FOREIGN INVESTMENT AND INSTITUTIONAL REFORM: PORTUGAL IN EUROPEAN PERSPECTIVE*

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ABSTRACT

As intraregional transaction costs across the globe were reduced, national jurisdictions tended to rely more heavily on business facilitation measures that provide incoming firms with a suitable business environment. It is therefore of utmost importance to understand the role played by the institutional framework on inward Foreign Direct Investment (FDI), as well as to evaluate the potential benefits and costs in terms of FDI inflows of improving/reforming national institutions. This article points out the major institutional gaps between Portugal and the most institutionally advanced countries in the European Union (EU) for those areas impacting FDI positively, and estimates and assesses the expected benefits, the required reform efforts, and the efficiency of reform options corresponding to a convergence of Portuguese institutions with the EU's best institutional standards. Reform options are evaluated through three distinct institutional databases: the 2013 Index of Economic Freedom, the 2006 Political Risk Rating from the International Country Risk Guide, and the 2013 Doing Business. Our results indicate that institutional reforms promoting a leaner bureaucracy, lowering political risk, corruption, and the constraints on the flow of investment capital, improving the respect and protection of property rights, and promoting a strong and impartial legal environment–institutional areas where Portugal is behind the EU's best institutional standards–may significantly affect the amount of bilateral inward FDI that is targeted to Portugal. Business friendly regulations *per se* have an estimated second order effect on FDI. Closing the Portuguese institutional gap *vis-à-vis* the EU's most institutionally advanced countries has an estimated effect on FDI that can go up to 60 percent.

1. Introduction

Since the 1990s, Foreign Direct Investment (FDI) has gained importance in an increasingly globalized economy, for both developing and developed countries, and Portugal is no exception. The United Nations Conference on Trade and Development (UNCTAD) reports an increase in FDI stocks for Portugal from 14 to over 45 percent of GDP, in the period between 1990 and 2011. This figure compares with an increase from 13 to 28 percent in developing countries and from 9 to 30 percent in developed economies.

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From the viewpoint of host countries, FDI brings several advantages in addition to the direct effects on output and employment levels. FDI is often associated with technological transfer, the introduction of management skills and business culture, and changes in the productive structure of a country. In addition to the business environment, it may be a lever to improve local host country institutions (Larraín and Tavares, 2004). As such, FDI may be more conducive to long-run growth and development than other forms of portfolio inflows or trade in goods and services (Barrell and Pain, 1997; Borensztein *et al.*, 1998). FDI may also impact the balance of payments, as multinational firms have a greater propensity to export than do domestic firms.

It is therefore not surprising that a substantial amount of research has been devoted to explore the determinants of FDI. A first wave of research articles focused solely on economic and geographic determinants, including host-country market size, economic growth, openness, and the geographical distance between countries (*e.g.* Culem, 1988; Grubert and Mutti, 1991; Wheeler and Mody, 1992; Tsai, 1994; Barrell and Pain, 1996; Cassou, 1997; Love and Lage-Hidalgo, 2000; Bevan and Estrin, 2004; Janicki and Wunnava, 2004). However, as FDI increased worldwide, so did the awareness of the importance of institutional factors associated with regional integration agreements. As intraregional transaction costs across the globe were reduced, national jurisdictions tended to rely more heavily on business facilitation measures that provide incoming firms with a suitable business environment. An institutional and beneficial "race to the top" is taking place among jurisdictions (UNCTAD, 1999).

A second wave of research articles, suggesting that institutional and political risk factors have a role in explaining inward FDI, has therefore emerged (*e.g.* Schneider and Frey, 1985; Wei, 2000; Wei and Shleifer, 2000; Biswas, 2002; Larraín and Tavares, 2004; Bénassy-Quéré *et al.*, 2007). Better institutions promote FDI for a variety of reasons. First, good governance is associated with higher economic growth, itself an important driver of FDI. Second, better governance is usually associated with lower corruption and business costs. Finally, good institutions foster political stability and decrease political uncertainty. FDI is expected to flow to countries with a stable economic environment and strong institutions, where, *ceteris paribus*, running a business is a more promising endeavor. The framework above suggests the relevance of studying institutional improvements/reforms as a means to attract larger amounts of FDI.

This article starts by evaluating the role played by different institutional areas in incoming bilateral FDI. The results suggest that a strong and impartial legal environment, characterized by low corruption levels and the respect and protection of property rights, an independent financial system and a leaner bureaucracy, and few constraints on the flow of investment capital, are major institutional drivers of inward FDI. Business friendly regulations *per se* play a lesser role.

