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The Impact of Labour Market Institutions on Foreign Direct Investment: Evidence from South America

Agustín Velásquez

TURIN SCHOOL of DEVELOPMENT

ITC ILO
International Training Centre

www.itcilo.org

International Training Centre of the International Labour Organization
Viale Maestri del Lavoro, 10
10127, Turin, Italy
www.itcilo.org

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THE IMPACT OF LABOUR MARKET INSTITUTIONS ON FOREIGN DIRECT INVESTMENT: EVIDENCE FROM SOUTH AMERICA

Agustín Velásquez*

*Corresponding author: E-mail: agustinv@gmx.ch

Abstract

The "race to the bottom" concept assumes that multinational enterprises react positively to the loosening of countries' national labour market regulation by increasing their outward foreign direct investments. This paper analyses this assumption, investigating the role played by *de jure* labour market institutions, i.e. minimum wage and employment protection legislation, in influencing the above mentioned relation. By running linear regressions on a panel of ten South American countries for the period 1980-2011, we observe the impact of national requirements such as minimum wage levels, advance notice, and severance payment on attracting or retaining foreign direct investments. The resulting estimates are generally not robust and present small statistical significance. Nevertheless, these findings support the race to the bottom assumption only partially, opening up the field for further research into and disaggregated analysis of foreign direct investments which would be better able to account for differences found between national economic systems in Latin America.

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I would like to thank Luigi Benfratello for his patience and guidance in his supervision of this study; Mariya Aleksynska and David Kucera for their interest and useful suggestions; Bruno Abriata for his comments and reviews; and the MALED programme for all the confidence and support.

Contents

1. Introduction

Over the last few decades, the increase in capital mobility and the reduction of reallocation costs fostered by globalization have generated a policy debate on the competitive relations between countries interested in attracting or retaining foreign direct investment (hereafter referred to as FDI). This research is inspired by the concept of race to the bottom (hereafter referred to as RTB), which characterizes the above mentioned competition. In particular, RTB concerns a socio-economic phenomenon in which governments deregulate their national business environment (i.e. lowering labour costs as a consequence of reduced environmental and labour standards) in order to capture foreign capital flows. Therefore, from a public policy point of view it is crucial to investigate what the main drivers of FDI are and to understand whether the RTB actually constitutes a viable and effective strategy for attracting capital.

In order to shed light on the outcomes of the RBT phenomenon, this study aims at understanding the nature of the role played by national labour market institutions (hereafter referred to as LMIs) in attracting FDI from multinational enterprises (hereafter referred to as MNEs). In particular, LMIs include a range of rules, practices and policies which affect labour market dynamics and outcomes (Berg and Kucera, 2008).

In fact, the empirical literature linking RTB and FDI is so far inconclusive. Most studies focus on the RTB's primary assumption, i.e. the existence of a negative relationship between a labour market's rigidity and FDI flows. In turn, other research has focused on LMIs, using indices related to hiring and firing costs, employment protection legislation and labour market flexibility to observe the presence of a negative relationship between employment protection and inward FDI flows. Conversely, scholars focusing on core labour standards (concerning, in particular, freedom of association and collective agreements, child labour and gender discrimination) provide opposite results; namely, the presence of a positive relationship between increasing labour standards and FDI flows. The lack of conclusive evidence on this policy debate is due to different factors. First of all, there is a large variation not only across country samples, but also across explanatory variables and estimation methods and results (Mogab et al., 2013; Davies and Vadlamannati, 2013). In particular, studies omitting labour costs or not properly controlling for such costs may present biased estimates, since LMIs may capture part of their effects.

In this sense, the present study provides new evidence to the RTB debate by focusing on a panel of ten South American countries (Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay and Venezuela). The reason for this selection can be attributed to the particular characteristics of these countries compared to other economies. South American countries not only have a variety of labour market regulatory frameworks; they also receive different amounts and types of FDI according to their resource availability and economic performance in terms of leading productive sectors. In order to address the relationship between LMIs and FDI flows, this study runs linear regressions using a novel panel of LMIs which provides disaggregated variables referring to *minimum wages*, *unemployment insurance* and *employment protection legislation*. One of the substantial advantages of this data is that it concerns *de jure* labour market institutions, as enshrined in the current legislation; in addition, the results of the estimations are more satisfactory since they take into account the direct effects of legal changes on the dependent variable.

The paper is organized as follows: section two presents the literary background to the study; section three deals with the theoretical framework shaping the research question formulated in this paper and offers a brief overview of FDI in South America. As far as the empirical part of my research is concerned, the data

is described in section four, while the methodology and results are illustrated in section five. Finally, section six sets out the conclusions of this study.

2. A review of the literature

During the last decade, academic literature on the RTB has mostly focused on investigating whether or not an increase in employment protection (i.e. in terms of the introduction or enforcement of legislation) would deter FDI flows. Nonetheless, although many multiple cross-country studies have been produced, the results are still inconclusive. In fact, most studies focusing on LMIs present a negative correlation between employment protection and FDI, while those focusing on core labour standards report opposite results.

One of the first contributions to deal with this topic was a paper by Haaland et al. (2003). The authors develop a theoretical model to demonstrate how stricter employment protection rules deter FDI. In addition, they provide empirical support by studying Western MNEs' location choice for a set of Eastern European countries during the period 1994-1997. They consider entry and exit costs and show that worker protection deters investments in risky industries, concluding that countries with flexible labour markets are more attractive for MNEs.

Drawing on Haaland et al. (2003), Görg (2005) investigates the trade-off between entry and exit costs for the location of US FDIs. The author looks at aggregated outward US FDI data covering 33 host developed and developing countries during the decade 1986-1996. As a proxy of entry costs he uses the corporate tax on US FDIs (i.e. investment incentives). Exit costs are calculated by means of an index of hiring and firing costs based on a survey conducted by the World Economic Forum. Görg's estimations show that firing costs matter to US FDIs in the manufacturing sector but not in the tertiary sector.

In addition, Javorcik and Spatareanu (2005) analyse the same issue across twenty-five Western and Eastern European countries between 1999 and 2001. The authors explain that FDI locations, as well as FDI volume, are positively related to labour market flexibility. By including a gravity model, they conclude that a greater flexibility in the host country compared to that in the investor country is positively correlated to higher FDI inflows. In contrast to Görg (2005), Javorcik and Spatareanu found that this effect is more important for firms operating in the service sector than in the manufacturing industry.

Bénassy-Quéré et al. (2007) also use a gravity model to address the role of *latu sensu* institutions as determinants of FDI flows. They regress bilateral FDI stocks on institutional variables and report that variables such as bureaucracy, corruption, information, the banking sector and legal institutions constitute important determinants of inward FDI. Interestingly, they also find that the institutional diversity between home and host country is another factor affecting FDI (in line with Javorcik and Spatareanu, 2005; Dewit et al., 2009 and Aleksynska and Havrylchyk, 2013). Data on institutions is taken from the Institutional Profile and the Fraser Institute database. Regarding labour market indicators, they refer to the existence and enforcement of labour laws, to legal constraints on recruiting and firing and to the strictness of labour market regulation. They find negative and significant coefficients for the first two indicators on FDI, but not for the third one, which is non-significant and appears with a "counter-intuitive" positive sign.

Dewit et al. (2009) also address employment protection legislation affecting MNEs' location decision. By using bilateral FDI and OECD employment protection indices, they find that negative employment protection differences between home and host countries deter inward FDI. Their data allows them to control for other aspects of LMIs such as the degree of unionization within the labour market, the structure of wage bargaining systems and investment costs. In addition, they find that an increase in employment protection in home countries discourages outward FDI (due to higher firing costs) and acts as "domestic anchorage". Therefore, they conclude that there may be a trade-off for policy recommendations on this issue. In fact, developed economies with a bigger industrial base might be tempted to increase employment protection (to discourage FDI outflows) while developing countries might be tempted to move in the opposite direction.

More recently, Mogab et al. (2013) have addressed the effects of labour market rigidity on FDI for European firms investing within Europe over the 2004-2008 period. By expanding on Javorcik and Spatareanu's contribution (2005), the authors provide new evidence on the effects of labour market rigidity across time, regions and level of development. They use three indexes accounting for the rigidity of working hours, firing costs and hiring difficulties. According to the authors, it is possible to isolate a negative effect produced by the first two indicators on FDI when countries are analysed together, whereas the effects vary according to country classifications. In turn, as far as the hiring difficulty index is concerned, the authors report inconsistent and counterintuitive results.

Most empirical studies use labour market flexibility as explanatory variable and conclude that there is a negative relationship between labour market rigidity and FDI flows. The only exception is a study by Leibrecht and Scharler (2009) who study the role of EPL as an FDI determinant by observing bilateral FDI flows entering a set of Central and Eastern European countries (CEECs) for the years 1995-2004. Leibrecht and Scharler find significantly higher FDI flows in countries with relatively low unit labour costs (as expected) and, more interestingly, that employment protection legislation (EPL) does not have a statistically significant impact on FDI when controlling for unit labour costs. This means that the labour markets' EPL in the sample are not rigid enough to impose a sizable adjustment effect. However, once the unit labour cost variable is dropped from the estimation, EPL impact becomes significant, albeit weak. Leibrecht and Scharler justify these findings by arguing that, on average, employment protection in CEECs is very low and, in addition, law enforcement is weak in these countries, meaning that the real EPL rigidity might be even lower than that indicated by OECD data. Finally, they point out that EPL may exert some indirect influence on FDI inflows depending on the structure of wage bargaining process and unit labour costs.

In turn, other studies have focused on the role of core labour standards and their effects on FDI. Kucera (2002) provides the most complete empirical study on this correlation. Based on new labour standards indicators such as freedom of association and collective agreements, child labour and gender discrimination, Kucera analyses the effect of these variables on FDI inflows in 127 countries for the 1993-1997 period. He concludes that countries with more enhanced workers' rights offer a better investment climate, whereas weak core labour standards do not attract FDI. In fact, increasing workers' rights (i.e. freedom of association and collective bargaining rights) improves political and social stability which, in turn, leads to an increase in economic growth and FDI flows entering a country. In addition, a reduction of child labour and gender discrimination/inequality has a positive effect on human capital accumulation, which, in turn, fosters economic growth and FDI.

