LABOR MARKET RIGIDITY AND FOREIGN DIRECT INVESTMENT: THE CASE OF EUROPE

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Abstract: This paper examines whether the impact of labor market regulation on Foreign Direct Investment is stable across time. We use firm-level data for European Multinational Enterprises investing in 41 European countries for the years 2004 – 2008. Using a conditional fixed effect logit and Tobit estimations, we are able to confirm that more flexible environments in terms of allowing firms to determine working hours and a reduction in the cost of dismissing workers has a consistent positive effect on the decision to invest in those host countries, but we also find an unstable and counterintuitive effect of the difficulty of hiring index on the decision invest in a given host country. While these results are consistent to the specification of the labor market indicators (in levels or in relative differences), we are able to find some evidence of the expected relationship between the difficulty of hiring index and FDI once we account for inherent characteristics of the host markets (like transition and EU characteristics).

Keywords: Foreign Direct Investment; Labor Flexibility; Economic Integration; Trade and Labor Market Interactions.

JEL classification: F23; J80; F15; F16.

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1. Introduction

The potential contribution of foreign direct investment (FDI) [1] to economic growth – with its introduction of new technology, capital accumulation, generation of jobs and access to new markets – has been extensively analyzed. Most studies have found that FDI exerts a positive effect on the growth rate of the receiving economy (i.e. Borensztein *et al.* (1998), De Mello (1999)), contributes in the generation of employment (Spiezia (2004), Vacaflores (2011)), and increases total tax revenues of the host country (Vacaflores (2009)). Consequently, many governments have developed policies to attract FDI. Many host countries have improved their macroeconomic environment and have also concentrated on upgrading specific polices, such as enhancing property rights, opening previously protected markets (especially government procurements), providing firm specific subsidies, and lowering tax rates to attract FDI. The globalization of production processes by multinational enterprises (MNEs) has further encouraged policymakers around the world to redesign their labor market regulations to provide greater flexibility to the operations of MNEs. The rationale is that increased flexibility in labor market regulations will make a host country more attractive to MNEs looking at alternative locations and will result in greater FDI. Indeed, recent studies by Javorcik and Spatareanu (2005), Delbecque, Méjean, and Patureau (2007) and others have shown that labor market rigidities are negatively related to MNE's location decisions and the amount of FDI inflows.

However, while studies analyzing the impact of labor market institutions on FDI have provided evidence that greater labor market flexibility affects MNEs' location decisions and the amount of FDI, the impacts across time, regions, and levels of development have been neglected. Changing conditions over time may make specific determinants more relevant in certain years

[1] FDI refers to ownership and control of productive assets, such as factories, mines or infrastructure, by a parent enterprise of a foreign affiliate.

than in others, perhaps bearing a differential effect according to the economic conditions of a given period. In addition, labor market flexibility could also have a differential effect on the location of FDI according to regions or types of countries if host country characteristics are inherently different. Investing in a European Union (EU) country may provide MNEs more certainty in regulatory enforcement and access to a broader market, as well as greater demand for its products. Transition economies, on the other hand, may be enticing as low-cost production platforms, but may also be detrimental for the lack of purchasing power of their populations, leading to different motivations for MNEs to invest in these countries than in the more established markets.

In this study we examine the effects of labor market rigidity on FDI using data on European firms' foreign investment within Europe over the period 2004-2008. We extend the framework utilized by Javorcik and Spatareanu (2005), where a set of host country characteristics and labor market indicators are used to estimate the location decisions of MNEs and amount of FDI, and to examine if the effects of the labor market indicators are stable across time and across different host country classifications. The data allow us to construct the decision variable in terms of a dichotomous variable to reflect FDI participation, and in terms of the stock of FDI in a given host country in four cross-sections to test the stability of the effects of labor regulations on FDI. Focusing on Europe also enables us to test the effects across different country classifications (i.e., EU versus non-EU and transition versus non-transition economies). This is important because FDI decisions are impacted by the characteristics of the host country according to the specific economic circumstances of the period and the perceived risks and rewards of the country or region.

We focus on the influence of three labor market indicators: the rigidity of hours' index, the firing costs, and the difficulty of hiring index. We find that the effect of the first two are in accordance with conventional wisdom when all countries are analyzed together, but when controlling for country classification we find evidence of a differential effect in some years. The evidence on the effect of the difficulty of hiring index is consistent in some years with previous studies only after accounting for inherent characteristics of the host country. We find that most of the so-called gravity determinants (e.g., size of market) of FDI are as expected and stable across time, with the exception of corporate tax rates.

The remainder of the article is organized as follows. Section 2 describes the literature on the impact of labor regulations on FDI. Section 3 lays out the data and the methodology. Section 4 presents the results, and Section 5 concludes.

2. Literature Review

Globalization increasingly has wide-ranging impacts on almost every aspect of the production process and multinational corporations are adapting by expanding their operations across borders. Host countries actively compete to attract MNEs, enacting policies to facilitate trade, providing firm specific incentives, and increasing the flexibility of some regulations. One factor that may help countries differentiate themselves from alternative potential destinations is the degree to which their labor markets are regulated.

Research on this topic has been facilitated in recent years by the development of indices measuring various aspects of labor market regulation by Botero *et al.* (2004), the World Bank and World Economic Forum. The initial theoretical basis for the impact of labor market institutions on inward FDI is provided by Haaland and Wooton (2002). Their theoretical model

focuses on uncertainty in the marketplace that forces firms to take into account the risk of having to close a foreign subsidiary. The model hypothesizes that, other things equal, a flexible labor market with limited lay-off rules and low closure costs will be more attractive to inward FDI. Haaland *et al.* (2003) extend the analysis to take into account not only exit costs, but also entry costs. They also show theoretically that worker protection rules will deter inward FDI. They find empirical support for their predictions in an analysis of FDI in Bulgaria, Romania and Poland by western MNEs during 1994-97.

Görg (2005) finds further empirical evidence in support of the Haaland and Wooton, and Haaland *et al.* hypotheses. Görg utilizes a labor market index of hiring and firing restrictions based on surveys of managers conducted by the World Economic Forum. Using aggregate data on U.S. FDI to 33 developed and developing countries during 1986-96, he finds a statistically significant negative relationship between U.S. FDI in manufacturing and labor market restrictions. Javorcik and Spatareanu (2005) also look at the impact of labor market rigidity on FDI utilizing firm-level data of new investments across 19 European countries during 1998-2001. The indices of labor market rigidity reflect laws governing individual and collective dismissals, length of the dismissal notice period, and the required severance payment. Their results suggest that greater flexibility in the host country's labor market relative to that in the investor's home country is associated with larger FDI inflows.

