91.536	.8159
1990-94	92.638	93.433	91.278	1.5359
1995-99	90.875	92.155	89.136	4.0401
2000-04	89.462	90.709	87.752	3.2867
2005-06	91.499	92.837	88.924	3.3736
By time periods				
1980-92	92.819	93.404	91.503	.8801
1993-2006	90.646	91.823	88.859	3.3801
By level of development				
Less Dev.	91.677	92.621	89.954	2.1121
More Dev.	91.707	92.463	90.146	2.2407
By level of FDI Inflows				
Low FDI	91.133	92.105	89.744	1.5237
High FDI.	92.251	93.020	90.403	2.8291
By level of Informality				
Low Infor.	92.477	93.355	90.794	2.2355
High Infor.	90.907	91.627	89.232	2.1173

Note: Shares are obtained from the sample of 12 Latin American economies, author's calculations.

Table A.2 – Bias Comparison for Different Estimators of Employment Rate

	OLS	Fixed Effects	DPD First Diff.	DPD System
Constant	2537.249	2339.845***	2284.246	2409.838
	(1676.653)	(1322.277)	(1450.415)	(1552.754)
Lagged Employment	.8568*	.6439*	.6340*	.7248*
	(.0343)	(.0442)	(.0395)	(.0325)
Real Remunerations	.0009	.0025	.0023	.0044
	(.0024)	(.0030)	(.0036)	(.0030)
FDI	.0743	.0241	.0244	.0717***
	(.0503)	(.0661)	(.0497)	(.0436)
Dom. Investment	.0669**	.1209*	.1319*	.1148*
	(.0286)	(.0322)	(.0390)	(.0243)
Exports	.0272	.0479	.0535***	.0596**
	(.0256)	(.0354)	(.0328)	(.0259)
ln *RGDP*	.0755	3.3917**	3.5185**	-.1395
	(.0857)	(1.3167)	(1.5082)	(.1529)
Trade Openness	-.2414	-1.1937	-1.2222	-.9258
	(.6749)	(.9665)	(.9825)	(.8373)
Terms of Trade	.0010	-.0073***	-.0075**	-.0056
	(.0035)	(.0041)	(.0032)	(.0053)
R-square	0.8314	0.7623	-----	-----
Hansen Over-Id.	-----	-----	0.0054	0.1610
AR(1) Test	-----	-----	0.0090	0.0073
AR(2) Test	-----	-----	0.5359	0.5775

*Note: Statistical significance given by * for 1% confidence level, ** for 5% confidence level, and *** for 10% confidence level. Time dummies are included but not reported. Standard Errors in parentheses.*

Table A.3 – Dynamic Effect of FDI on Employment Rates

	Current	Lagged-one-year	Lagged-two-years
Total Employment Rate	.0717***	.0985**	-.0303
	(.0436)	(.0490)	(.0639)
Male Employment Rate	.0855***	.0618	-.1421**
	(.0456)	(.0426)	(.0695)
Female Employment Rate	.0227	.1825	-.0135
	(.0711)	(.1219)	(.0678)

*Note: Statistical significance given by *** for 1% confidence level, ** for 5% confidence level, and * for 10% confidence level. Standard Errors in parentheses.*

Table A.4 – Distribution for Robustness Check

	DEV	FDI Flows	INFOR
Argentina	1	0	0
Bolivia	0	1	1
Brazil	0	0	0
Chile	1	1	0
Colombia	0	1	1
Costa Rica	1	1	0
Mexico	1	1	0
Nicaragua	0	1	1
Paraguay	0	0	1
Peru	0	0	1
Uruguay	1	0	0
Venezuela	1	0	1

Note: Based in author's calculations.