A study by Olney (2013) provides the latest evidence on the RTB phenomenon. By analysing a panel of 26 OECD countries and data on US FDI over a period of 23 years, he concludes that employment protection rules have a negative impact on FDI and that this impact is even stronger in relatively mobile types of FDI. In addition, he finds that the effect changes depending on the type of FDI. In fact, employment protection rules have the largest negative impact on vertical FDI, such as a firm's foreign investments addressing different stages of the production process, moving upstream and downstream in different value chains. The impact is also considerable in the case of export-platform FDIs, which aim at exporting to a third country. On the other hand, the effects on horizontal FDI (such as a firm which duplicates its home-based activities at the same value-chain stage in a foreign country) are the smallest. According to Olney, the RTB in labour standards is composed of two basic assumptions. The first is that multinational enterprises (hereafter referred to as MNEs) respond positively to a reduction in the host country's employment protection rules by increasing their FDI in that country. The second is that countries are undercutting each other in terms of labour standards in order to attract foreign investment because MNEs arbitrate among themselves in order to maximize the economic benefits of lower labour standards.

Davies and Vadlamannati (2013) focus on Olney's RTB second proposition. They present cross-country evidence of the interdependence between national labour standards. Using a panel of 135 countries over 17 years, they conclude that labour standards in one country are positively correlated with those implemented elsewhere. Therefore, a reduction in labour standards in one country will have an RTB effect on others. This evidence is presented for both OECD and non-OECD countries and segmented by laws protecting workers' rights and enforcement of those laws. Although Olney (2013) argues that the reason given for the general downward trend in worker's rights in this study is not justified, Davies and Vadlamannati (2013) point out that there is no need for employment protection to have a negative impact on FDI in order to generate a consequent RTB in labour standards. Drawing in particular on Olney's contribution, this paper focuses on the role played by two specific *de jure* LMIs, namely *minimum wage* and *employment protection legislation*, which I consider to directly affect labour costs and, consequently, the attractiveness of a country for FDI.

3. Theoretical background: Linking labour market institutions and FDI

LMIs, as defined by Berg and Kucera (2008), include rules, practices and policies affecting labour market dynamics and outcomes. These regulations have the objective of solving – or at least, attenuating – labour market failures and imperfections such as inadequate information, unbalanced bargaining power, difficulties in establishing long-term contracts and unemployment-related risk (World Bank, 2013). Recently, a large number of countries modified their LMIs in order to counterbalance stagnation in job creation following the 2007-2008 crisis. Of the measures employed, minimum wages and employment protection legislation (EPL) were those that received most attention, becoming the focus of the debate about labour market flexibility over the last few years (Cazes, Khatiwada and Malo, 2012).

While most of the discussion surrounding labour market regulation still focuses on the "regulate" versus "de-regulate" debate, a new policy approach has recently appeared. As discussed below, minimum wages and EPL have both advantages and disadvantages. On the one hand, increasing overall employment protection is generally associated with increases in unemployment rates and unemployment duration, together with an overall reduction in job creation. On the other hand, a more protective employment

legislation has been found to reduce poverty and inequality levels while increasing productivity (World Bank, 2013; Cazes, Khatiwada and Malo, 2012).

New empirical evidence suggests that, given an intermediate level of employment protection, the impact of LMIs on labour market dynamics is minimal. Accordingly, the World Bank's new policy recommendations define this intermediate level as *plateau,* meaning that employment protection is neither too strict nor too lenient. A country's plateau differs according to national economic conditions and varies over time. Outside the plateau, EPL may harm labour market dynamics, leading to adverse economic outcomes. Therefore, an optimum situation may be achieved by setting minimum wages and implementing national EPL according to this plateau level (World Bank, 2013).

3.1. Minimum wages

Minimum wages are conceived as the minimum amount that workers must be paid in order to satisfy their basic needs, depending on contextual economic and social conditions. The main argument against minimum wage policy is that it increases unemployment among low-skilled workers. This argument is based on the partial equilibrium model illustrated in any basic economics textbook, and says that the unemployment rate is likely to increase due to a legal minimum wage set above the market's clearing level. Nonetheless, the logic of this "conventional wisdom" is valid only within this model's assumptions (i.e. the absence of information biases and of participants with market power, etc.) which do not hold in the real world. Moreover, the model analyses only the *partial* equilibrium, omitting *general* equilibrium effects. In fact, once they receive higher wages workers have more disposable income and, therefore, are more likely to increase aggregate demand fostering further job creation. Some studies have also highlighted the positive impact of the introduction of minimum wages on human capital accumulation and on the eradication of child labour. Moreover, by positively influencing wage distribution, poverty and inequality are also likely to be reduced (see Eyraud and Saget, 2005), while at the same time low-skilled informal workers can be influenced by a "lighthouse effect" boosted by a minimum wage hike (Boeri, Garibaldi and Ribeiro, 2010).

However, these studies on the positive and negative effects of minimum wages do not succeed in presenting robust results regarding the LMI. Saget (2006) indicates that one of the main reasons determining the lack of conclusive evidence concerns the fact that the definition of minimum wages varies across countries, hampering cross-country analysis. In addition, most countries differ in minimum wage setting patterns, mainly depending on the different levels of wage bargaining (i.e. national, regional, sectorial), the type of agreements established to set minimum wages (i.e. unilateral, bilateral or multilateral agreements), the number of times the wage threshold is reviewed during the year, and so on. Following Saget (2006), it is possible to identify three types of minimum wage setting: a relatively low minimum wage called the *mini* minimum wage; a relatively high one called the *maxi* minimum wage and an intermediate minimum that might be termed the *right level* of minimum wage. Saget's research shows that mini and maxi minimum wage situations are mainly relevant to developing countries and that their implementation does not aim at protecting workers, but responds to other structural objectives. For instance, until 2004 in Uruguay, the minimum wage was employed as a reference for setting social benefits, allowances and fees (see Saget, 2006).

In fact, there are several reasons why a country may be considered to have a mini minimum wage setting. For example, periods of high inflation are expected to reduce the real purchasing power of minimum wages, consequently characterizing them as *mini*. With regard to politics, it is expected that more market-

oriented governments prefer lower minimum wages in order to weaken the wage bargaining power of trade unions. When a country has a mini minimum wage situation, only a small percentage of the population earns the minimum wage. This means that the minimum wage has a low or insignificant impact on its social objectives as well as on wage distribution, and on informal employment.

On the other hand, the maxi minimum wage situation occurs in countries which, for historical reasons, have replaced collective bargaining with minimum wage bargaining. In other words, the minimum wage is not set at the correct level in order to protect the low-skilled population, but to secure the *effective* wage of a body of workers (generally, unionized workers). Setting a high minimum wage hinders the performance of low-productivity enterprises that cannot afford to pay such high wages, leading to non-compliance with the minimum wage. Moreover, it is expected that higher levels of minimum wage generate more pressure on wage distribution (affecting not only low-skilled workers) and on labour costs. As a result, maxi minimum wages do not function as the policy tool that they have been designed to be, and should be revised.

For the purposes of this study, I will address the impact of minimum wages on FDI. Although the sole effect of minimum wages on FDI has not been widely studied in the literature, conventional wisdom suggests a negative correlation between these two variables. In particular, MNEs hiring low-skilled workers face higher labour costs where there is a minimum wage, and this effect is also likely to spread to middle-skilled workers, given that the minimum wage is expected to shift the wage distribution upwards. One could argue that increases in the minimum wage might also improve productivity (due to better nutrition and motivation among these workers), but there are few studies confirming this correlation (World Bank, 2013). Whenever a negative correlation is found, one would expect it to be stronger in situations where there is a maxi minimum wage. In this case, in order to hire a low-skilled workforce, employers would have to: a) pay the maxi minimum wage, which accounts for increases in labour costs; or b) not comply with the minimum wage and assume the associated risks (such as possible labour trials, a negative corporate image, etc.). In the case of mini minimum wage situations, the effect is more straightforward. Mini minimum wages are set below the labour market clearing equilibrium and they are not expected to affect wage distribution since almost nobody, in practice, earns the minimum wage. Therefore, one might expect that the relationship between mini minimum wages and FDI is, most likely, non-significant.

3.2. Employment protection legislation

EPL stipulates the hiring and firing rules within the labour market. In particular, it defines the types of contracts that can be signed between a worker and a firm, setting special modifications for disadvantaged workers (first-time job seekers, disabled workers, and so on) and including anti-discrimination rules. Usually, EPL is considered the best indicator accounting for a labour market's flexibility and it has been at the centre of much heated debate. A good EPL should provide sufficient job security to workers as well as some degree of flexibility allowing firms to adjust to variations in aggregate demand.

Advocates of labour market flexibility argue that stricter EPL increases the bargaining power of internal employed workers who are able to fight for higher salaries because they are protected by higher firing costs. In this way, EPL is likely to hinder employment creation and increase unemployment (especially among the youngest sector of the population), together with informal employment. On the other hand, EPL generates job stability, preventing precarious types of work. Job stability is also associated with higher levels of training and loyalty within the firm, with consequent increases in productivity. Again, the World Bank's plateau level approach should be taken into account, since the correlation between EPL, employment and

productivity is described by a humped-shape curve, with the best outcomes achieved with moderate levels of EPL and overall employment protection.

Regarding the effects of EPL on FDI, conventional wisdom suggests that, given the skills level of a particular country's workforce and its wage level, one would expect that an increase in advance notice and severance payment requirements would deter FDI, since EPL represents a cost for investors. In fact, before investing in a certain country, MNEs calculate the profitability of their FDI by assessing the future cost of labour dismissals or eventual re-adjustment costs. Nonetheless, we should take into account the positive impacts of EPL, which may counterbalance any negative effects (which, in turn, are generally omitted from most studies, ed.). These can be accounted for when disaggregating EPL by tenure. In fact, in the short term, EPL is likely to affect the most mobile types of FDI. Moreover, if there are any positive effects, these should appear in the medium-term EPL. The EPL data used in this study will allow us to test these effects for workers with tenures of nine months (later referred to as "short-term EPL"), four years (later referred to as "medium-term EPL") and 20 years (later referred to as "long-term EPL").

For the tenure dimension of EPL, the estimates will not only show the net effect of tenure EPL on FDI, but on different characteristics of FDI, meaning the type of FDI and its degree of mobility. As observed by Olney (2013), vertical and export-platform FDIs are expected to be more sensitive to EPL changes than horizontal ones. In fact, since vertical FDI's main objective is to transfer part of the production process to a host country in order to reduce production costs, every new implementation of EPL by raising employer's costs will have a relevant impact, discouraging capital from entering the country.