Dewit, Görg and Montagna (2009) further extend the theoretical model to not only include the impact of labor markets on inward FDI, but also on outward FDI (what they call “domestic anchorage”). They test the effects of employment protection differentials between domestic and foreign locations on the investment decision of MNEs in OECD countries during 1986-95. The index of employment protection for each country is based on measures of

protection affecting the country's temporary and regular employment and they use bilateral FDI flows from the OECD's *International Investment Statistic Yearbook*. Their study finds that for a given level of home country employment protection, higher levels of employment protection in the host country discourage home country firms from investing there. In addition, they also find that a high level of employment protection in the home country discourages outward FDI.

In a study incorporating Krugman's international trade theory and labor market literature, Delbecque *et al.* (2007) analyze French firms' expansion decisions abroad during 1992-2001. Their empirical analysis utilized firm-level data to estimate the impact of labor market institutions on the firms' location decisions. Their results suggest that stringent employment protection laws, powerful trade unions and a more centralized wage-bargaining process negatively impacted French firms' location decisions.

The most recent study, Olney (2011), is based on US outward investment to 26 OECD countries during 1985-2003. It not only confirms the negative relationship between labor market rigidities (i.e., employment protection rules) and FDI, but also finds evidence that the effect differs by type of FDI. His results suggest that employment protection legislation in the host country has a limited impact when a firm invests in a country to access that foreign market (horizontal FDI). There is a more substantial negative impact when a MNE accesses a foreign market by setting up an affiliate in a neighboring country and exporting to the desired country (export-platform FDI), but the largest negative impact occurs when MNEs invest in a country in order to take advantage of low foreign factor prices and to minimize costs (vertical FDI).

There is, however, at least two studies that failed to consistently find the expected negative effects of labor market rigidity on the decision to invest in a given host country. In a study of FDI from seven developed countries entering seven Central and Eastern European

countries using country-level data, Leibrecht and Scharler (2009) find that differences in employment protection legislation have no effect on FDI flows entering the host countries when labor costs are included in the model. However, they do find a statistically significant effect – although weak – when they drop labor costs, concluding that labor costs are already capturing information from the labor market, thus rendering the effect of labor rigidity on FDI into these transition economies insignificant when entered together. Parcon (2008) hypothesizes a non-linear relationship between labor market institutions and FDI inflow. Utilizing ILO labor market standards, as well as the World Bank's labor market regulatory indicators, Parcon analyses FDI inflows to 195 countries during 1990-2005 and finds evidence that FDI to developed and developing countries is affected differently (negatively in some cases and positively in other cases) by different aspects of labor market standards and regulations.

This study is similar to the above studies in analyzing the relationship between FDI and labor market institutions, and can be viewed as updating them in that the time period covered is more recent. But, importantly, this study differs in several ways. Our analysis is based on a more extensive firm-level dataset than the previous studies utilizing firm-level data. Unlike all the previous studies, this study includes four cross-sections over time rather than a single cross section. The multiple cross-sections allow for changes in the labor market indices and, thus, allow us to analyze the stability of the parameters over time.

3. Data and Methodology

Our analysis examines the impact of labor market rigidity on MNEs location decisions and the amount of FDI in 40 European countries during 2005-08. To analyze the location decisions of the MNEs we utilize a fixed effects logistic regression. For a given time period *t*, we specify this decision in the equation

$$FDI_{ij} = \alpha + \beta_1 * FDII_j + \beta_2 * GI_j + \beta_3 * LMI_j + \varepsilon_{ij} \quad (1)$$

where $FDI_{ij} = 1$ if firm *i* conducts FDI in country *j*, $FDI_{ij} = 0$ otherwise. This decision is a function of FDI regulatory indicators in the host country ($FDII_j$), gravity indicators of the host country (GI_j), and labor market indicators of the host country (LMI_j), all entering our specification with a lag. The parameter α is the firm specific fixed effect, which controls for unobservable firm characteristics, and ε_{ij} is the error term. Each firm has the possibility to invest in 40 host countries in a given time period, so for each firm the number of observations is equal to the number of all possible destination countries under consideration.

The data on FDI flows and firm specific variables are derived from the OSIRIS database compiled by Bureau Van Dijk. Osiris provides company-level information on 65 million companies worldwide, including information on global ownership from which FDI is derived. We have extracted information on the investment decisions of all European firms with subsidiaries in other European countries. We first determine the total ownership of a given subsidiary by multiplying the MNE's percentage ownership of the subsidiary by the total assets of the subsidiary. If an MNE owns more than one subsidiary in a country, those totals are added to determine the total stock of a MNE's FDI in each destination country.[2] For the analysis of MNE's location decisions, the information collected on FDI allows us to create a dichotomous measure that takes the value of one if the MNE of a given country invests in one of the other countries of Europe, and zero otherwise. The measure includes new and established subsidiaries. While previous studies have concentrated on the determinants of new FDI only, our examination

[2] We then calculate total real FDI by dividing the stock of FDI by the CPI.

of the stability of these effects over time forces us to include the existing FDI to avoid survival bias.

The independent variables are entered in the models with a lag, not only to reflect the fact that investment decisions are taken in advance, but also to avoid potential reverse causality between FDI and our determinants. We include the so-called gravity variables of population, real GDP per capita, average wage rate, and geographic proximity incorporated in many of the earlier studies. The first measure is typically considered a proxy for the size of the market, and the second variable is a proxy for the purchasing power in the host country. Both measures are from the World Development Indicators (World Bank) and are particularly important if the FDI is geared to satisfying demand in the home market (horizontal FDI). The average wage rate, a measure of one aspect of the total cost of labor, is from Eurostat [3] expressed in real terms. Geographic proximity a dichotomous variable that indicates the home and host countries share a common border, a proxy for cultural affinity. Since FDI is influenced by the rules and regulation of the host country ($FDII_j$), we include three measures of the regulatory environment in the host country, including corporate taxation, FDI rules and property rights protection. The tax obligations in the host country are measured as the average statutory tax rate on profits of MNEs, and are taken from Doing Business (World Bank). The security of MNEs' investment is measured by the Global Competitiveness Report's indices on property rights protection and rules governing FDI (indices range from 1 to 7). The indices increase as the security for MNE's investments improves.

[3] In some cases the data were not available from Eurostat and, in those cases the data is from the country's Central Bank or statistical offices.

Lastly, we include three indices from the Doing Business publication of labor market institutions in the host countries (LMI_j): the rigidity of working hours, the difficulty of firing, and difficulty of hiring in the host country. The rigidity of hours index and the difficulty of hiring index are measures scaled from 0 to 100, with the indexes increasing if they become more rigid. The cost of firing an employee is measured in terms of weeks of compensation. These measures reflect labor market flexibility in the main dimensions in which the literature has focused, and are similar to the measures in Javorcik and Spatareanu (2005). We expect that an increase in the difficulty of hiring index, in the rigidity of hours index, and in the firing costs would lead to a decline in the attractiveness to invest and in that country.