The article then assesses the relative performance of Portuguese institutions within the EU for those areas impacting FDI positively, and estimates the expected benefits, the required reform efforts, and the efficiency of reform options corresponding to a convergence of Portuguese institutions with the EU's best institutional standards, as measured by the performance of the most institutionally advanced countries. Reform options are evaluated according to the latest institutional data we had access to, namely the 2013 Index of Economic Freedom, the 2006 Political Risk Rating from the International Country Risk Guide, and the 2013 Doing Business. Our conclusions indicate that the Portuguese institutional framework is well below the best European practices in those areas whose effect on inward FDI is largest. Institutional improvements implying a convergence with the most institutionally advanced countries may boost inward FDI around 60 percent, *ceteris paribus*. These are very important effects for a small open economy seeking to attract larger amounts of FDI.

The article is organized as follows. Section 2 describes the data collected and used in the empirical analysis. Section 3 presents the econometric methodology. Section 4 estimates the effect of institutions on inward FDI. Section 5 analyzes the prospects for institutional reform in Portugal, corresponding to a convergence of the Portuguese institutional performance with the best European practices. Section 6 concludes.

2. Data

We first identify the key institutional areas that drive inward FDI, using a cross-section of incoming FDI stocks from 86 source countries to 28 European host countries. Both source and host countries were selected according to data availability. Over 90 percent of Europe's inward FDI originates from the source countries included, and selection bias should therefore not be a major issue. The literature has advocated the use of FDI stocks relative to flows, as the former are based on accumulated flows – hence less volatile – and are the relevant decision variable for a firm in the long term. In addition, FDI stocks are a better measure of capital ownership (Bénassy-Quéré *et al.*, 2007). We use a 3-year average for FDI stocks, a practice followed in the literature (Wei and Shleifer, 2000; Stein and Daude, 2007) to avoid the influence of sudden changes in FDI's valuation. We analyze the period 2005–2007, in order to avoid the effects of the 2008 financial crisis on FDI. Data were collected from the Eurostat database.

We explain incoming FDI according to an augmented gravity-type model, using geographic, economic, and institutional regressors. As for geographical factors, we include the physical distance between host and source countries' capitals – which can be seen as a proxy for transaction costs, including transport and communication costs, and cultural and language barriers – and a border dummy variable, which takes the value of 1 only if source and host countries share a common border. A greater distance between source and host countries is expected to have a negative impact on FDI, whereas a common border should have a positive effect.

Our key economic variables are the host country's GDP (a proxy for market size), the GDP growth rate (a proxy for market growth), and labor costs. One cannot include per capita GDP and labor costs simultaneously in the model, as these variables are highly correlated. GDP and GDP growth are expected to have a positive impact on FDI. The role of labor costs is less straightforward, since they may reflect labor productivity. We also consider the degree of openness – the share of imports plus exports over GDP – as a measure of trade flows. Naturally, openness should have a positive effect on inward FDI. Our study also considers the role of education, measured by the mean years of schooling in each country. Education may have an ambiguous effect on FDI, since more education, on the one hand, implies higher labor productivity, but, on the other, is associated with higher wage costs (Altomonte and Guagliano, 2003). Finally, we include the Effective Average Tax Rate (EATR) as a measure of the tax burden.[1]

GDP, growth, and openness were collected from the Eurostat database, and labor costs from AMECO. Mean years of schooling were taken from Barro and Lee's (2010) database, whereas the effective average tax rate was kindly provided by Michael Overesch.[2] Regressors are for the year 2004, with the exception of mean years of schooling, which was collected for 2005 due to data restrictions. We explain average incoming FDI for the 2005–2007 period using economic and institutional data for the year 2004 so that potential endogeneity issues are avoided. These are particularly important for GDP and GDP growth (Borensztein *et al.*, 1998; Barrell and Pain, 1997).

To obtain a characterization of the institutional environment that is as complete as possible, we use three distinct databases: the Index of Economic Freedom from the Heritage Foundation, the Political Risk Rating database from the Political Risk Services Group, and the Doing Business database from the World Bank.

Data for the Index of Economic Freedom cover the institutional framework in the second half of 2003 and in the first half of 2004. The Index of Economic Freedom is composed of ten different components:

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1 The statutory tax rate is the relevant variable for companies seeking to shift income towards low tax countries, whereas the effective average tax rate reflects the incentives (such as investment tax credits and accelerated depreciation) that are granted to firms when the investment occurs (Grubert and Mutti, 1991). The effective marginal tax rate captures incentives to use new capital once the location choice has been made. The effective average tax rate should thus be the most important decision variable for multinationals seeking to invest abroad (Devereux and Griffith, 1998).