In turn, horizontal FDI represents a market-seeking investment, meaning that for these investments the main attractiveness of a country lies in its market purchasing power. In this case, EPL should have a minor deterrent role. With regard to mobility, highly mobile types of FDI are expected to be more sensitive to employment regulations than less mobile FDI. According to this logic, this relationship is likely to be more common where there is short-term EPL as opposed to the long-term. Finally, regarding natural resources-oriented FDI, this type of investment is difficult to reallocate (i.e. it needs to operate in the few countries where the natural resources are available) and it normally takes several years for firms to receive substantial returns. Thus, the impact of EPL on this type of FDI is expected to be modest.

3.3. FDI in South America

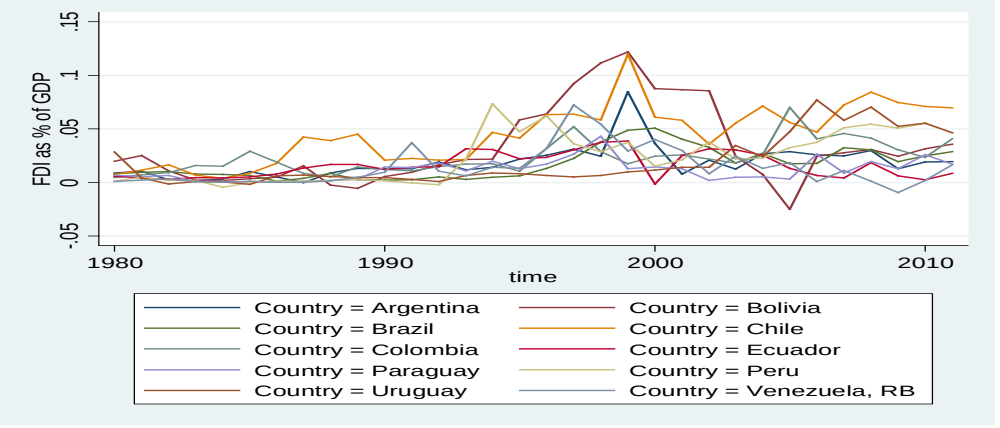
FDI is expected to have a positive impact on the host economy's growth by providing know-how and by fostering technological spillovers and global economic integration. Nonetheless, as far as South America is concerned, many economic development scholars have questioned and criticized the impact that FDI had in this region during the 1960s and 1970s. For instance, it has been argued that FDI brought tough competition for local industries, undermining their development.

During the 1990s, following the Washington Consensus, South American governments' approach to FDI changed. As a specific development strategy, they started to implement policies aimed at attracting FDIs. Local governments began to take advantage of growing global FDI flows (as shown by Figure 1, FDI as a percentage of GDP followed an upward trend, becoming increasingly volatile over time). These countries expected that inward FDIs would provide them with the financial resources, productivity growth and job creation needed for their economic development. In practice, the results of estimates produced during

recent decades and the controversial effects of FDI on development in the region are still a motive for debate.

Incoming FDI flows were based on three substantial reasons: firstly, the high price of raw materials assured high returns for investments involving the exploitation of natural resources. Secondly, during the last few years and following the global financial crisis, South American economies have managed to achieve stable growth, as compared to developed economies: this, of course, has attracted more capital, since in times of crisis economic stability constitutes a highly valuable asset for investors. Thirdly, several Latin American countries have seen big improvements in terms of political stability which, in turn, have fostered the implementation of more national pro-market policies and strengthened property rights regulation. For instance, most of these countries (especially the poorest, such as Bolivia, Paraguay, Peru and Ecuador) succeeded in increasing social expenditure, and reducing poverty and inequality levels.

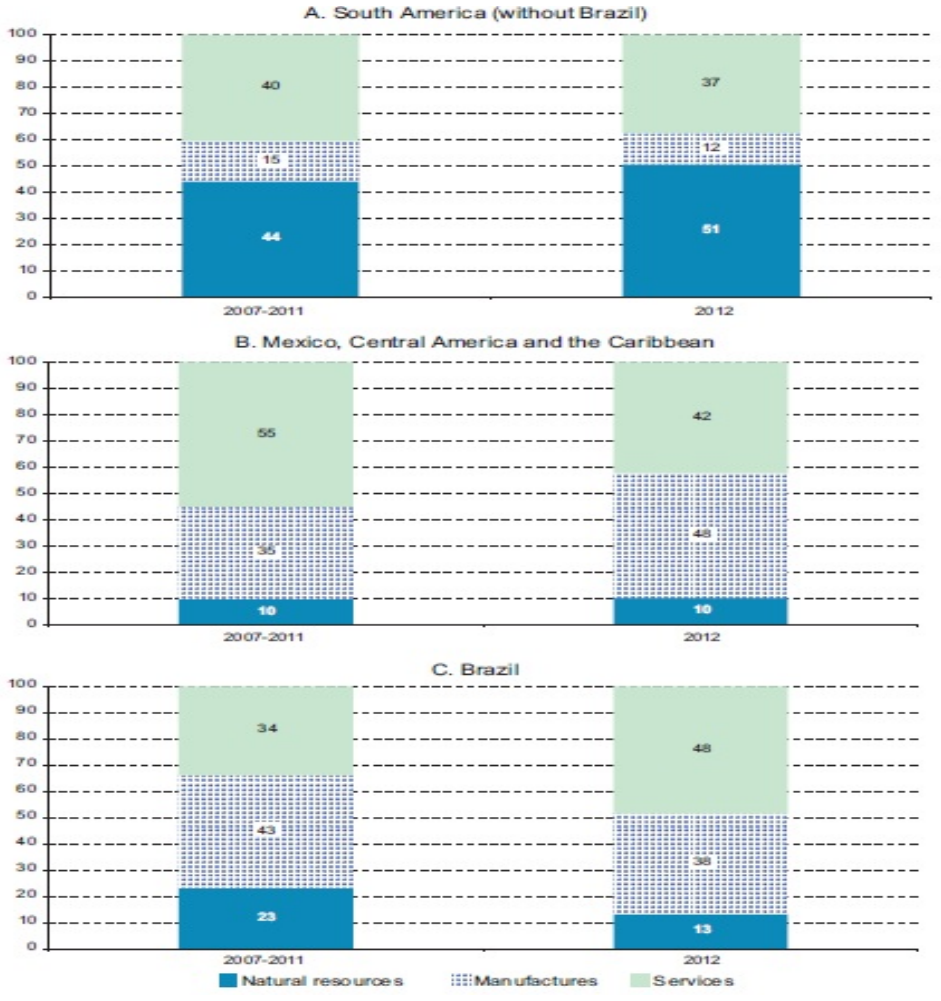
Figure 1: FDI/GDP over time in South America (ECLAC, 2012[1])



As illustrated by Figure 1, most FDI flows in South America are related to services and to the natural resources sector, with a minimum participation of manufacturing (except in the case of Brazil). Meanwhile, FDI in Mexico, Central America and the Caribbean is mostly oriented towards the manufacturing industry, partly due to the proximity of those regions to big markets such as the US and the EU. This is an important characteristic to be highlighted when dealing with FDI in South America. Interestingly, while in Brazil horizontal FDIs dominate natural resources-oriented FDIs, for the remaining countries in the sample the opposite holds true.

[1] United Nations Economic Commission for Latin America and the Carribbean (ed.).

Figure 2: Latin America and the Caribbean: sectoral distribution of foreign direct investment by subregion, 2007-2011 and 2012 (ECLAC, 2012)



As far as empirical evidence is concerned, from 2003 to 2012 the average increase rate for job creation led by FDIs in South America was of 2.5 per cent jobs per US$1 million of FDI (ECLAC, 2012) which is lower than the 4.4 per cent reported in Mexico and Central America. Again, these numbers are in line with the type of FDI implemented, since manufacturing oriented-FDIs imply greater job demand than natural resources oriented-FDI.

Today, most FDI in South America comes from the US and the EU. Nonetheless, a high percentage of FDI inflows cannot be identified as coming from a specific source economy. In fact, MNEs have increasingly channelled their investment through subsidiaries in third countries. In addition, regional FDIs – also known as trans-Latin FDIs – have become an important phenomenon over the last decade. Brazilian firms have led this trend with an outward FDI accounting for more than 60 per cent of the total trans-Latin FDI in 2008. Chile is the second largest investor followed by Venezuela (ECLAC, 2012).

During the last decade, China's status has changed radically, shifting from being a net FDI importer to being a net FDI exporter, and has emerged in the South American region as a new important investor,

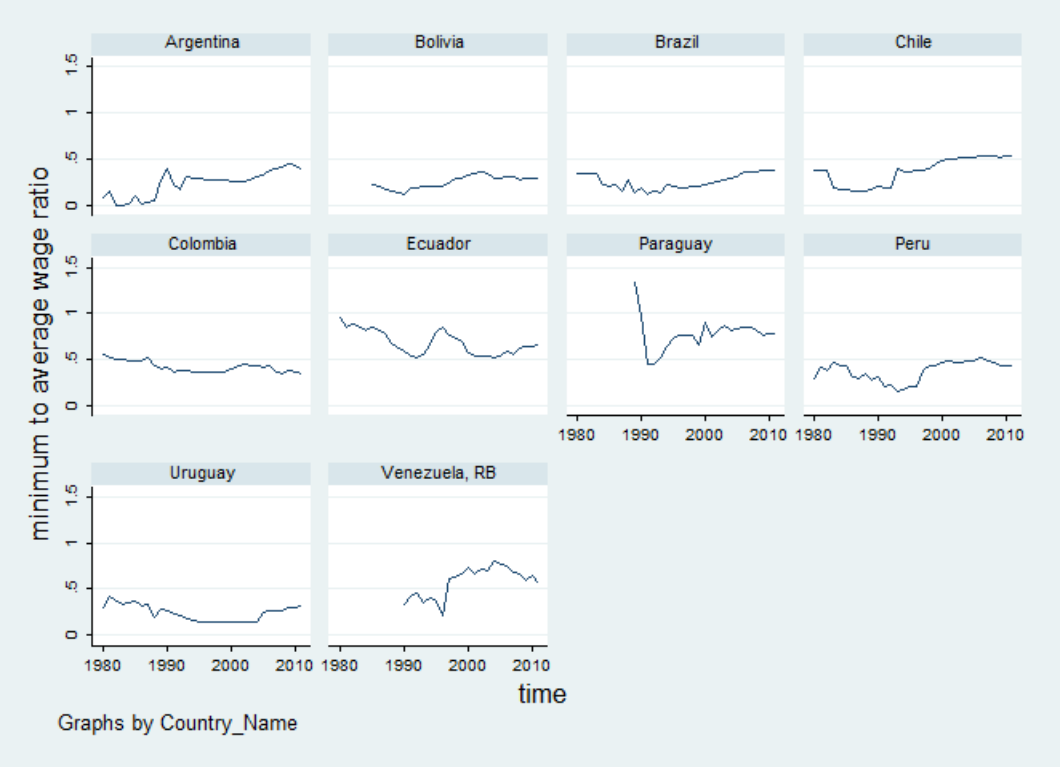
profiting from the rich natural resources of the region. In 2010, some 90 per cent of Chinese investments in the region were related to extractive industries, mainly in Argentina, Brazil and Peru (Pérez Ludeña, 2012). Latin American countries are looking forward to new investments from Chinese businessmen (in partnership with their government), although they fear that these investments in basic extractive industries may "re-primarize" their economic systems and constrain the development of other industry sectors such as manufacturing.