In addition to examining the location decision of a MNE, we also explore the effects of the labor market indicators on the amount of investment that European MNEs made in other European countries during 2005-08. Using the Tobit model, we estimate the following equation for the volume of investment

$$\ln(FDI_{ij} + 1) = \alpha + \gamma * X_i + \beta * FDII_j + \delta * GI_j + \lambda * LMI_j + \varepsilon_{ij} \qquad (2)$$

where the dependent variable is the logarithm of the size of real foreign direct investment made by firm *i* in country *j*. Since the volume of FDI equals zero in the potential destinations in which a given MNE does not operate, we take the log of one plus the volume of FDI. X_i denotes firm specific and home country specific variables. We include real total assets and international experience of a multinational enterprise (MNE) as firm specific variables. Real total assets measures the size of a MNE, whereas the number of foreign subsidiaries of a MNE is used to proxy it's international experience. The expectation is that the size of FDI should increase as a firm gets larger or acquires more international experience. We include home country GDP per-capita, and population to control for purchasing power and market size of the home country. It is

expected that the volume of a MNE's FDI should increase as it's home country gets richer since most MNEs are headquartered in the high-income countries. The other variables are the same as in the previous model.

Panel A in Table 1 presents descriptive statistics of the variables included in our model for all European countries considered in our study. As can be observed, the rules on FDI and the protection of property rights became slightly more encouraging for MNEs between 2005 and 2008, and the level of taxes as a share of commercial profits decreased. We also see that average real wages increased in Europe by approximately 40% during this time period, real GDP per capita increased by approximately 13%, but population remained relative stable. As far as labor market conditions are concerned, average firing cost seems to be fairly constant overtime, whereas, average values of difficulty of hiring workers and rigidity of hours indices show significant variation. Both of these measures indicate that labor market on average became more rigid in 2006, and less rigid in following years. It should also be noted that there is significant variation in the labor market indicators across destination countries at a given time period (reflected in the standard deviation). Also, the variation in the firing costs and difficulty of hiring indices across countries is considerably greater than the variation in the rigidity of hours index.

TABLE 1 ABOUT HERE

To explore whether labor market conditions differ between (a) transition and non-transition economies within Europe, and (b) EU and non-EU countries, Panels B and C of Table 1 present labor market descriptive statistics for these categories.[4] A few differences are noteworthy. Firing costs are consistently higher in non-transition economies and in non-EU countries relative to their counter category. At a given time period, variation in firing costs

[4] See Appendix Table A2 for list of countries in each category.

across non-transition economies is more than double of those in transition economies. Rigidity of hours index and difficulty of hiring index also consistently differ between transition and non-transition economies, but this difference is not consistent across years. The same pattern holds for EU versus non-EU countries.

4 Results

The results of the decision to invest abroad are presented in three parts: the first contemplating the importance of the measures of labor market flexibility of potential host countries on the decision to enter and remain in a host country, the second incorporating the importance of these labor conditions on the amount of FDI that MNEs made in the host countries, and the third explores the effect that labor market flexibility has on FDI according to country classification of the host country (transition versus non-transition economy) and the connectedness of the host country with the rest of the region (i.e., European Union membership).

Table 2, Panel A, presents the results of the conditional logit for the each of the years between 2005 and 2008. Because the interpretation of the coefficients of a logit regression is not straightforward, we report the odds ratio ($\exp(\beta)$) instead.[5] Of interest to us, $\exp(\beta_3)$ indicates whether changes in labor market rigidity increase or decrease the probability that a multinational firm will choose to invest in a given foreign country, *j*, relative to abstaining from investing in that country.

In terms of the regulatory variables that influence the decision to invest abroad by a MNE, the results indicate that host countries with rules that provide greater protection of FDI

[5] The interpretation of this odds ratio is such that a one unit increase in the predictor would lead to an increase in the probability of investing abroad when the odds ratio is greater than one, compared to the default of not investing abroad. Alternatively, when the odds ratio is less than one, a one-unit increase in the predictor would lead to a decreased probability of investing abroad.

have a higher probability of attracting MNEs investment, and it is statistically significant at the one percent level. The results also show that an increase in the protection of property rights in the host country in 2005, 2006 and 2008 led to a higher probability that MNEs would invest in the host country, also statistically significant at the 1 percent level. In 2007, however, the effect of increased property rights protection resulted in a lower probability of MNEs investing in a country. The estimate for the measure of the tax rate on profits indicates that an increase in the tax rate in the host country increases the probability of having MNEs entering or operating in their country, which is also statistically significant at the 1 percent level. While the first two regulatory variables have expected effect on FDI, the effect of corporate tax rates is counterintuitive.

TABLE 2 ABOUT HERE

The results of our second set of explanatory variables – the gravity measures that influence FDI decisions – show the expected impact on the decisions to invest abroad in all cases except one, and are statistically significant at the 1 percent level. Table 2, Panel A indicates that an increase in the average wage in the host country lowers the probability of MNEs investing in that country. The effect is statistically significant in three of the four years. The expected negative relationship is typically interpreted to suggest that MNEs are more attracted to production platforms with lower labor costs. In 2007, however, we find an unexpected result when a higher average wage rate in the host country led to a higher probability of FDI. Other literature has rationalized this type of effect as a signal that MNEs are being attracted to high wage countries when they are interested in producing high tech goods, which requires highly skilled workers, presumably commanding high wages too. So it may be that the type of FDI that was happening that year was more geared to the production of technologically sophisticated

goods, instead of the labor-saving FDI. This seems unlikely, however, for just a single year. An alternative explanation is that 2007 marks the peak in the global business cycle and MNEs may have been temporarily irrationally exuberant in their investment plans. With increased clarity in the markets in 2008, MNEs adjusted their investment plans and reverted back to the norm of investing more in countries with lower average wages. It is worth noting that 2007 was also the only year in which the results for host country property rights protection are counterintuitive.

For the remaining gravity variables the results are as expected. An increase in the GDP per capita in the host country (a proxy for the wealth and purchasing power of its population) led to a higher probability that MNEs will enter and operate in the host country, indicating that foreign investment is also geared to satisfying local demand. In terms of the size of the market, we also find that host countries with larger populations are associated with a higher likelihood of having foreign companies investing in their countries, which reinforces the view that FDI in Europe seems to be somewhat oriented toward satisfying the local demand. The results suggest that the MNE's were engaged in both vertical FDI (i.e., seeking low-cost production platforms) and horizontal FDI (seeking markets in the wealthier countries with high income). The last indicator in this set reveals that host countries that share borders with the country where the MNE is headquartered had a statistically significant higher probability of attracting MNEs to their countries in each of the four years.