2 See Overesch and Rincke (2009).

business freedom, trade freedom, fiscal freedom, government freedom, monetary freedom, investment freedom, financial freedom, property rights, corruption freedom, and labor freedom. It is expected that societies with better scores in terms of economic freedom attract higher levels of FDI, as they offer investors greater protection of property rights, lower tax burdens, fewer restrictive regulations, less bureaucracy, and less corruption.[3]

The Political Risk Rating, collected for the year 2004, comprises twelve indicators: government stability, socioeconomic conditions, investment profile, internal conflicts, external conflicts, corruption, military in politics, law and order, religious tensions, ethnic tensions, democratic accountability, and bureaucracy quality. Naturally, higher instability levels and economic as well as political uncertainty make investments riskier, leading to an expected decrease in incoming FDI. It is worth emphasizing that the indicator "corruption freedom" from the Index of Economic Freedom evaluates the overall level of corruption within a society, whereas the indicator "corruption" from the Political Risk Rating assesses only the prevalence of corruption within the political system.

Finally, the Doing Business database evaluates the cost of starting, operating, and closing a medium-sized firm in a given country, complementing the more generic information on business regulations reported by the Index of Economic Freedom, namely the business freedom indicator. The data collected respect the 2006 report, which addresses business regulations as of June 1, 2005, and cover 33 variables in nine different areas – starting a business, dealing with construction permits, registering property, getting credit, protecting investors, paying taxes, trading across borders, enforcing contracts, and closing a business.[4] For convenience, we constructed an index for each of these nine areas.[5]

To ease comparisons across institutional indicators, all indexes for the three institutional databases were rescaled to the 0–10 range, with higher scores always indicating better performances.

In Section 5 we rely on more recent available institutional data – from the 2013 Index of Economic Freedom, the 2013 Doing Business report, and the 2006 Political Risk Rating – to evaluate institutional reform in Portugal taking the current institutional status as bottom line.[6]

3. Econometric Methodology

We use the gravity model to study the determinants of inward bilateral FDI. The gravity model was developed in the context of international trade (Eaton and Tamura, 1995), but it has also been successfully applied to explain bilateral FDI (Wei, 2000; Wei and Shleifer, 2000). In its simplest formulation, the gravity model states that the larger the economic mass of the countries involved and the smaller the distance between them, the higher the predicted bilateral inward FDI. In this article we use an augmented version of the original gravity model that takes into account other economic and institutional factors affecting incoming FDI.

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3 The Index of Economic Freedom is available at http://www.heritage.org/index. Economic freedom is the right of every citizen to control his or her own labor and property. As put forward by the Heritage Foundation, "In a free society, individuals are free to make their own production and consumption decisions, protected and unconstrained by the state".

4 The Doing Business report is a co-publication of the World Bank and the International Finance Corporation, and the data are available at http://www.doingbusiness.org. Data for the nine different areas of Doing Business were first made available in the 2006 report.

5 First, we converted to an index all the 33 variables of the Doing Business report, using the min-max standardization method, according to which the value of a variable is scaled and converted into an index reflecting its relative position in the effective range taken by that same variable (given by the distance between the maximum and the minimum value). We thereafter aggregated, through a simple average, all indexes that characterize a given area of doing business.

6 For the Political Risk Rating, the latest data we had access to respects 2006.

Denoting by j the source country and by i the host country, we estimate the following augmented gravity-type equation in multiplicative form[7]

$$FDI_{ij} = \exp[\alpha c_j + \beta_1 DISTANCE_{ij} + \beta_2 ECO_i + \beta_3 INST_i]\zeta_{ij} \quad (1)$$

where FDI_{ij} is the inward FDI stock from country j to country i; $DISTANCE_{ij}$ is a vector composed of the physical distance between country j's and country i's capitals and the border dummy variable; ECO_i is a vector containing economic indicators for the host country, namely GDP, GDP growth, labor costs, the degree of openness, education, and the effective average tax rate; $INST_i$ is a vector of institutional variables for the host country; c_j are source country dummies; ζ_{ij} is an error term; and finally, $\alpha, \beta_1, \beta_2, \beta_3$ are vectors of parameters to be estimated.

We use two alternative approaches to evaluate the effects of institutions of FDI. In the first, we summarize each institutional database in a smaller set of information, by taking the simple average of those indicators that are highly correlated. These new constructed indicators can be interpreted as representing the overall institutional performance. In the second, we evaluate the individual effect of institutions on inward FDI – an empiricist approach widely followed in the literature (Chakrabarti, 2001; Walsh and Yu, 2010).