4. Data analysis

4.1. Data on labour market institutions

For the purposes of this research, I use the dataset on LMIs published by Aleksynska and Shindler (2011). This dataset comprises *de jure* data on minimum wages, unemployment insurance and employment protection legislation. Nonetheless, it is crucial to point out that the present study will leave out the unemployment insurance variable due to the fact that only five out of the 10 countries in the panel presented data on unemployment insurance and, for these five, observations are also missing for several periods. This is not surprising given that, in South America, the traditional tool used to secure unemployed workers' income has been that of severance payments.

Figure 3: Minimum wage to average wage ratio (ECLAC, 1980-2010)



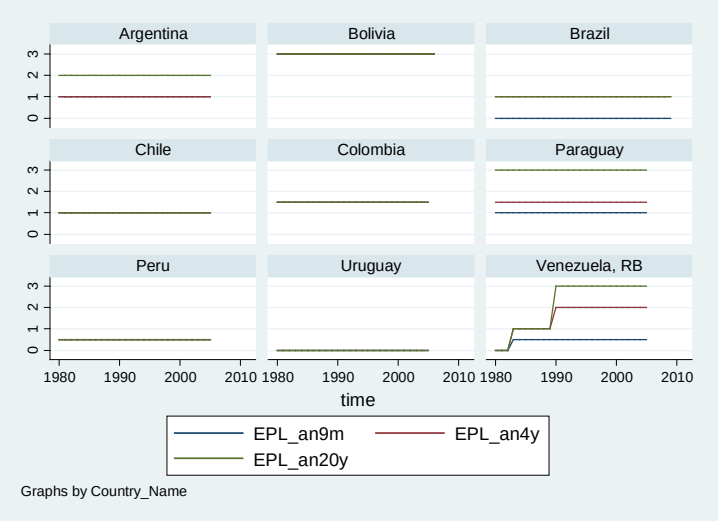
The minimum wage component is constituted by three elements: the minimum wage in local currency units as of 1 July of each year, the average wage in local currency units, and the ratio between the minimum and the average wage. The usual way to measure the level of minimum wages is to compare the minimum wage to the median wage. In fact, the median wage is less sensitive to outliers and is a better indicator when distributions are highly skewed, as in the case of the sample of countries observed in this study. Since median wages are not usually reported, Aleksynska and Shindler preferred to use the average wage. Another issue concerning the inclusion of minimum or average wage variables for estimation models derives from the local currency measurement. The fact that some South American countries suffered high or even hyper-inflation during the 1980s potentially leads to a measurement error, given that neither the minimum nor the average wage may be representative of the whole year. Moreover, some countries changed their local currencies during the period analysed here, suffered high inflation levels and strongly devalued their currencies, resulting in unreliability of explanatory/control variables such as minimum and average wage. Nonetheless, it is important to note that the ratio minimum-to-average wage is calculated for every year in local currency units so that it is not affected by changes of nominal currency.

In relation to EPL, the dataset offers two measurements characterizing its legal framework: on the one hand, the legal advance notice (hereafter referred to as AN) and, on the other hand, legally mandated severance payment (hereafter referred to as SP). These are the core legal requirements for dismissing workers and are based on worker's tenure (nine months, four years and 20 years of service). The values are expressed in monthly salary requirements. This is an important set of explanatory variables where the variability by country and over time is shown in Figure 4. The AN does not vary over time for any country (except for Venezuela), but it does across countries. On the other hand, EPL SP presents variations over time and countries, but not for all countries. This characteristic implies estimation problems that will be discussed later.

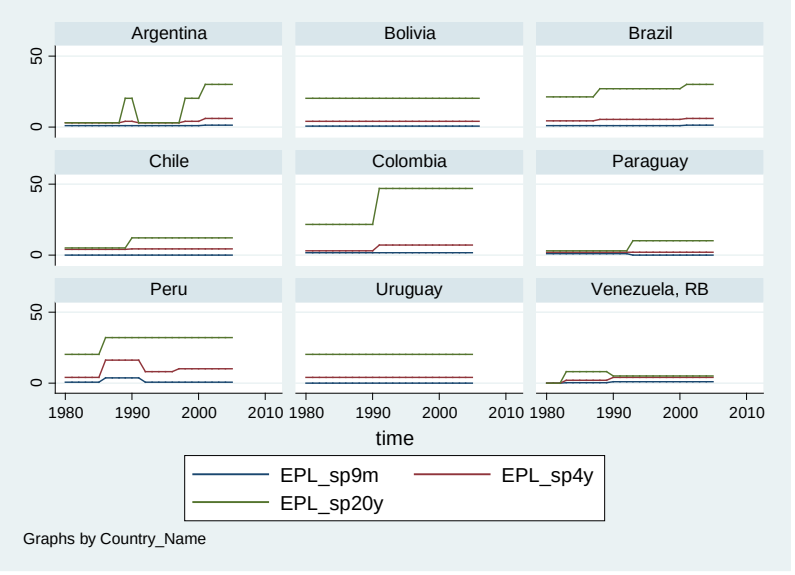
In South American countries, EPL SP is the most important way to maintain an unemployed worker's income. This can also be appreciated when one takes into account the low coverage of the unemployment insurance (hereafter referred to as UI) system. Regarding this, Aleksynska and Schindler (2011) clarify that some Latin American countries have EPL schemes that additionally contain elements of unemployment insurance. For instance, Colombia moved towards a system of fully-funded Severance Payments Savings Accounts (SPSA) in 1991, which requires employers to deposit a percentage of wages into guaranteed individual accounts available to workers in the event of job separation (Kugler, 2002). This system resembles traditional unemployment insurance schemes, since employers pay a payroll tax contribution into a fund even though such a fund takes the form of guaranteed individual accounts. Such contributions may be withdrawn in full by the worker at the time of separation. Hence, the payments received can be relatively high compared to standard severance payment or unemployment insurance schemes in other countries. Aleksynska and Schindler's dataset covers the period 1980-2005. However, the dataset does not offer information on EPL in Ecuador. Also, in order to improve the number of observations, I completed the minimum to average wage ratio for the years 2006-2010 based on ILO data and each country's national statistic department/institute.

Figure 4: EPL by tenure across countries and years (own elaboration, data from ILO, 2011 and Aleksynska and Schindler, 2011)

(a) Advance notice



(b) Severance payment



4.2. Data on other variables

Data on other variables such as *FDI*, *GDP in constant 2000 US Dollars*, *total population*, *openness* (i.e. percentage of exports and imports over GDP) and *inflation* was taken from the World Bank's World Development Indicators. Data on the *nominal exchange rate* was taken from the ECLAC-STAT database, while *secondary school attainment* data comes from Barro and Lee (2010). These authors provide observations over a five-year period and missing years were interpolated. As a proxy for *infrastructure*, I consider the number of telephone lines (per 100 people) using World Bank World Development Indicators. Finally, as a proxy for unit labour costs, I include the *wage share*, i.e. the total compensation addressed to employees divided by the total value added at factor costs at national level. Data concerning this variable were built on ECLAC's Annual Statistics on national accounts. The wage share captures part of the labour costs, although it does not take into consideration increases in productivity. Regardless of the type of technology applied, an increase in the wage share determines a decrease in investors' return on capital and therefore constitutes an FDI deterrent.

Table 1: Descriptive statistics

	mean	sd	min	Max
fdi_gdp	0.02	0.02	-0.02	0.12
gdp_ca	3458.09	2143.61	832.05	9581.06
pop_tot	32122951.73	45505305.51	2914683.00	1.97e+08
openness	0.46	0.21	0.12	1.31
inflation	1.58	8.71	-0.23	123.39
exch_rate	535.39	1329.22	0.00	11786.80
infras	10.66	7.50	1.55	30.28
ssch_att	0.45	0.13	0.14	0.75
wage_share	0.35	0.08	0.05	0.54
min_avg_wage	0.41	0.21	0.00	1.34
epl_an9m	0.93	0.88	0.00	3.00
epl_an4y	1.23	0.82	0.00	3.00
epl_an20y	1.56	1.06	0.00	3.00
epl_sp9m	0.71	0.68	0.00	3.50
epl_sp4y	4.56	2.62	0.00	16.00
epl_sp20y	18.19	11.93	0.00	46.83
N	320			

5. *Methodology and results*

I carried out my estimations using a fixed-effects model of linear regression and robust standard errors to control for heteroskedasticity. I use the within estimator (i.e. the fixed effect estimator) to control for unobservable time-invariant variables that might influence FDI decisions (e.g. geographical location). The Hausman test also supports this type of estimation.

Nonetheless, this method involves special considerations. In fact, as Bénassy-Quéré et al. (2007) point out, this type of estimation may present a classical reverse-causality problem whenever a simultaneous causality relation exists between FDIs and LMIs or other control variables. This could happen, for instance, in the event of foreign investors putting pressure on local governments to modify their institutions in order to receive a more favourable treatment. The empirical studies addressing FDI flows usually try to prevent this problem by relying on instrumental variables or dynamic panel data. For instance, Olney (2013) considers the *political ideology*, the *strength of the ruling administration* and *unionization density* as instruments for employment protection, while Bénassy-Quéré et al. (2007) apply a three-stage procedure for instrumentation and orthogonalization, i.e. the five-year lagged value of institution quality is used as instrument. As far as concerns my research, due to the small sample of countries considered here, I do not employ any dynamic panel and the results are constrained to the fixed effects assumptions.