The results of the effects of labor market flexibility on potential host countries attracting FDI are consistent with expectations for two of the three variables. An increase in the rigidity of hours index represents less flexibility in the amount and scheduling of working hours. The results indicate a negative relationship, i.e., as host countries allow MNEs more flexibility the probability of attracting FDI increases, which is statistically significant at 5 percent or better. In

terms of the influence of firing costs on the attraction of FDI, the results show that an increase in the number of weeks required to be paid in a severance package (an increase in firing costs) generally led to a lower probability of FDI in the host country, which is statistically significant at the 1 percent level. Both these measure behave as expected because more flexible work hours and smaller cessation costs allow MNEs to reshape labor inputs at lower costs in response to changing market conditions. Examining the effects of the difficulty in hiring workers on FDI, however, we find that a less flexible environment for hiring workers (an increase in the difficulty of hiring index) increased the probability that MNEs would enter and operate in the host country, which is counterintuitive to what one would expect. These findings are statistically significant at the one percent level for three of the four years.

We next turn to the empirical testing of the effects of the regulatory environment, gravity variables, and labor market flexibility on the amount of FDI during 2005-08. Table 2, Panel B presents the evidence on the amount of FDI undertaken by MNEs using the Tobit model in Equation 2 above. The effect of each variable on the amount of FDI is highly consistent with the finding regarding MNE's location decisions for FDI. The host country gravity variables, including GDP per capita, average wage rate, population and geographic proximity, all exhibit the expected signs and are statistically significant at the one percent level for each year.[6] Similarly, the regulatory variables rules on FDI and property rights have the expected signs and are statistically significant at the one percent level for almost all years.[7] The labor market flexibility variables, rigidity of hours index and firing cost indices, as expected, have statistically significant negative effects on the volume of FDI. In this model, we again find counterintuitive effects for corporate tax rate and difficulty of hiring. Host countries with higher total corporate

[6] With the exception that average wage rate for 2007 was not statistically significant.
[7] The exception is property rights for 2007 was not statistically significant.

tax rates attracted larger amounts of FDI during 2005-08 and the relationship is statistically significant at the one percent level. The effect of the difficulty of hiring index on the size of FDI is also counterintuitive and statistically significant at the one percent level for each year except 2007. The Tobit specification provides some additional insights into the impact of investor characteristics (size and international experience of the MNE) on FDI. Not surprisingly, we find that the volume of FDI rises as the size of the MNE and its international experience grows (statistically significantly each year at the one percent level). The model also includes characteristics of the MNE's home country (GDP per capita and population). The expected positive relationships are supported and are statistically significant at the one percent level.

In summary, Table 2 provides evidence that host countries with regulatory environments more favorable toward investors, larger and wealthier domestic markets, lower labor cost, and more flexible labor markets have an advantage over other countries in attracting FDI. These results are consistent with previous findings (Javorcik and Spatareanu, Delbecque *et al*., Olney, Parcon). We do find two unexpected results – the effects of corporate profit tax and difficulty of hiring index. The results for the corporate profit tax may be explained by considering what is included and what is not taken into account in the total tax rate measure. The total tax rate is a "comprehensive measure of the cost of all the taxes a business bears", including profit or corporate income tax, social contributions and labor taxes paid by the employer, property taxes, turnover taxes and other taxes, such as municipal fees and vehicle and fuel taxes (Doing Business). It does not take into account preferential tax treatment that host countries often extend to MNEs on a case-by-case basis, or tax treatment and accounting allowed by home country's regulations. Investment incentives, in the form of tax abatements, have increasingly become an important tool in the competition among countries to attract FDI. Such incentive, however, are

not statutory and, thus, would not be reflected in the tax measure, but certainly may influence the location decisions of MNEs and the amount of FDI. There are also issues of double taxation in home and host country, and the potential for transfer pricing to shift profits and minimize taxation that can impact MNEs response to changes in corporate taxation (see Blonigen (2005)). The unexpected results for the difficulty of hiring index are not easily explained, especially since the other two labor market flexibility measures were largely consistent with expectations across the years in both models. The difficulty of hiring index measures the applicability and duration of fixed-term contracts and the ratio of the country's minimum wage to the average value added per worker. While this measures a somewhat different aspect of labor markets flexibility than the rigidity of hours index and firing cost, it is not readily apparent why they would have opposite effects on FDI.

While some studies (Delbecque *et al*., Görg) have utilized the levels of the gravity variables and labor market indicators as regressors, other studies have used the difference of the labor market indicator in the home country and that of the host country. (Dewit *et al*, Javorcik and Spatareanu) We, thus, examine the relationships between MNEs' decision to invest and differences in corporate tax rates, average wage rate, and the labor market indicators in the home country and host country. The results, in Table 3 below, indicate that all non-labor market variables, with the exception of differences in average tax rates, have the expected signs and are statistically significant at 5% or higher. With respect to the relative labor market conditions, we find that host country rigidity of hours index and firing cost relative to the home country are generally significantly negative related to FDI. We again, however, get counterintuitive results for the difficulty of hiring index. Thus, in general, the results are very similar to those presented in Table 2.

TABLE 3 ABOUT HERE

Since Panels B and C of Table 1 show significant differences in the labor market characteristics of different types of European economies, it is possible that grouping all the European countries together is somehow inexplicably influencing the results on tax rates and the difficulty of hiring. To further investigate the relationships between labor markets and FDI, therefore, we now introduce two alternative controls to try to unveil possible explanations for the unexpected results. We take into consideration that the investment decision of MNEs could be different according to the characteristics and the integration of the market in which they are investing. Since the breakup of the Soviet bloc many European nations have been in various stages of restructuring their economic and political institutions. The same argument can be raised when the potential destination is a European Union (EU) country, since investing in such a EU country involves access to the remaining countries of the EU, abiding by supranational rules and regulation, etc.

In order to examine the behavior of MNEs with regards to the restructuring of potential host countries, we create a dummy variable that takes the value of 1 when the destination country is a transition economy, and zero otherwise. Since our interest is in determining if labor flexibility can have a differential effect on FDI depending on the characteristics of the host countries we only interact our dummy variable with the labor market indicators. The results are presented below in Table 4 for both the logit (Panel A) and Tobit (Panel B) models. As the table shows, the transition dummy is statistically significant in all four cross sections, and indicates a preference towards higher investment in this set of countries starting in 2006, and becoming increasingly stronger through 2008. The effects of the regulatory indicators on FDI are, in general, very similar to our baseline specification in both models, and also for the investor

characteristics in the Tobit model. With respect to the host population and neighboring variables, the results are very similar to the findings for all the European countries. We find, however, that once we control for transition economies, the effects of wages on the location and amount of FDI become tilted towards investing in countries with higher wages – in three of the four years. Higher average wage rates indicate greater purchasing power for workers and may also be a reflection of higher labor productivity. Looking at the results of the effects of host country GDP per capita on FDI, we find the previously consistent positive effect is now negative for 2007 and 2008. Taken together these results suggest that MNEs were giving preference to investing in European countries with higher levels of labor productivity during 2006-08.