It should be pointed out that most institutional indicators aggregate qualitative information over a multidimensional set of elements. Although our analysis identifies which institutional areas are most relevant to boost inward FDI, as well as those which should be targeted in a reform package, it does not provide sufficient information to allow the design of specific reform proposals. Such exercise would require detailed information on each specific institutional area, something that is outside the scope of this article.[8]

4. Institutional Determinants of FDI

4.1. The role of the overall institutional performance

We first summarize the indicators from the Index of Economic Freedom, the Political Risk Rating, and the Doing Business into a smaller set of components, which are then used in (1) to capture the overall institutional framework of a country. For each institutional database, the newly created institutional components reflects the simple average of those indicators that have the highest correlation amongst themselves.

For the Index of Economic Freedom, two components were computed. The first component – hereinafter "firms' freedom" – is related with elements that influence the regular activity of business firms, potentially impacting their profitability. This component reflects: property rights, business freedom, corruption freedom, financial freedom, investment freedom, monetary freedom, labor freedom, and trade freedom. The second component – which we term "public sector freedom" – measures the public sector effects on economic freedom, *viz* fiscal freedom and government freedom.

For the Political Risk Rating, we identified three components. The first component is interpreted as "political risk", and relates to political risk factors directly affecting firms: the quality of bureaucracy,

7 Estimation is done through the Poisson Pseudo-Maximum-Likelihood estimator. For further details on the estimation methodology, see our *Working Paper* "Foreign Direct Investment and Institutional Reform: Evidence and an Application to Portugal."

8 For instance, the "investment freedom" indicator aggregates information on the degree of transparency and bureaucracy associated with the foreign investment code, restrictions on land ownership, sectoral restrictions on investment, or expropriation of investments without fair compensation, among others. It is not possible to evaluate which of these specific restrictions play the most important role in inward FDI. The same argument can be applied to most indicators used herein.

investment profile, socioeconomic conditions, corruption, the presence of the military in politics, democratic accountability, law and order, and the occurrence of internal and external conflicts. The second component reflects religious and ethnic tensions, and is simply termed "political tensions". The last component relates to government stability.

For Doing Business data, we opted to compute only one component, interpreted as representing an overall measure of the cost of doing business imposed by regulations, since there was no clear alternative decomposition. This component is the simple average of the nine constructed indicators for the Doing Business: starting a business, dealing with construction permits, registering property, getting credit, protecting investors, paying taxes, trading across borders, enforcing contracts, and closing a business.

The results are presented in Table 1. As firms' freedom, political risk, and the doing business components are highly correlated, sharing similar base indicators, we opted not to include them simultaneously in the regressions. Recall that higher index values indicate better performances. Columns (1) and (2) identify an effect on inward FDI of 31 ($e^{0.273}-1$) percent for each point increase in firms' freedom component, and of 59 ($e^{0.463}-1$) percent for each point increase in the political risk component.[9] On the opposite direction, the results in column (3) do not support the hypothesis that the ease of doing business *per se* is an important attractor of FDI.

Public sector freedom comes out with a negligible effect on FDI in all specifications. This component includes fiscal freedom and government freedom. Fiscal freedom assesses the fiscal burden of a society, more freedom being associated with lower taxes. As it includes the top tax rate on corporate income, *ceteris paribus*, one should expect higher values in fiscal freedom to be associated with more FDI. Government freedom measures the level of government expenditures as a percentage of GDP, with more freedom being associated with lower expenditures. Theoretically, it is not clear whether this indicator should attract or repel FDI, as higher public expenditures may be associated with better infrastructure, more stable socioeconomic conditions, or greater incentives for FDI, as well as with a higher future fiscal burden and fiscal uncertainty. Political tensions are also insignificant. Government stability affects inward FDI positively.

Results for geographic and economic factors are in line with the expected impacts. Geography plays an important role in bilateral inward FDI, with Table 1 suggesting the presence of both a border effect and a distance effect. The level of GDP also comes out as statistically significant in all specifications, giving support to the market size hypothesis. Economic growth and the degree of openness play a positive role, but the effect is not robust to different specifications. Labor costs impact FDI negatively when firms' freedom or political risk are included in the regression, but the effect is positive if doing business is included instead. Labor costs are highly correlated with institutional quality, as better institutions are associated with higher income countries, where labor costs are also higher. Since the overall institutional quality is more appropriately captured through the firms' freedom or political risk components, the results in columns (1)–(2) should be more robust *vis-à-vis* the results in column (3), where the doing business indicator is considered instead. Hence, evidence seems to corroborate the fact that higher labor costs retract inward FDI, *ceteris paribus*, though only the effect in column (2) is statistically significant. Finally, the effects of education and the effective average tax rate are non-significant.