5.1. FDI determinants

Before starting my analysis, I established a benchmark specification that includes the usual determinants of the FDI that can be found in the literature. The specification is the following:

$$\ln(fdi\_gdp_{i,t}) = \beta_0 + \beta_1 \ln(gdpper\_capita_{i,t}) + \beta_2 \ln(pop_{i,t}) + \beta_3 openness_{i,t} + \beta_4 inflation_{i,t} +$$

Error! Bookmark not defined. $$\beta_5 \ln(exch_{i,t}) + \beta_6 \ln(infras_{i,t}) + \beta_7 \ln(ssch\_att_{i,t}) + \alpha_i + u_{i,t}$$

Where:

- the subscript *i* and *t* for each variable refer to host country and year, respectively, and ln refers to natural logarithm;
- $fdi\_gdp_{i,t}$ is total net inflows of FDI as a percentage of GDP entering the host country;
- $gdpper\_capita_{i,t}$ is the gross domestic product per capita measured in constant 2000 US dollars;
- $pop_{i,t}$ is the total population in the host country;
- $openness_{i,t}$ is the percentage of trade over GDP;
- $inflation_{i,t}$ is the host country's inflation measured by the annual GDP deflator;
- $exch_{i,t}$ is the nominal exchange rate, i.e. the amount of local currency units per one US dollar. This means that an increase in the values of $exch_{i,t}$ determines a depreciation of the host country's nominal exchange rate;
- $infras_{i,t}$ is a proxy of infrastructure and measures the number of telephone lines per 100 people;

- $ssch\_att_{i,t}$ is the percentage of the population that has attended secondary school (i.e. it is a proxy of human capital) for country *i* in year *t*;
- α_i is the unobservable country-specific fixed effect and $u_{i,t}$ is the error term.

Following the literature on FDI determinants (Blonigen, 2005; Bénassy-Quéré et al., 2007; Sawkut et al., 2009), GDP per capita and total population are conceived as positively correlated to the attraction of FDI flows since they account for the host country's market size and purchasing power and are expected to hold positive coefficients.

Market openness is also widely used in empirical studies, although while most studies consider openness to be a positive determinant of FDI, this relationship is not straightforward. In fact, the higher the trade percentage of GDP, the easier it is to export; this, in turn, attracts more vertical and export-platform FDI. On the other hand, openness could have negative implications for horizontal FDI, meaning that high trading costs may push MNEs to move into the country rather than exporting their products. Therefore, the final effect of openness could be mixed when we account for total inward FDI flows.

Inflation is considered to be a deterrent of FDI since investors cannot easily estimate the amount of their investment return, and its point estimate is expected to be negative. The exchange rate level is also included in the analysis and is expected to be a positive determinant of FDI. Several studies have confirmed that exchange rate levels affect FDI. When a country depreciates its currency it increases the foreign investor's rate of return by decreasing wages and production costs in foreign currency terms (Blonigen, 2005). Accordingly, a depreciation in the short-term leads to an increase in FDI. In my case, I expect $exch_{i,t}$ to present a positive coefficient.[2] Finally, the two proxies to control for changes in infrastructure and human capital are regarded as positive determinants of FDI.

The results of the benchmark model are presented in the first column of Tables 2, 5 and 6 with their respective p-values in parentheses. I restricted the number of observations in order to match available observations in LMI variables. The results do not show significant estimates for GDP per capita and total population. Openness does not present a significant coefficient either in the three tables or in all estimations, across estimation samples and estimation methods. The opposite happens when observing other variables such as inflation and exchange rate, which present their expected signs and are statistically significant at a level of 5 per cent. Infrastructure shows a positive and significant estimate. There is also an unexpected and significant negative coefficient for secondary school attainment. In the economic literature, the level of human capital is regarded as a positive determinant of FDI; thus, the abovementioned finding, even when not controlling for wages, is quite disconcerting.

5.2. The effects of minimum wages on FDI

In order to address the effects of minimum wages on FDI, I include the variable *min_avg_wage*, which identifies the *minimum to average wage ratio* in the benchmark model. Moreover, in order to isolate the pure effect of institutions on FDI, I include the national level of wage share, $wage\_sh_{i,t}$ as a proxy for labour costs. Equations 2 and 3 in Table 2 show the isolated effect of these two variables in the benchmark

[2] For a broader discussion of the effects of exchange rates on FDI see Blonigen (2005).

specification, whereas they are included together in equation 4. Both variables hold a negative, non-significant estimate.

As discussed above, the relationship between minimum wages and FDI is not expected to be linear. While low values of *min_avg_wage* will probably not deter FDI, high values might act as a deterrent. In order to throw light on this hypothesis, I created two dummy variables for "mini" minimum wage and "maxi" minimum wage: *minimw* and *maximw,* respectively. Following the ILO and OECD (2013) definition used for G-20 countries, I define as *minimw* all ratios equal to or below 0.30 and as *maximw* all ratios equal to or above 0.40. The results are shown in equations 5, 6 and 9 of Table 2. Both *minimw* and *maximw* present non-significant negative estimates but, interestingly, the p-value of *maximw* is smaller than *minimw*.

For the purposes of comparison, I created two more dummy variables called *minimw*2 and *maximw*2, which refer to the different thresholds of distribution. They equal 1 when the *min_avg_wage* is equal to or below the 25 per cent percentile of distribution (in other words, if the ratio value is equal to or below 0.25) or if the ratio is equal to or above the 75 per cent percentile of distribution (in other words, its value is equal to or above 0.53). As shown in equations 7, 8 and 10 (Table 2), both *minimw*2 and *maximw*2 hold negative coefficients and remain not statistically significant at a level of 10 per cent. Nonetheless, *maximw*2 presents a p-value of 0.107, which can be considered to be marginally significant.

5.3. Robustness checks: Minimum wages

Where the sample of countries is small, one good robustness check consists in dropping one country at a time from the estimations. As far as concerns minimum wages, I re-estimate equation 4 of Table 2, for all countries. The results are shown in Table 3 and the name of each country dropped appears on top of the columns. The variable *min_avg_wage* still appears as a non-significant determinant of FDI and the results seem quite robust except when we drop Brazil. In the latter case, the variables *GDP per capita* and *total population* become positive and highly significant coefficients (as suggested by the economic literature, ed.). Moreover, *openness* remains not statistically significant, while the natural logarithm of *infrastructure* nearly halves its coefficient and *secondary school attainment* increases its negative value. Most importantly, our variable of interest, *min_avg_wage*, becomes statistically significant and presents a p-value of 0.05.

Based on the findings above, we could infer that Brazil is different from the other countries in the sample. I conducted the same robustness check dropping firstly Brazil from all the estimations and, secondly, dropping one country at a time (the results are reported in Table 4, ed.). Dropping Brazil is taken as the benchmark and is shown in the first column (i.e. the same column "Brazil" in Table 3). In this model, *GDP per capita* becomes a positive and strong determinant of FDI (except when we drop Chile, ed.). The same holds for *total population*, but its explanatory power is much weaker than GDP per capita, with a p-value averaging 0.09. In turn, *inflation* and *exchange rate* remain with their respective expected signs and are highly significant. *Openness* and *wage share* remain not statistically significant and, finally, *min_avg_wage* appears as a negative determinant of FDI with a p-value ranging between 0.045 and 0.138.

Given that minimum wages are expected to shift the wage distribution upwards and increase labour costs, one would expect the presence of a negative relationship between minimum wage level and the size of FDI flows. The results show that this relationship is not statistically significant when we consider all South American countries together. Moreover, once more these results lose robustness when we drop Brazil from the sample. This allows me to hypothesize that Brazil is different from the rest of South American

countries, either due to the type of FDI it receives, or due to its particular characteristics. On merging these findings with the evidence provided Figure 1, I am inclined to opt for the former of these explanations. Nevertheless, using FDI data disaggregated by types of FDI may give us a better chance of proving this intuition.

5.4. The effects of employment protection legislation[3]

In this section, I estimate the effects of EPL on inward FDI. The advantage of Aleksynska and Schindler's database is that we can disaggregate the effect of EPL variables by worker tenure. In this sense, we consider both the advance notice and severance payment requirements when dismissing a worker with nine months, four years and 20 years of service within the firm, respectively. Figure 4 shows the advance notice and severance payment variability for each country across time. Advance notice does not present within variability for any country except for Venezuela. Estimating time-invariant explanatory variables is not possible using fixed effects, and this is why I include a random effects estimation as a comparison.

I begin the analysis by creating an average measure of advance notice and severance payment. *EPLan* is the arithmetic mean for the advance notice requirements for workers with nine months, four years and 20 years of tenure. For severance payment, the variable is called *EPLsp*. The results are shown in Table 5, where column 3 illustrates the estimations including advance notice in the benchmark equation while using fixed effects. As mentioned, this result only accounts for Venezuela and the estimate shows itself to be non-significant. *EPLsp* is introduced in column 5 and presents a marginally significant negative estimate. This result indicates that an increment of one month in severance payment requirements would decrease the FDI over GDP coefficient by 4.9 per cent.

In order to expand these results, I disaggregate the effects of *EPLsp* by tenure, where *EPLsp_9m*, *EPLsp_4y* and *EPLsp_20y* account for the EPL severance payment required to pay a fired worker with nine months, four years and 20 years of tenure, respectively. I create my estimates using a fixed effects model (supported by the Hausman test) and the results are reported in Table 6. The three variables are introduced into the benchmark specification in columns 2, 3 and 4. They all report the expected negative coefficients but these are not statistically significant. Nonetheless, both *EPLsp_4y* and *EPLsp_20y* report low p-values. In column 5, the three variables are introduced together, presenting different evidence. In fact, while *EPLsp_9m* and *EPLsp_20y* become significant, *EPLsp_4y* both changes its sign and becomes positive and significant. This finding can also be explained by the humped-shaped relationship between EPL and FDI discussed previously. More mobile types of FDI would be discouraged by increases in short-term and long-term severance payment requirements, whereas middle-term requirements are likely to increase productivity through the implementation of training and job stability, consequently attracting more FDI flows.

5.5. Robustness checks: EPL

In Table 7, I re-estimated equation 6 (from Table 6), dropping one country at a time in order to appreciate the variation in the estimates. *EPLsp* has a stable effect on FDI where an increase in one month of the average severance payment requirements has a negative impact on FDI/GDP of between 3.1 and 6 per cent. Nonetheless, this relationship is not robust and presents p-values ranging from 0.065 to 0.309.