TABLE 4 ABOUT HERE

In terms of the labor market indicators, Table 4 shows that there are substantial differences between the effects of labor market flexibility on FDI in transitional versus non-transitional economies. For example, a more flexible environment in terms of determination of working hours in non-transition economies continues to be associated with a higher probability of investing in those host economies, and is statistically significant at the 1 percent level. In the case of a transition economy, the results indicate that this negative relationship holds only for 2006 and 2008. In 2005 and 2007, an increase in the rigidity of working hours in the transition economies increased the probability of investing in the country and increased the amount of FDI. We also find that increases in the cost of dismissing workers in non-transition economies leads to a higher probability that MNEs will invest in these host countries for three of the four years. This effect is not in agreement with our previous results – nor with the expected outcome – but is statistically significant. The effect of higher firing costs in transition economies, however, reduces the probability of MNEs entering and investing in these countries, an effect that is

statistically significant at the one percent level. Thus, the expected negative relationship between firing costs and FDI holds for transition economies, but not for non-transition economies.

The response of FDI to changes in the difficulty of hiring index also corroborates a differential effect of this labor market indicator on the decision to invest in a host country and on the amount of FDI entering these host countries. Our results consistently indicate an increase in the rigidity of hiring in non-transition economies will lead to a greater probability of MNEs investing in the non-transition countries (statistically significant at the 1 percent level). In the case of the transition economies, however, we find some statistically significant evidence of a negative relationship between the difficulty of hiring index and the probability of MNEs investing. For the location decision, the logit model indicates a positive relationship two years and a negative relationship during 2008. In the Tobit model, the amount of investment in transition economies is significantly negatively related to the difficulty of hiring index during two years, and significantly positively related in only one year. Thus, we find statistically significant differences between the transition and non-transition economies and at least some evidence that the unexpected results on the difficulty of hiring index in our previous model may be driven by broader characteristics of the country rather than by the specific labor market institutions.

We further explore this potential differential effect depending on the inherent characteristics of the destination countries by incorporating an indicator on European Union membership. We create a dummy variable that takes the value of 1 when the destination country is a European Union (EU) member, and zero otherwise (see Appendix Table A2 for the list countries in each classification). The results are presented below in Table 5 for both the logit (Panel A) and the Tobit (Panels B) models. It can be observed that the relationship between the

regulatory, gravity and investor characteristic variables and FDI are similar to those presented in Table 2, so we concentrate here on the effects of the labor market indicators and their interactions with the dummy variable. Not surprisingly, the results indicate that the investment decisions of European MNEs have been biased towards investing in EU members, with all estimates of the dummy variable producing a positive influence of EU membership on the attraction of FDI, although the effect is statistically significant in only two years.

TABLE 5 ABOUT HERE

In terms of the impact of the rigidity of hours' index on the decision to invest in a given country, Table 5 shows that greater rigidity in working hours is generally associated with a lower probability to invest in non-EU economies (statistically significant in each year except 2007 in both models). In the case of foreign investment going to EU countries, we find a negative relationship in three years and a marginally positive effect only in 2008 in both models. With respect to the cost of dismissing workers, the results indicate that an increase in the cost of firing workers consistently led to a lower probability of MNEs investing in non-EU economies, an effect that is in accord with the conventional wisdom and statistically significant. Furthermore, for FDI going into EU countries we find the effect of firing costs on FDI remains negative and statistically significant for three of the four years, but positive and statistically significant in 2006 in both models.

The results on the effects of the difficulty of hiring index on FDI are also insightful. Table 5 shows that a more rigid environment in terms of hiring workers is associated with a higher probability of MNEs investing in non-EU countries, which remains counterintuitive and is still statistically significant. For the EU countries, we find a very different set of results. The only year for which there is a statistically significant result is 2007 and the relationship is negative.

While this is consistent with expectations, it is the opposite of the relationship for non-EU countries and of the results in Table 2. Thus, it seems clear that the unexpected results on the difficulty of hiring index found earlier are being driven by the FDI going to non-EU countries.

5. Summary and Conclusions

The decision to invest abroad by MNEs usually emanates from the desire to enter a foreign market when trade barriers are significant (horizontal FDI) or from the search for lower-cost production platforms (vertical FDI). This study of European FDI analyzes the effects of labor market institutions in host countries on FDI, controlling for regulatory frameworks that entice and protect foreign investment (rules on FDI, protection of property rights, and tax obligations), the gravity variables (wage rates, the GDP per capita, population, and proximity to the MNE headquarters), and the special characteristics of the MNE (size, international experience, and home characteristics). The findings suggest that European MNEs generally respond to the regulatory, gravity and firm specific indicators in the expected ways, but their responses to labor market institutions are less consistent.

Our results indicate that labor market institutions play an important role in the determination of the location and amount European MNEs invest in other European countries, but the positive relationship between markets with greater labor market flexibility and foreign investment does not necessarily holds for all labor market indicators, time frames, and types of host countries. The rigidity of working hours indicator is the most consistent of the labor market indicators examined and is largely consistent with the expected relationship throughout the period studied for all the countries taken together. But, we also find when controlling for country classification, FDI in the transition economies is unexpectedly positively related to the rigidity of hours index in two of the four years studied. Also for the firing cost index, unexpected findings

show up in the non-transitional economies for three of the four years and in the EU countries in one year.

The findings on the effects of the difficulty of hiring index on FDI are the most contrary to expectations and previous studies. When taking all the European countries together, increased rigidity in labor market hiring consistently increased the probability of MNEs investing in the host country. When we control for country classification, we find some differences begin to emerge. There is some evidence that in transition and EU economies, MNEs responded in the expected manner to hiring rigidities. Our interpretation is that MNEs may have different objectives when investing (e.g., vertical versus horizontal FDI) in different countries and thus do not always respond to changes in labor market institutions in the same way. While these finding differ somewhat from earlier studies on FDI, they are supported by at least one study indicating that not all labor market regulations have the same effect on FDI flows to developed and developing countries (Parcon (2008)). These findings also suggest that, contrary to what has been viewed by many as a policy consensus, increased labor market flexibility may not attract more FDI in all countries.