An important point worth mentioning is that, albeit education does not seem to influence the total amount of FDI, it should play a key role in the type of FDI. Naturally, countries with higher education levels are more likely to attract FDI in high tech industries, whereas countries where the educational performance is lower might attract mostly investments in low tech industries.

9 We report marginal effects for non-logarithmic regressors using the formula $e^{\hat{\beta}}-1$, where $\hat{\beta}$ is the estimated parameter.

Table 1

THE DETERMINANTS OF FOREIGN DIRECT INVESTMENT			
	(1)	(2)	(3)
Geographic factors			
border	0.598***	0.626***	0.538***
	(0.119)	(0.117)	(0.120)
log distance	-0.591***	-0.539***	-0.676***
	(0.113)	(0.114)	(0.100)
Economic factors			
log GDP	0.865***	0.989***	1.006***
	(0.089)	(0.098)	(0.095)
GDP growth	0.111	0.113	0.210**
	(0.077)	(0.072)	(0.085)
log labor costs	-0.264	-0.459**	0.098
	(0.164)	(0.186)	(0.170)
openness	0.003	0.004**	0.011***
	(0.002)	(0.002)	(0.003)
education	0.023	-0.069	-0.089
	(0.051)	(0.061)	(0.061)
effective average tax rate	0.013	0.001	0.015
	(0.015)	(0.014)	(0.014)
Institutional factors			
firms' freedom	0.273**		
	(0.107)		
public sector freedom	0.017	-0.000	0.016
	(0.037)	(0.037)	(0.042)
political risk		0.463***	
		(0.140)	
political tensions	-0.032	-0.103*	0.092
	(0.055)	(0.061)	(0.059)
government stability	0.189**	0.163**	0.132*
	(0.079)	(0.077)	(0.080)
doing business			-0.003
			(0.121)
Observations	1832	1832	1768
Pseudo-R2	0.910	0.912	0.911

Source: Authors' calculations.

Notes: White-robust standard errors in parentheses. *, **, and *** represent rejections at 10, 5, and 1 percent significance levels, respectively. Source country dummies were included, but are not displayed.

All in all, our results hint that better institutions and lower political risk attract FDI. The quantitative magnitude of the effects is very important, and suggests an active role to be played by local governments, as institutional improvements providing better business environments to multinational firms are able to raise incoming FDI in large amounts. In addition, investors seem to pay more attention to the country's overall institutional framework than to business regulations specifically. Below we identify which institutions are more conducent to incoming FDI and should therefore be considered as potential targets for reform by local governments.

4.2. Institutional breakdown

The analysis above focused on the effects of institutions on FDI at an aggregate level. It was silent as to the effects of specific institutions on FDI. We now re-estimate equation (1) by adding each institutional variable individually to the baseline model, controlling for geographic and economic variables. That is, we estimate 31 equations, one for each institutional indicator.

The results for the coefficients of institutional regressors are presented in Table 2. All indicators range from 0 to 10, with higher index values always indicating better performances. For reasons of parsimony,

Quadro 2

THE DETERMINANTS OF FOREIGN DIRECT INVESTMENT | INSTITUTIONAL BREAKDOWN

		coeff.	st. dev.		coeff.	st. dev.
Index of Economic Freedom	**corruption freedom**	0.174***	0.051	**financial freedom**	0.144***	0.037
	investment freedom	0.168***	0.052	**property rights**	0.131**	0.064
	government freedom	0.046*	0.028	labor freedom	-0.011	0.048
	business freedom	0.023	0.079	monetary freedom	-0.040	0.139
	trade freedom	-0.038	0.166	fiscal freedom	-0.004	0.055
Political Risk Rating	**democratic accountability**	0.453***	0.099	**socioeconomic conditions**	0.252***	0.079
	government stability	0.218***	0.074	**law and order**	0.167***	0.056
	bureaucracy quality	0.118**	0.048	**corruption**	0.092**	0.037
	investment profile	0.138	0.136	external conflicts	0.093	0.091
	military in politics	-0.011	0.091	internal conflicts	-0.045	0.099
	religious tensions	0.032	0.041	ethnic tensions	0.015	0.049
Doing Business	**paying taxes**	0.146**	0.074	**trading across borders**	0.111**	0.054
	registering property	0.073**	0.031	getting credit	-0.089**	0.041
	starting a business	-0.135*	0.077	closing a business	0.089	0.057
	construction permits	0.024	0.052	enforcing contracts	0.018	0.041
	protecting investors	-0.018	0.045			

Source: Authors' calculations.