[3] Aleksynska and Shindler's database does not present EPL data for Ecuador. For this subsection, the total sample is composed of nine countries.

Following the same methodology, I provide a robustness check for severance payment variable by tenure. The results are reported in Table 8. In the same line with *EPLsp*, the results are not robust. We can see that *EPLsp_9m* has a bigger impact than *EPLsp_20y* on FDI. The positive coefficient of *EPLsp_4y* appears in all estimations and is statistically significant in most of them, providing evidence supporting the humped-shaped relationship between EPL and FDI, as mentioned above. Therefore, these different effects of severance payments are responsible for the overall non-significant effect of *EPLsp*. In fact, when taken together, the positive and negative effects cancel each other out. Moreover, short-term SP requirements appear to be the most deterrent component of EPL, with a substantially higher weight compared to long-term SP.

Finally, regarding the usual determinants of FDI, it is once again possible to observe that *GDP per capita* and *total population* become strong and significant determinants of FDI inflows once we drop Brazil from our estimation. In turn, *inflation* and *exchange rate* continue to be robust determinants of FDI.

6. Conclusion

This study investigates the RTB hypothesis, according to which MNEs respond positively to a loosening of labour protection legislation in a certain foreign country by increasing their FDI in that territory. Employing new *de jure* LMI indicators on minimum wages and EPL, I investigated this hypothesis using a panel of 10 South American countries for the period 1980-2011.

According to most economic literature, increases in the minimum wage are expected to shift wage distribution upwards, having a positive impact on wages and labour costs not only for low-skilled workers, but also for medium-skilled workers (Saget, 2006). Consequently, a negative correlation between minimum wages and inward FDI should be expected, given the increasing labour costs. Nevertheless, my results do not support this hypothesis, although the evidence is not robust. In fact, when I estimate the effects of minimum wages on FDI for the sample of countries as a whole, my results present a negative correlation between these two variables, albeit not statistically significant. Interestingly, the results become significant when I drop Brazil from the sample, although it must be noted that the minimum wage level becomes a marginally significant deterrent of FDI only across some variations in country samples. In this sense, it can be concluded that Brazil is somehow different from the other South American countries. One possible reason for that may be related to the fact that minimum wages do not affect horizontal FDI such as Brazil's main inward FDI (ECLAC, 2012), to the same extent as other types of FDI. The rest of the South American countries have an important component of natural-resources oriented FDIs in which minimum wages are likely to play a more relevant role.

Following the analysis of minimum wages, I disaggregated the effects of minimum wages by introducing dummy variables for high and low levels of minimum wages to account for situations that present the "maxi" and "mini" minimum wage scenarios described by Saget (2006). My results support the rationale according to which higher minimum wage levels have stronger negative effects on FDI than lower minimum wage levels.

As far as concerns EPL, I began my analysis by using an average measure for the severance payment variable. According to the results, a one-month increase in average severance payment requirements

reduces the FDI/GDP coefficient by 4.9 per cent. Nevertheless, these results are not robust and only marginally significant when we consider different country samples. The reason behind such weak results may be related to the mixed effect of EPL on FDI across the worker tenure dimension. In fact, the disaggregated estimates of severance payments by tenure show us that short-term severance payment has a negative (and quite robust) effect on FDI which is substantially larger than long-term SP. Conversely, medium-term severance payments display a positive impact on FDI. These findings, which may *a priori* appear to be counter-intuitive, are once again explained by the humped-shaped curve illustrating the impact of employment protection on productivity and growth (Cazes, Khatiwada and Malo, 2012; World Bank, 2013). Accordingly, medium levels of employment protection reduce job turnover within a firm and improve productivity through the implementation of worker training programmes generating, in turn, more job stability and shrinking hiring costs (i.e. screening costs). Nonetheless, this effect would only be noticeable in the case of firms that have already started to invest in a host country, meaning that a study at the enterprise level using data on EPL by tenure would be necessary in order to corroborate the abovementioned results.

As far as concerns the usual determinants of FDI, this study's outcomes are in line with the main academic findings on the impact of GDP per capita, total population, inflation, exchange rate and infrastructure development. In particular, inflation and the exchange rate can also be considered robust determinants of FDI for South American countries, whereas openness (measured as exports and imports over GDP) is found to be non-significant across all variations in estimation samples and methods.

Therefore, this study does not strongly support the RTB assumption and also provides evidence that points in the opposite direction, which explains some of the mixed evidence. Moreover, the abovementioned findings may put forward an interesting case for a *moderate* employment protection policy recommendation (Cazes, Khatiwada and Malo, 2012; World Bank, 2013). Nonetheless, further studies would certainly need to address several factors requiring special consideration: firstly, the proxy for human capital, i.e. secondary school attainment, which appears to be a statistically significant negative determinant of FDI with an extremely high coefficient. Even without controlling for wages, this result is disconcerting and not in line with the findings reported in the economic literature. Secondly, in the absence of a better measure, I used the national wage share as a proxy for unit labour cost, although the wage share does not take into account increases in productivity. Having a more precise measure of unit labour costs could help to isolate the effects of LMI variables on FDI in order to obtain better and more detailed estimates. Thirdly, my estimations lack relevant control variables for institutional changes, since they were omitted in order to preserve the number of observations, given that most institutional databases do not present observations for years prior to 1995.

To conclude, the present paper contributes to the academic literature dealing with the topic by demonstrating that implementing an RTB strategy is not a clear and univocal solution for a country wishing to attract FDIs, at least in the South American region. Nevertheless, an extension to this study disaggregating FDI by type would be needed in order to offer clearer insights on this hypothesis and shed more light on my findings.

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Table 2: Minimum Wages Impact on FDI

	(1) ln_fdi_gdp	(2) ln_fdi_gdp	(3) ln_fdi_gdp	(4) ln_fdi_gdp	(5) ln_fdi_gdp	(6) ln_fdi_gdp	(7) ln_fdi_gdp	(8) ln_fdi_gdp	(9) ln_fdi_gdp	(10) ln_fdi_gdp
ln_gdpper_cap	0.888	1.005	0.541	0.136	0.874	0.964	0.819	0.959	0.948	0.891
	(0.263)	(0.244)	(0.576)	(0.886)	(0.305)	(0.245)	(0.291)	(0.243)	(0.274)	(0.272)
ln_pop	-0.132	-0.144	1.420	-0.565	-0.139	-0.0460	-0.0920	0.273	-0.0477	0.300
	(0.942)	(0.937)	(0.365)	(0.816)	(0.941)	(0.981)	(0.957)	(0.896)	(0.980)	(0.880)
openness	0.409	0.404	0.833	-0.0888	0.411	0.382	0.316	0.392	0.382	0.303
	(0.645)	(0.647)	(0.172)	(0.914)	(0.647)	(0.666)	(0.691)	(0.670)	(0.667)	(0.716)
inflation	-0.0193**	-0.0195**	-0.0203**	-0.0208**	-0.0193**	-0.0194**	-0.0191**	-0.0190**	-0.0193**	-0.0188**
	(0.014)	(0.015)	(0.021)	(0.015)	(0.013)	(0.015)	(0.015)	(0.019)	(0.015)	(0.019)
ln_exch	0.119**	0.121**	0.132***	0.116**	0.120**	0.120**	0.120**	0.120**	0.121**	0.121**
	(0.026)	(0.033)	(0.002)	(0.015)	(0.021)	(0.028)	(0.022)	(0.027)	(0.022)	(0.023)
ln_infras	1.093*	1.067*	1.231*	1.622**	1.096*	1.079*	1.086*	1.022	1.084*	1.017*
	(0.068)	(0.095)	(0.056)	(0.034)	(0.076)	(0.077)	(0.061)	(0.108)	(0.081)	(0.099)
ln_ssch_att	-2.446*	-2.412*	-3.928***	-3.127**	-2.453*	-2.481*	-2.482*	-2.498*	-2.499*	-2.531**
	(0.059)	(0.063)	(0.001)	(0.017)	(0.053)	(0.061)	(0.051)	(0.056)	(0.053)	(0.048)
min_avg_wage		-0.468		-0.181						
		(0.465)		(0.779)						
ln_wage_sh			-0.341	-0.433						
			(0.331)	(0.416)						
minimw					-0.0234				-0.0431	
					(0.915)				(0.840)	
maximw						-0.0891			-0.101	
						(0.460)			(0.359)	
minimw2							-0.137			-0.132
							(0.624)			(0.639)
maximw2								-0.217		-0.211
								(0.107)		(0.129)
_cons	-13.76	-14.21	-39.12	-2.427	-13.53	-15.75	-13.82	-20.91	-15.60	-20.77
	(0.680)	(0.681)	(0.239)	(0.958)	(0.700)	(0.652)	(0.665)	(0.585)	(0.659)	(0.576)
N	278	278	269	244	278	278	278	278	278	278

p-values in parentheses: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 3: Minimum Wages Impact Robustness Check (i.e. Dropping One Country at a Time)