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Table 1 Panel A – Descriptive Statistics (All Countries)				
	2005	2006	2007	2008
Rules on FDI (1 – 7)	4.913 (.607)	5.152 (.831)	5.241 (.791)	5.211 (.800)
Property Rights (1 – 7)	5.095 (1.177)	5.136 (1.062)	5.3 (1.106)	5.344 (1.020)
Tax Rate (0 – 100)	47.411 (12.834)	46.947 (12.803)	45.5 (12.229)	44.829 (12.149)
Average Real Wage (1000's USD)	29.346 (21.715)	32.098 (23.871)	34.546 (24.799)	41.346 (29.070)
Real GDP per capita (1000's USD)	17.760 (16.360)	18.237 (16.721)	18.868 (17.317)	19.761 (18.884)
Population (1000's)	20,869 (30,411)	20,924 (30,412)	20,983 (30,421)	21,058 (30,467)
Rigidity of Hours Index (0 – 100)	57.575 (19.545)	60 (17.752)	56.363 (15.919)	52.941 (18.712)
Firing Costs (# of weeks)	28.125 (22.395)	28.125 (22.395)	28.181 (22.105)	28.454 (21.949)
Difficulty of Hiring Index (0 – 100)	33.939 (25.603)	39.696 (21.648)	36.636 (21.529)	36.558 (23.860)
Note: standard deviations in parenthesis				

Table 1 Panel B – Descriptive Statistics (Transition and Non-Transition Economies)								
	2005		2006		2007		2008	
	T.E.	Non T.E.	T.E.	Non T.E.	T.E.	Non T.E.	T.E.	Non T.E.
Rigidity of Hours Index	55.384 (22.400)	59 (17.291)	60 (15.689)	60 (18.973)	60 (19.215)	54 (12.806)	61.538 (14.595)	47.619 (19.000)
Firing Costs	22.230 (11.543)	32.157 (26.711)	22.230 (11.543)	32.157 (26.711)	22.230 (11.543)	32.05 (26.108)	23.384 (11.035)	31.75 (26.233)
Difficulty of Hiring Index	32.384 (25.728)	34.95 (25.470)	38.384 (22.737)	40.55 (20.865)	36.615 (19.201)	36.65 (22.915)	37.538 (23.306)	35.952 (24.177)
Note: standard deviations in parenthesis								

Table 1 Panel C – Descriptive Statistics (European Union and Non- European Union)								
	2005		2006		2007		2008	
	E.U.	Non E.U.	E.U.	Non E.U.	E.U.	Non E.U.	E.U.	Non E.U.
Rigidity of Hours Index	58.333 (20.749)	55.555 (15.713)	61.666 (19.075)	55.555 (12.570)	57.5 (17.618)	53.333 (9.428)	55.2 (20.614)	46.666 (9.428)
Firing Costs	27.434 (21.217)	29.888 (25.071)	27.434 (21.217)	29.888 (25.071)	27.916 (20.898)	28.888 (25.026)	28.291 (20.675)	28.888 (25.0260
Difficulty of Hiring Index	34.458 (25.834)	32.555 (24.922)	38.625 (22.901)	42.555 (17.563)	33.5 (21.511)	45 (19.218)	33.08 (24.116)	46.222 (20.203)
Note: standard deviations in parenthesis								

Table 2 – Determinants of FDI, Levels								
	Panel A - Logit				Panel B - Tobit			
	2005	2006	2007	2008	2005	2006	2007	2008
Logrtotast					0.454***	0.560***	0.632***	0.266***
					(0.017)	(0.019)	(0.020)	(0.017)
Lognumsub					1.883***	1.808***	1.919***	3.517***
					(0.027)	(0.026)	(0.031)	(0.037)
Lnhgdppc					1.644***	1.273***	1.860***	0.129
					(0.098)	(0.095)	(0.087)	(0.088)
Home population					-0.165***	-0.253***	-0.262***	-0.079***
					(0.029)	(0.031)	(0.031)	(0.028)
Host Rules on FDI	2.113***	1.538***	2.130***	1.690***	1.752***	0.955***	1.459***	1.023***
	(0.095)	(0.060)	(0.101)	(0.063)	(0.093)	(0.091)	(0.100)	(0.080)
Host Prop. Rights	1.190***	1.257***	0.895**	1.932***	0.244**	0.546***	-0.047	1.008***
	(0.052)	(0.069)	(0.047)	(0.095)	(0.103)	(0.134)	(0.116)	(0.104)
Host Tax Rate	1.019***	1.040***	1.024***	1.028***	0.034***	0.077***	0.045***	0.043***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.004)	(0.005)	(0.004)	(0.004)
Host Wage	0.461***	0.688***	1.287**	0.636***	-1.384***	-0.755***	0.278	-0.916***
	(0.050)	(0.079)	(0.155)	(0.072)	(0.232)	(0.279)	(0.251)	(0.243)
Host GDP per capita	4.167***	2.547***	1.456***	1.490***	2.784***	1.928***	0.914***	1.108***
	(0.544)	(0.302)	(0.173)	(0.160)	(0.288)	(0.283)	(0.253)	(0.235)
Host Population	2.036***	1.827***	1.965***	1.883***	1.560***	1.411***	1.477***	1.271***
	(0.033)	(0.031)	(0.036)	(0.036)	(0.036)	(0.040)	(0.040)	(0.038)
Neighboring	2.745***	3.356***	3.121***	2.940***	2.579***	2.996***	2.593***	1.870***
	(0.106)	(0.143)	(0.119)	(0.111)	(0.080)	(0.091)	(0.078)	(0.074)
Rigidity of Hours Index	0.991***	0.980***	0.997**	0.997**	-0.016***	-0.041***	-0.008**	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.003)	(0.003)	(0.003)	(0.003)
Firing Costs	0.993***	1.001	0.993***	0.988***	-0.020***	-0.002	-0.016***	-0.022***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)
Difficulty of Hiring Index	1.011***	1.004***	1.001	1.008***	0.022***	0.009***	0.000	0.013***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)
Observations	68536	63766	66927	74731	124746	121502	122748	116543
Pseudo R^2	0.281	0.266	0.267	0.247	0.222	0.225	0.225	0.283

*Note: Odds ratios presented, with explanatory variables used with one lag. Statistical significance given by *** for 1% confidence level, ** for 5% confidence level, and * for 10% confidence level. Standard Errors in parentheses.*