Notes: White-robust standard errors are presented. *, **, and *** represent rejections at 10, 5, and 1 percent significance levels, respectively.

we do not report the coefficients for the control variables (geographic and economic variables), although these are considered in all regressions.

Among the indicators for the Index of Economic Freedom, corruption freedom, financial freedom, investment freedom, and property rights emerge as the main drivers of inward FDI. Corruption freedom assesses how the prevalence of corruption affects the perceived degree of uncertainty in the economy, as well as the pecuniary and non-pecuniary costs of operating a business associated with corruption. Lower corruption, corresponding to a 1 point increase in the indicator, raises incoming FDI by 19 ($e^{0.174}-1$) percent. A 1 point increase in the financial freedom indicator – which assesses the degree of independence of financial institutions from state control – raises the stock of FDI by 15 ($e^{0.144}-1$) percent. Investment freedom assesses the constraints on the flow of investment capital. A 1 point increase in this indicator raises the stock of FDI by around 18 ($e^{0.168}-1$) percent. Finally, a 1 point increase in the property rights indicator – which evaluates the ability of individuals to secure private property, the extent to which laws protect property, and the efficiency with which the judiciary system enforces those same laws – raises inward FDI by around 14 ($e^{0.131}-1$) percent. The remaining indicators from the Index of Economic Freedom have a negligible estimated effect on incoming FDI.

As to the Political Risk Rating indicators, our results hint at an important effect of low political risk and good institutions on inbound FDI. The most important indicators are: democratic accountability, measuring the extent to which governments respond to citizens, with an effect of approximately 57 ($e^{0.453}-1$) percent in FDI for each point increase; socioeconomic conditions, which evaluate the extent to which social dissatisfaction constrains government action, with an impact of 29 ($e^{0.252}-1$) percent; government stability, which assesses the government's ability to stay in office, with an impact of 24 ($e^{0.217}-1$) percent; law and order, which measures the strength and impartiality of the legal system and whether laws are widely respected, with an impact of 18 ($e^{0.167}-1$) percent; bureaucracy quality, which measures the strength, quality, and autonomy of the bureaucracy, with an impact of 13 ($e^{0.118}-1$) percent; and corruption, with an impact of 10 ($e^{0.092}-1$) percent. Doing Business indicators have a lesser impact on inward FDI. Table 2 puts into evidence that only some business regulations, namely those related with paying taxes, export and import activities, and property registration, affect FDI positively.

The empirical results suggest that multinational firms direct their investments to stable and well-functioning democracies, with lean bureaucracies, lower corruption levels, and impartial legal systems.

5. Institutional Reform in Portugal: Some Policy Directions

We now strive to understand how an institutional reform in Portugal may impact the country's ability to attract larger amounts of FDI. For this exercise, one needs some benchmark against which to evaluate the impact of reform options. A potential choice could consider the best possible institutional performance, as indicated by a value of 10 in the institutional index. This is however a naive approach, since not even the most institutionally advanced countries have institutional indexes near the top of the scale for all indicators. A more realistic alternative compares the Portuguese institutional performance with that of a reference set of countries. Since, in our perspective, Portugal should aim at improving institutions to the highest institutional standards, we take as benchmark the EU's three most institutionally advanced countries.

Since we are using three distinct databases, there is no uniform criteria that can be used to select the three most institutionally advanced countries. We therefore proceeded as follows. For the indicators of the component of Economic Freedom, we selected the countries with the best performance in the firms' freedom component – Denmark, Sweden, and the United Kingdom. For the Political Risk Rating indicators, the selection of the best performing countries – Finland, Luxembourg, and Sweden – was based on the political risk index. The most institutionally advanced countries regarding business regulations, which are used as benchmark for Doing Business indicators, are Denmark, the United Kingdom, and Ireland.

We examine and compare the impact of specific, item by item, reforms. Our analysis is based on the latest institutional data we had access to, namely the 2013 Index of Economic Freedom, the 2013 Doing Business, and the Political Risk Rating for 2006. Our exercise closely follows Tavares (2004), who proposed three measures of institutional reform: the first assessing the benefits of reform in terms of a dependent variable of choice, the second the reform effort, given by some measure of distance between current institutions and the desired institutional status, and finally the ratio of the first by the second indicator, a measure of the efficiency of the reform effort.[10]