	(Argentina) ln_fdi_gdp	(Bolivia) ln_fdi_gdp	(Brazil) ln_fdi_gdp	(Chile) ln_fdi_gdp	(Colombia) ln_fdi_gdp	(Ecuador) ln_fdi_gdp	(Paraguay) ln_fdi_gdp	(Peru) ln_fdi_gdp	(Uruguay) ln_fdi_gdp	(Venezuela) ln_fdi_gdp
ln_gdpper_cap	-0.0378	0.124	1.465***	-0.133	0.0181	0.160	-0.107	0.518	-0.0743	0.170
	(0.971)	(0.898)	(0.004)	(0.907)	(0.986)	(0.879)	(0.915)	(0.542)	(0.943)	(0.863)
ln_pop	-0.717	-0.951	3.206*	-0.985	-0.668	-0.775	-0.574	-1.245	-1.081	-0.482
	(0.787)	(0.664)	(0.061)	(0.687)	(0.807)	(0.752)	(0.827)	(0.609)	(0.673)	(0.843)
openness	0.275	0.132	-0.300	-0.310	-0.0388	0.0173	-0.561	0.255	-0.606	0.135
	(0.715)	(0.876)	(0.726)	(0.723)	(0.963)	(0.985)	(0.688)	(0.761)	(0.512)	(0.867)
inflation	-0.0223**	-0.0319***	-0.0138**	-0.0208**	-0.0207**	-0.0203**	-0.0210**	-0.0194**	-0.0215**	-0.0203**
	(0.020)	(0.009)	(0.020)	(0.020)	(0.019)	(0.020)	(0.018)	(0.027)	(0.014)	(0.020)
ln_exch	0.126**	0.116**	0.166***	0.113**	0.115**	0.112**	0.114**	0.0840**	0.114**	0.113**
	(0.026)	(0.012)	(0.001)	(0.017)	(0.017)	(0.031)	(0.044)	(0.014)	(0.015)	(0.022)
ln_infras	1.735**	1.558**	0.704**	1.850**	1.715**	1.662**	1.746**	1.425**	1.811**	1.584**
	(0.040)	(0.035)	(0.020)	(0.024)	(0.044)	(0.048)	(0.028)	(0.037)	(0.040)	(0.042)
ln_ssch_att	-3.369**	-2.862**	-4.698**	-3.232**	-3.201**	-3.082**	-3.234*	-2.178*	-3.016**	-3.003**
	(0.018)	(0.015)	(0.034)	(0.015)	(0.019)	(0.032)	(0.067)	(0.056)	(0.012)	(0.021)
ln_wage_sh	-0.418	-0.737	-0.00419	-0.319	-0.440	-0.169	-0.409	-0.522	-0.650	-0.351
	(0.505)	(0.138)	(0.992)	(0.545)	(0.411)	(0.835)	(0.548)	(0.370)	(0.242)	(0.516)
min_avg_wage	-0.157	-0.200	-0.892*	-0.0721	-0.164	-0.0903	0.0877	0.0790	-0.324	-0.249
	(0.811)	(0.753)	(0.050)	(0.925)	(0.816)	(0.894)	(0.921)	(0.897)	(0.633)	(0.723)
_cons	0.830	3.913	-73.51**	6.236	-0.0344	1.099	-0.481	6.579	8.009	-3.789
	(0.987)	(0.925)	(0.024)	(0.893)	(0.999)	(0.981)	(0.992)	(0.883)	(0.870)	(0.934)
N	218	224	216	216	217	217	225	219	218	226

p-values in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 4: Minimum Wages Impact Robustness Check (Excluding Brazil)

	(Benchmark) ln_fdi_gdp	(Argentina) ln_fdi_gdp	(Bolivia) ln_fdi_gdp	(Chile) ln_fdi_gdp	(Colombia) ln_fdi_gdp	(Ecuador) ln_fdi_gdp	(Paraguay) ln_fdi_gdp	(Peru) ln_fdi_gdp	(Uruguay) ln_fdi_gdp	(Venezuela) ln_fdi_gdp
ln_gdpper_cap	1.465***	1.545**	1.385**	1.017	1.566***	1.647***	1.959**	1.741***	1.458**	1.530***
	(0.004)	(0.014)	(0.020)	(0.149)	(0.003)	(0.007)	(0.010)	(0.001)	(0.031)	(0.003)
ln_pop	3.206*	3.273*	2.290	2.914*	3.677*	3.005	6.334**	3.017*	2.955	3.144*
	(0.061)	(0.088)	(0.107)	(0.086)	(0.054)	(0.102)	(0.024)	(0.094)	(0.155)	(0.074)
openness	-0.300	-0.0414	-0.0906	-0.392	-0.295	-0.158	0.646	0.0266	-1.078	-0.119
	(0.726)	(0.965)	(0.918)	(0.639)	(0.741)	(0.870)	(0.732)	(0.977)	(0.135)	(0.892)
inflation	-0.0138**	-0.0148**	-0.0206*	-0.0144**	-0.0133**	-0.0135**	-0.0124*	-0.0102***	-0.0146**	-0.0133**
	(0.020)	(0.039)	(0.066)	(0.030)	(0.027)	(0.031)	(0.060)	(0.001)	(0.025)	(0.027)
ln_exch	0.166***	0.200***	0.162***	0.163***	0.167***	0.171***	0.216***	0.129***	0.166***	0.164***
	(0.001)	(0.000)	(0.003)	(0.002)	(0.002)	(0.009)	(0.002)	(0.000)	(0.001)	(0.002)
ln_infras	0.704**	0.597*	0.683**	0.915***	0.666**	0.650	0.817**	0.544*	0.708*	0.651**
	(0.020)	(0.067)	(0.022)	(0.004)	(0.048)	(0.122)	(0.035)	(0.079)	(0.095)	(0.028)
ln_ssch_att	-4.698**	-4.599**	-3.862**	-4.908**	-4.906*	-4.700*	-9.585**	-4.261**	-4.225**	-4.371**
	(0.034)	(0.044)	(0.027)	(0.047)	(0.052)	(0.063)	(0.029)	(0.041)	(0.026)	(0.038)
ln_wage_sh	-0.00419	0.226	-0.278	0.0789	-0.0274	0.263	0.338	-0.113	-0.185	0.0919
	(0.992)	(0.647)	(0.500)	(0.861)	(0.950)	(0.730)	(0.572)	(0.803)	(0.665)	(0.837)
min_avg_wage	-0.892*	-0.986**	-0.924*	-0.811	-0.934*	-0.750	-1.130*	-0.576	-1.085*	-1.013**
	(0.050)	(0.045)	(0.066)	(0.138)	(0.072)	(0.106)	(0.090)	(0.114)	(0.054)	(0.042)
_cons	-73.51**	-74.30**	-57.97**	-65.76**	-81.53**	-71.61**	-133.4**	-72.30**	-69.00*	-72.19**
	(0.024)	(0.038)	(0.035)	(0.037)	(0.023)	(0.034)	(0.015)	(0.028)	(0.081)	(0.028)
N	216	190	196	188	189	189	197	191	190	198

p-values in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 5: Total EPL Impact on FDI

	(1) ln_fdi_gdp	(2) ln_fdi_gdp	(3) ln_fdi_gdp	(4) ln_fdi_gdp	(5) ln_fdi_gdp	(6) ln_fdi_gdp	(7) ln_fdi_gdp	(8) ln_fdi_gdp
ln_gdpper_cap	0.868	-0.909*	0.836	-0.436	0.857	-1.300***	0.829	-0.673
	(0.559)	(0.053)	(0.573)	(0.265)	(0.557)	(0.001)	(0.570)	(0.157)
ln_pop	2.072	0.338**	1.510	0.346***	2.241	0.400***	1.749	0.369***
	(0.311)	(0.021)	(0.520)	(0.000)	(0.248)	(0.000)	(0.434)	(0.000)
openness	0.502	0.880	0.652	0.752	0.510	0.334	0.639	0.560
	(0.346)	(0.220)	(0.322)	(0.254)	(0.279)	(0.588)	(0.297)	(0.404)
inflation	-0.0204**	-0.0145***	-0.0201**	-0.0149***	-0.0186**	-0.0133***	-0.0184**	-0.0143***
	(0.028)	(0.002)	(0.024)	(0.001)	(0.022)	(0.001)	(0.020)	(0.000)
ln_exch	0.140**	0.0133	0.134**	0.0140	0.138**	0.00984	0.134**	0.0125
	(0.014)	(0.583)	(0.035)	(0.531)	(0.014)	(0.623)	(0.033)	(0.548)
ln_infras	1.154	1.080**	1.170	0.903***	1.240	1.363***	1.250	1.045***
	(0.184)	(0.012)	(0.180)	(0.009)	(0.147)	(0.000)	(0.144)	(0.001)
ln_ssch_att	-4.498***	0.835	-4.090**	1.002**	-4.428***	0.980**	-4.079**	1.030**
	(0.003)	(0.165)	(0.034)	(0.028)	(0.003)	(0.043)	(0.031)	(0.023)
ln_wage_sh	-0.329	-0.255	-0.150	-0.0932	-0.494	-0.588	-0.333	-0.253
	(0.627)	(0.791)	(0.823)	(0.915)	(0.495)	(0.480)	(0.638)	(0.766)
EPLan			0.370	0.421***			0.319	0.347*
			(0.498)	(0.000)			(0.534)	(0.061)
EPLsp					-0.0493*	-0.0634***	-0.0473*	-0.0250
					(0.098)	(0.002)	(0.090)	(0.502)
_cons	-52.88	-4.866	-43.27	-8.574***	-55.49	-2.816	-47.09	-7.117**
	(0.237)	(0.267)	(0.384)	(0.005)	(0.192)	(0.420)	(0.322)	(0.049)
N	226	226	226	226	226	226	226	226

p-values in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 6: Severance Payment Impact by Tenure

	(1) ln_fdi_gdp	(2) ln_fdi_gdp	(3) ln_fdi_gdp	(4) ln_fdi_gdp	(5) ln_fdi_gdp	(6) ln_fdi_gdp
ln_gdpper_cap	0.868	1.020	0.886	0.823	1.291	0.857
	(0.559)	(0.528)	(0.556)	(0.569)	(0.434)	(0.557)
ln_pop	2.072	2.313	2.310	2.119	2.021	2.241
	(0.311)	(0.306)	(0.276)	(0.267)	(0.339)	(0.248)
openness	0.502	0.309	0.397	0.594	0.420	0.510
	(0.346)	(0.629)	(0.474)	(0.213)	(0.432)	(0.279)
inflation	-0.0204**	-0.0191**	-0.0192**	-0.0190**	-0.0180**	-0.0186**
	(0.028)	(0.042)	(0.031)	(0.023)	(0.032)	(0.022)
ln_exch	0.140**	0.140**	0.140**	0.138**	0.138**	0.138**
	(0.014)	(0.014)	(0.014)	(0.014)	(0.012)	(0.014)
ln_infras	1.154	1.061	1.149	1.274	1.063	1.240
	(0.184)	(0.241)	(0.184)	(0.142)	(0.247)	(0.147)
ln_ssch_att	-4.498***	-4.477***	-4.509***	-4.410***	-4.178***	-4.428***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)	(0.003)
ln_wage_sh	-0.329	-0.424	-0.436	-0.461	-0.483	-0.494
	(0.627)	(0.544)	(0.536)	(0.516)	(0.521)	(0.495)
epl_sp9m		-0.139			-0.549**	
		(0.352)			(0.016)	
epl_sp4y			-0.0382		0.177**	
			(0.109)		(0.013)	
epl_sp20y				-0.0200	-0.0419*	
				(0.156)	(0.067)	
EPLsp						-0.0493*
						(0.098)
_cons	-52.88	-57.82	-56.88	-53.26	-54.70	-55.49
	(0.237)	(0.240)	(0.216)	(0.203)	(0.243)	(0.192)
N	226	226	226	226	226	226
R^2	0.538	0.540	0.540	0.545	0.552	0.545

p-values in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 7: Severance Payment Impact Robustness Check (i.e. Dropping One Country at a Time)