Table 3 – Determinants of FDI, Differences								
	Panel A - Logit				Panel B - Tobit			
	2005	2006	2007	2008	2005	2006	2007	2008
Logrtotast					0.425***	0.555***	0.639***	0.263***
					(0.018)	(0.020)	(0.021)	(0.017)
Lognumsub					1.956***	1.813***	1.954***	3.623***
					(0.0281)	(0.0275)	(0.0319)	(0.0385)
Lnhgdppc					0.061	0.773***	1.258***	-0.638***
					(0.206)	(0.227)	(0.193)	(0.193)
Lnhpop					-0.276***	-0.042	-0.265***	-0.236***
					(0.034)	(0.040)	(0.039)	(0.038)
Host Rules on FDI	2.218***	1.590***	2.177***	1.751***	1.508***	0.865***	1.261***	0.934***
	(0.103)	(0.064)	(0.106)	(0.067)	(0.090)	(0.082)	(0.080)	(0.077)
Host Prop. Rights	1.181***	1.247***	0.907*	1.857***	0.172*	0.540***	0.086	0.514***
	(0.053)	(0.070)	(0.049)	(0.093)	(0.097)	(0.124)	(0.108)	(0.090)
Diff. Total Tax Rate	0.980***	0.961***	0.976***	0.974***	-0.010**	-0.055***	-0.023***	-0.014***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	(0.004)	(0.003)	(0.003)
Diff. Average Wage	1.928***	1.252*	0.692***	1.420***	1.687***	0.912***	0.651***	0.436**
	(0.212)	(0.148)	(0.086)	(0.164)	(0.179)	(0.200)	(0.191)	(0.202)
Host C. GDP per capita	3.629***	2.161***	1.265*	1.381***	3.241***	2.103***	1.772***	1.192***
	(0.484)	(0.263)	(0.155)	(0.151)	(0.232)	(0.221)	(0.207)	(0.198)
Host Population	2.054***	1.845***	1.981***	1.899***	1.767***	1.533***	1.623***	1.389***
	(0.034)	(0.032)	(0.037)	(0.037)	(0.037)	(0.038)	(0.037)	(0.034)
Neighboring	2.857***	3.458***	3.187***	2.965***	2.660***	3.049***	2.686***	2.127***
	(0.112)	(0.149)	(0.123)	(0.113)	(0.081)	(0.092)	(0.079)	(0.075)
Diff. Rigidity of Hours Index	1.009***	1.020***	1.003**	1.002*	0.026***	0.045***	0.013***	-0.011**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.003)	(0.002)	(0.002)
Diff. Firing Costs	1.007***	0.999	1.007***	1.011***	0.014***	-0.002	0.013***	0.014***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)	(0.001)	(0.001)
Diff. D.H. Index	0.988***	0.995***	0.998*	0.992***	-0.020**	-0.014**	-0.006**	-0.004**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Observations	65720	60854	64015	72256	119722	116350	118236	113441
Pseudo R^2	0.286	0.271	0.271	0.247	0.226	0.228	0.226	0.281
*Note: Odds ratios presented, with explanatory variables used with one lag. Statistical significance given by *** for 1% confidence level, ** for 5% confidence level, and * for 10% confidence level. Standard Errors in parentheses.*								

Table 4 – Determinants of FDI, Transition Economies								
	Panel A - Logit				Panel B - Tobit			
	2005	2006	2007	2008	2005	2006	2007	2008
Logrtotast					0.460***	0.563***	0.638***	0.269***
					(0.017)	(0.019)	(0.019)	(0.017)
Lognumsub					1.878***	1.810***	1.908***	3.506***
					(0.026)	(0.026)	(0.030)	(0.036)
Lnhgdppc					1.645***	1.269***	1.873***	0.115
					(0.098)	(0.095)	(0.087)	(0.088)
Lnhpop					-0.155***	-0.253***	-0.248***	-0.076***
					(0.029)	(0.030)	(0.030)	(0.028)
Host Rules on FDI	2.552***	1.672***	1.630***	1.985***	2.031***	1.114***	0.992***	1.224***
	(0.132)	(0.067)	(0.077)	(0.081)	(0.110)	(0.093)	(0.097)	(0.083)
Host Prop. Rights	1.091*	0.911	0.987	1.239***	0.116	-0.107	0.016	0.347**
	(0.050)	(0.054)	(0.058)	(0.064)	(0.103)	(0.143)	(0.124)	(0.108)
Host Tax Rate	1.030***	1.053***	1.042***	1.043***	0.055***	0.102***	0.083***	0.067***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.004)	(0.005)	(0.004)	(0.004)
Host Wage	0.358***	2.460***	9.454***	6.902***	-1.508***	1.812***	4.135***	2.976***
	(0.059)	(0.411)	(1.550)	(1.091)	(0.362)	(0.406)	(0.367)	(0.337)
Host C. GDP per capita	8.394***	1.822***	0.641***	0.665***	3.915***	1.275***	-0.582*	-0.348
	(1.328)	(0.251)	(0.089)	(0.089)	(0.348)	(0.328)	(0.306)	(0.282)
Host Population	2.093***	1.726***	1.466***	1.548***	1.610***	1.298***	0.877***	0.918***
	(0.044)	(0.038)	(0.031)	(0.033)	(0.043)	(0.049)	(0.042)	(0.040)
Neighboring	2.837***	3.350***	3.326***	2.869***	2.560***	2.976***	2.674***	1.814***
	(0.112)	(0.144)	(0.132)	(0.111)	(0.081)	(0.090)	(0.079)	(0.074)
TE	0.292***	2.329***	7.831***	87.150***	-1.766***	1.777***	3.348***	7.552***
	(0.068)	(0.508)	(1.579)	18.295	(0.521)	(0.518)	(0.433)	(0.432)
Rigidity of Hours Index	0.969***	0.972***	0.967***	0.995***	-0.058***	-0.055***	-0.072**	-0.004
	(0.002)	(0.002)	(0.002)	(0.001)	(0.004)	(0.003)	(0.004)	(0.002)
RHI + RHI*TE	1.010***	0.995**	1.006***	0.992***	0.018***	-0.011***	0.017***	-0.015***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.004)	(0.005)	(0.004)	(0.005)
Firing Costs	1.001	1.013***	1.011***	1.005***	-0.002	0.023***	0.021***	0.005*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.003)	(0.003)	(0.002)	(0.003)
FC + FC*TE	0.999	0.971***	0.941***	0.932***	-0.008	-0.064***	-0.122***	-0.119***
	(0.005)	(0.004)	(0.004)	(0.004)	(0.011)	(0.009)	(0.008)	(0.009)
DHI	1.020***	1.005***	1.013***	1.011***	0.039***	0.009***	0.026***	0.018***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.003)	(0.002)	(0.002)	(0.00.)
DHI + DHI*TE	1.016***	1.012***	1.000	0.997*	-0.032***	0.027***	0.004	-0.005*
	(0.001)	(0.001)	(0.002)	(0.001)	(0.003)	(0.004)	(0.004)	(0.002)
Observations	68536	63766	66927	74731	124746	121502	122748	116543
Pseudo R^2	0.293	0.273	0.288	0.261	0.226	0.227	0.232	0.287