We examine separately each institutional indicator for which Portugal is lagging behind the standard of the EU's most institutionally advanced countries. The impact of reforming institution k to the benchmark level is given by the exponential of the estimated coefficient for each institutional indicator, as computed in the previous section, multiplied by the institutional difference between Portugal and the average indicator of benchmark countries. That is

$$\text{Impact on FDI}_k = \exp\left(\beta_{3,k}\left(INST_{B,k} - INST_{P,k}\right)\right) - 1 \qquad (2)$$

where $INST_{l,k}$ denotes the institutional index of institution k in country l, $l = B, P$ (where B stands for benchmark countries, *i.e.*, the EU's three most institutionally advanced countries, and P for Portugal) and $\beta_{3,k}$ is the respective coefficient. Obviously, the higher the value of (2), the more promising are the prospects for reform in that area. This may occur for different reasons: either that institution has a large impact on inbound FDI, or Portuguese institutions have a lot of leeway for betterment, or both.

The "cost of reform", *i.e.*, the required effort to bring the Portuguese institutional index closer to the benchmark level, can be proxied, albeit imperfectly, by

10 Another application can be found in Cavalcanti *et al*. (2008), where the potential of institutional reforms in Brazil is assessed.

$$\text{Required reform effort}_k = \frac{INST_{B,k} - INST_{P,k}}{INST_{P,k}} \quad (3)$$

Equation (3) measures the distance of the Portuguese institutional index relative to the benchmark, *i.e.*, the required institutional change needed for Portugal to bring itself onto a par with benchmark countries. Higher values suggest that more effort has to be exerted in order for the reform to be successful, as the relative distance is greater.

The third measure of institutional reform evaluates the efficiency of the reform, *i.e.*, the impact on FDI of each unit of effort put into the reform. In a sense, it gives the "bang for the buck" for each specific reform, computed as the ratio of (2) over (3)

$$\text{Efficiency of reform}_k = \frac{\text{Impact on FDI}_k}{\text{Required reform effort}_k} \quad (4)$$

A value of 1 indicates a one-to-one relationship between inbound FDI and the reform effort. That is, any reform requiring a given percentage increase in the institutional indicator for convergence with benchmark countries would give rise to exactly the same percentage increase on inward FDI. The higher the value of (4), the more promising is the reform in that area in terms of efficiency, that is, the higher the increase in FDI for each unit of effort put into the reform.

As it only makes sense to evaluate the benefits of potential reforms for areas in which Portugal lags behind the average level of benchmark countries, we ignore any indicators where the opposite holds. Any area whose coefficient in the above estimates is not statistically significant is ignored in the following exercise.

Table 3 and Chart 1 stress that the Portuguese institutional performance is well below that of the EU's most institutionally advanced countries, and that institutional improvements can have large impacts on

Table 3

REFORMING PORTUGUESE INSTITUTIONS. IMPACT ON FDI, REQUIRED REFORM EFFORT, AND EFFICIENCY OF REFORM VERSUS THE EU'S THREE MOST INSTITUTIONALLY ADVANCED COUNTRIES