	(All countries) ln_fdi_gdp	(Argentina) ln_fdi_gdp	(Bolivia) ln_fdi_gdp	(Brazil) ln_fdi_gdp	(Chile) ln_fdi_gdp	(Colombia) ln_fdi_gdp	(Ecuador) ln_fdi_gdp	(Paraguay) ln_fdi_gdp	(Peru) ln_fdi_gdp	(Uruguay) ln_fdi_gdp	(Venezuela) ln_fdi_gdp
ln_gdpper_cap	0.857	0.857	0.841	2.383**	1.167	0.768	0.857	0.0896	1.312	0.696	0.407
	(0.557)	(0.598)	(0.584)	(0.017)	(0.551)	(0.619)	(0.557)	(0.951)	(0.406)	(0.653)	(0.775)
ln_pop	2.241	1.874	2.535	4.324***	2.159	2.162	2.241	2.395	2.594	1.652	1.038
	(0.248)	(0.365)	(0.263)	(0.001)	(0.314)	(0.273)	(0.248)	(0.199)	(0.253)	(0.456)	(0.653)
openness	0.510	0.721*	0.616	0.334	0.377	0.531	0.510	-0.0548	0.819*	0.406	0.662
	(0.279)	(0.056)	(0.189)	(0.434)	(0.434)	(0.286)	(0.279)	(0.969)	(0.051)	(0.477)	(0.351)
inflation	-0.0186**	-0.0210**	-0.0302*	-0.0132**	-0.0169**	-0.0183**	-0.0186**	-0.0178**	-0.0170*	-0.0189**	-0.0193**
	(0.022)	(0.027)	(0.053)	(0.014)	(0.040)	(0.024)	(0.022)	(0.015)	(0.068)	(0.019)	(0.022)
ln_exch	0.138**	0.156**	0.139**	0.180***	0.133**	0.140**	0.138**	0.110*	0.116**	0.142**	0.132**
	(0.014)	(0.027)	(0.021)	(0.004)	(0.020)	(0.020)	(0.014)	(0.067)	(0.013)	(0.011)	(0.041)
ln_infras	1.240	1.316	1.052	0.414	1.403	1.333	1.240	1.381	0.968	1.494	1.509*
	(0.147)	(0.177)	(0.236)	(0.463)	(0.139)	(0.151)	(0.147)	(0.113)	(0.284)	(0.146)	(0.080)
ln_ssch_att	-4.428***	-4.703***	-4.163***	-5.756***	-4.565***	-4.534***	-4.428***	-3.746**	-3.856***	-4.484***	-4.255**
	(0.003)	(0.004)	(0.003)	(0.002)	(0.004)	(0.004)	(0.003)	(0.017)	(0.007)	(0.002)	(0.042)
ln_wage_sh	-0.494	-0.397	-0.732	-0.175	-0.193	-0.539	-0.494	-0.252	-0.524	-1.066	-0.229
	(0.495)	(0.656)	(0.406)	(0.788)	(0.768)	(0.479)	(0.495)	(0.735)	(0.524)	(0.155)	(0.764)
EPLsp	-0.0493*	-0.0451	-0.0464	-0.0314	-0.0501	-0.0598	-0.0493*	-0.0519	-0.0604	-0.0602*	-0.0301
	(0.098)	(0.309)	(0.117)	(0.218)	(0.137)	(0.147)	(0.098)	(0.141)	(0.132)	(0.065)	(0.116)
_cons	-55.49	-49.64	-60.61	-100.3***	-56.87	-53.52	-55.49	-51.32	-64.26	-45.56	-31.87
	(0.192)	(0.274)	(0.207)	(0.001)	(0.244)	(0.218)	(0.192)	(0.210)	(0.188)	(0.341)	(0.513)
N	226	201	202	200	200	200	226	200	203	202	200

p-values in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 8: Robustness checks: EPL SP by tenure

	(All countries) ln_fdi_gdp	(Argentina) ln_fdi_gdp	(Bolivia) ln_fdi_gdp	(Brazil) ln_fdi_gdp	(Chile) ln_fdi_gdp	(Colombia) ln_fdi_gdp	(Ecuador) ln_fdi_gdp	(Paraguay) ln_fdi_gdp	(Peru) ln_fdi_gdp	(Uruguay) ln_fdi_gdp	(Venezuela) ln_fdi_gdp
ln_gdpper_cap	1.291	1.460	1.171	3.314***	1.451	1.205	1.291	0.416	1.402	1.128	1.056
	(0.434)	(0.428)	(0.491)	(0.004)	(0.479)	(0.505)	(0.434)	(0.791)	(0.358)	(0.550)	(0.479)
ln_pop	2.021	1.861	2.028	4.815***	1.944	1.977	2.021	2.325	1.654	1.538	0.315
	(0.339)	(0.407)	(0.403)	(0.001)	(0.390)	(0.373)	(0.339)	(0.221)	(0.434)	(0.557)	(0.900)
openness	0.420	0.504	0.662	-0.165	0.324	0.453	0.420	0.582	1.349	0.314	0.535
	(0.432)	(0.309)	(0.274)	(0.762)	(0.556)	(0.480)	(0.432)	(0.696)	(0.101)	(0.640)	(0.441)
inflation	-0.0180**	-0.0203**	-0.0290	-0.0104***	-0.0167**	-0.0179**	-0.0180**	-0.0161**	-0.0157*	-0.0184**	-0.0173**
	(0.032)	(0.038)	(0.146)	(0.004)	(0.049)	(0.036)	(0.032)	(0.026)	(0.059)	(0.031)	(0.020)
ln_exch	0.138**	0.146**	0.139**	0.180***	0.134**	0.139**	0.138**	0.107*	0.106**	0.141***	0.126**
	(0.012)	(0.032)	(0.017)	(0.000)	(0.018)	(0.018)	(0.012)	(0.060)	(0.041)	(0.009)	(0.040)
ln_infras	1.063	1.097	0.968	-0.0420	1.241	1.146	1.063	1.183	0.962	1.297	1.198
	(0.247)	(0.284)	(0.311)	(0.934)	(0.217)	(0.269)	(0.247)	(0.181)	(0.260)	(0.284)	(0.152)
ln_ssch_att	-4.178***	-4.224**	-3.939***	-5.877***	-4.342***	-4.273***	-4.178***	-3.516**	-3.301**	-4.237***	-3.498*
	(0.004)	(0.010)	(0.003)	(0.001)	(0.004)	(0.004)	(0.004)	(0.026)	(0.026)	(0.002)	(0.074)
ln_wage_sh	-0.483	-0.397	-0.749	-0.221	-0.195	-0.534	-0.483	-0.000170	-0.0261	-1.033	-0.0620
	(0.521)	(0.645)	(0.395)	(0.776)	(0.778)	(0.492)	(0.521)	(1.000)	(0.974)	(0.192)	(0.939)
epl_sp9m	-0.549**	-0.653*	-0.461*	-0.864***	-0.478**	-0.507*	-0.549**	-0.603**	-0.206	-0.499*	-0.727***
	(0.016)	(0.082)	(0.061)	(0.000)	(0.047)	(0.050)	(0.016)	(0.042)	(0.737)	(0.070)	(0.004)
epl_sp4y	0.177**	0.235	0.166***	0.219***	0.153**	0.163**	0.177**	0.190*	0.325	0.157**	0.198***
	(0.013)	(0.165)	(0.007)	(0.004)	(0.016)	(0.015)	(0.013)	(0.095)	(0.342)	(0.046)	(0.008)
epl_sp20y	-0.0419*	-0.0604	-0.0404**	-0.0323	-0.0390*	-0.0424	-0.0419*	-0.0449	-0.0637	-0.0433*	-0.0315**
	(0.067)	(0.209)	(0.047)	(0.138)	(0.085)	(0.165)	(0.067)	(0.134)	(0.262)	(0.081)	(0.026)
_cons	-54.70	-53.07	-54.49	-114.8***	-54.97	-53.48	-54.70	-52.19	-49.06	-46.40	-23.56
	(0.243)	(0.287)	(0.292)	(0.000)	(0.287)	(0.280)	(0.243)	(0.226)	(0.276)	(0.414)	(0.654)
N	226	201	202	200	200	200	226	200	203	202	200

p-values in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 9: Cross-Correlation Matrix

Variables	ln fdi gdp	ln gdpper cap	ln pop	openness	inflation	ln exch	ln infras	ln ssch att	ln wage sh	min avg wage	EPLan	EPLsp	EPL sp9m	EPL sp4y	EPL sp20y
ln fdi gdp	1.000														
ln gdpper cap	0.060	1.000													
ln pop	0.115	0.264	1.000												
openness	0.141	-0.351	-0.565	1.000											
inflation	-0.174	-0.073	0.058	-0.139	1.000										
ln exch	0.386	-0.220	-0.331	0.505	-0.136	1.000									
ln infras	0.436	0.711	0.254	-0.090	-0.146	0.192	1.000								
ln ssch att	0.467	0.000	-0.202	0.233	-0.072	0.473	0.371	1.000							
ln wage sh	-0.057	0.347	0.053	-0.182	-0.011	-0.098	0.138	-0.106	1.000						
min avg wage	0.000	-0.355	-0.197	0.587	-0.132	0.412	-0.151	-0.064	-0.361	1.000					
EPLan	0.209	-0.636	-0.172	0.319	0.052	0.215	-0.350	0.002	-0.078	0.221	1.000				
EPLsp	0.183	-0.156	0.373	-0.348	0.114	0.029	0.155	0.268	-0.155	-0.155	-0.164	1.000			
EPL sp9m	-0.110	-0.092	0.465	-0.446	0.200	-0.148	-0.144	-0.172	-0.266	-0.024	0.100	0.476	1.000		
EPL sp4y	0.138	-0.076	0.304	-0.303	0.183	-0.068	0.014	0.335	-0.413	-0.150	-0.249	0.773	0.584	1.000	
EPL sp20y	0.192	-0.162	0.348	-0.320	0.083	0.058	0.189	0.254	-0.077	-0.148	-0.145	0.986	0.378	0.662	1.000

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