*Note: Odds ratios presented, with explanatory variables used with one lag. Statistical significance given by *** for 1% confidence level, ** for 5% confidence level, and * for 10% confidence level. Standard Errors in parentheses.*

Table 5 – Determinants of FDI, European Union								
	Panel A - Logit				Panel B - Tobit			
	2005	2006	2007	2008	2005	2006	2007	2008
Logrtotast					0.451*** (0.017)	0.559*** (0.019)	0.634*** (0.020)	0.267*** (0.017)
Lognumsub					1.881*** (0.027)	1.808*** (0.026)	1.907*** (0.031)	3.492*** (0.037)
Lnhgdppc					1.660*** (0.098)	1.255*** (0.096)	1.862*** (0.087)	0.141 (0.088)
Lnhpop					-0.153*** (0.029))	-0.258*** (0.031)	-0.243*** (0.030)	-0.067 (0.028)
Host Rules on FDI	0.825*** (0.050)	1.179*** (0.050)	1.079 (0.055)	1.461*** (0.057)	-0.164 (0.126)	0.385*** (0.095)	0.143 (0.106)	0.734*** (0.075)
Host Prop. Rights	1.515*** (0.066)	0.929 (0.053)	1.154*** (0.062)	1.137** (0.062)	0.811*** (0.095)	-0.099 (0.136)	0.401*** (0.114)	0.063 (0.109)
Host Tax Rate	1.007*** (0.002)	1.023*** (0.002)	1.012*** (0.002)	1.004** (0.002)	0.013*** (0.004)	0.043*** (0.005)	0.020*** (0.004)	0.001 (0.004)
Host Wage	0.340*** (0.042)	0.640*** (0.079)	0.773* (0.109)	0.870 (0.097)	-2.067*** (0.262)	-0.775** (0.282)	-0.481 (0.289)	-0.112 (0.223)
Host C. GDP per capita	5.575*** (0.798)	3.461*** (0.447)	2.068*** (0.300)	1.590*** (0.175)	3.321*** (0.311)	2.420*** (0.301)	1.389*** (0.313)	0.968*** (0.230)
Host Population	2.290*** (0.042)	1.995*** (0.038)	2.024*** (0.039)	2.160*** (0.048)	1.786*** (0.039)	1.555*** (0.044)	1.480*** (0.040)	1.467*** (0.044)
Neighboring	2.874*** (0.114)	3.666*** (0.160)	3.774*** (0.150)	3.618*** (0.141)	2.629*** (0.081)	3.106*** (0.091)	2.830*** (0.078)	2.119*** (0.074)
EU	1.308 (0.272)	6.038*** (2.197)	69.790*** (30.465)	1.089 (0.391)	0.312 (0.429)	3.831*** (0.830)	7.812*** (0.983)	-0.055 (0.748)
Rigidity of Hours Index	0.958*** (0.004)	0.984** (0.007)	1.010 (0.007)	0.955*** (0.006)	-0.090*** (0.009)	-0.032* (0.016)	0.017 (0.015)	-0.081*** (0.014)
RHI + RHI*EU	0.988*** (0.001)	0.983*** (0.001)	0.990*** (0.001)	1.002* (0.001)	-0.021** (0.003)	-0.034*** (0.003)	-0.019** (0.003)	0.009*** (0.003)
Firing Costs	0.985*** (0.003)	0.985*** (0.003)	0.962*** (0.002)	0.956*** (0.002)	-0.036*** (0.006)	-0.040*** (0.008)	-0.077*** (0.005)	-0.076*** (0.005)
FC + FC*EU	0.997** (0.001)	1.004*** (0.001)	1.001 (0.001)	0.997*** (0.001)	-0.009*** (0.002)	0.008*** (0.002)	-0.001 (0.002)	-0.008*** (0.002)
DHI	1.039*** (0.003)	1.029*** (0.004)	1.058*** (0.003)	1.049*** (0.003)	0.082*** (0.006)	0.063*** (0.009)	0.101*** (0.007)	0.080*** (0.005)
DHI + DHI*EU	1.001 (0.001)	0.999 (0.001)	0.994*** (0.001)	1.001 (0.001)	0.000 (0.006)	-0.003 (0.002)	-0.013** (0.002)	0.000 (0.002)
Observations	68536	63766	66927	74731	124746	121502	122748	116543
Pseudo R^2	0.302	0.285	0.306	0.280	0.229	0.231	0.237	0.294
*Note: Odds ratios presented, with explanatory variables used with one lag. Statistical significance given by *** for 1% confidence level, ** for 5% confidence level, and * for 10% confidence level. Standard Errors in parentheses.*								

Appendix

Table A.1 – Home Countries of Multinationals in Sample		
AUSTRIA	IRELAND	ROMANIA
BELGIUM	ITALY	RUSSIAN FEDERATION
BOSNIA AND HERZEGOVINA	LATVIA	SERBIA
BULGARIA	LIECHTENSTEIN	SLOVENIA
CROATIA	LITHUANIA	SLOVAKIA
CZECH REPUBLIC	LUXEMBOURG	SPAIN
DENMARK	MACEDONIA (FYROM)	SWEDEN
ESTONIA	MALTA	SWITZERLAND
FINLAND	MONACO	TURKEY
FRANCE	MOLDOVA REPUBLIC OF	UKRAINE
GERMANY	NETHERLANDS	UNITED KINGDOM
GREECE	NORWAY	
HUNGARY	POLAND	
ICELAND	PORTUGAL	

Table A.2 – Country Classifications		
Country	Transition Economy (0=No, 1=Yes)	European Union (0=No, 1=Yes)
AUSTRIA	0	1
BELGIUM	0	1
BOSNIA AND HERZEGOVINA	0	0
BULGARIA	1	1
CROATIA	1	0
CYPRUS	0	1
CZECH REPUBLIC	1	1
DENMARK	0	1
ESTONIA	1	1
FINLAND	0	1
FRANCE	0	1
GERMANY	0	1
GIBRALTAR	0	0
GREECE	0	1
HUNGARY	1	1
ICELAND	0	0
IRELAND	0	1
ITALY	0	1
LATVIA	1	1
LIECHTENSTEIN	0	0
LITHUANIA	1	1
LUXEMBOURG	0	1
MACEDONIA (FYROM)	0	0
MALTA	0	1
REPUBLIC OF MOLDOVA	1	0
MONACO	0	0
NETHERLANDS	0	1
NORWAY	0	0
POLAND	1	1
PORTUGAL	0	1
ROMANIA	1	1
RUSSIAN FEDERATION	1	0
SERBIA	1	0
SLOVAKIA	1	1
SLOVENIA	1	1
SPAIN	0	1
SWEDEN	0	1
SWITZERLAND	0	0
TURKEY	0	0
UKRAINE	1	0
UNITED KINGDOM	0	1