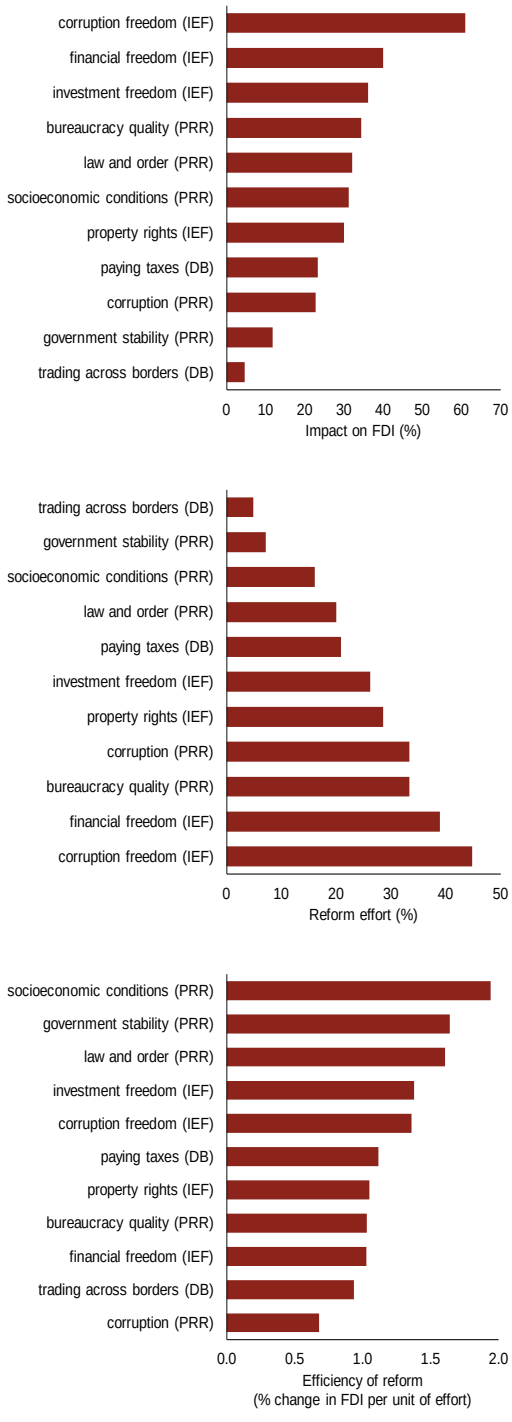
	(1)	(2)	(3)=(2)-(1)	(4)	(5)=exp((4)(3))-1	(6)=(3)/(1)	(7)=(5)/(6)
	index portugal	index top 3	difference	coefficient	Impact on FDI (%)	Required effort (%)	Efficiency
Agg. Institutional indicators							
firms' freedom**	6.76	8.53	1.77	0.27	62.0	26.1	2.4
political risk***	8.38	9.51	1.13	0.46	68.5	13.4	5.1
Index of Economic Freedom (IEF)							
corruption freedom***	6.10	8.83	2.73	0.17	60.9	44.8	1.4
financial freedom***	6.00	8.33	2.33	0.14	39.9	38.9	1.0
investment freedom***	7.00	8.83	1.83	0.17	36.1	26.2	1.4
property rights**	7.00	9.00	2.00	0.13	30.0	28.6	1.0
government freedom*	2.83	1.82	-1.01	0.05			
Political Risk Rating (PRR)							
democratic accountability***	10.00	10.00	0.00	0.45			
socioeconomic conditions***	6.70	7.78	1.08	0.25	31.2	16.1	1.9
law and order***	8.33	10.00	1.67	0.17	32.1	20.0	1.6
bureaucracy quality**	7.50	10.00	2.50	0.12	34.3	33.3	1.0
corruption**	6.67	8.89	2.22	0.09	22.7	33.3	0.7
government stability***	7.12	7.63	0.51	0.22	11.7	7.2	1.6
Doing Business (DB)							
paying taxes***	6.87	8.31	1.43	0.15	23.3	20.9	1.1
trading across borders**	8.23	8.63	0.40	0.11	4.5	4.9	0.9
registering property*	8.49	7.73	-0.76	0.07			

Source: Authors' calculations.

Notes: *, **, and *** represent the variables which are significant at the 10, 5, and 1 percent significance levels, respectively. The reform measures are only computed for the statistical significant variables in which Portugal has an inferior performance relative to the three most institutionally advanced countries.

Chart 1

REFORMING PORTUGUESE INSTITUTIONS TO THE LEVEL OF EU'S THREE MOST INSTITUTIONALLY ADVANCED COUNTRIES: IMPACT, EFFORT, AND EFICIENCY ASSOCIATED WITH REFORM OPTIONS



Source: Authors' calculations.
Notes: IEF stands for Index of Economic Freedom, PRR for Political Risk Rating, and DB for Doing Business.

FDI in Portugal. For instance, closing the gap of 2.73 points in the corruption freedom indicator, which assesses the prevalence of corruption, has an estimated effect of around 60 percent on Portugal's inward FDI – a very important impact for a small open economy, particularly vulnerable to changes in FDI flows for both structural and cyclical reasons, and seeking to attract larger amounts of foreign investments. Reforms that lessen the constraints on the flow of investment capital, evaluated by the investment

freedom indicator, have an estimated effect on FDI that is targeted to Portugal of around 36 percent. The impact–effort ratios associated with these reforms are also comparatively high. Improving the degree of independence of financial institutions from state control and the level of protection of property rights to the best European standards boost inward FDI by around 40 and 30 percent respectively, though reforms in these areas are associated with lower impact–effort ratios. The financial freedom indicator has, however, a doubtful applicability in the Portuguese case.

Important impacts can be also achieved through reforms in Political Risk indicators, namely in the quality and transparency of the bureaucracy (impact of 34 percent) and in the strength and impartiality of the legal system (32 percent). The latter requires however a lower effort and is more efficient. A reform aimed at reducing corruption within the political system has an estimated impact on Portugal's inward FDI of around 23 percent, naturally below that of a reform which addresses the degree of corruption within the society (evaluated through the corruption freedom indicator from the Index of Economic Freedom). Among business regulations, reforming the administrative burden associated with tax payments has an estimated impact on FDI that is targeted to Portugal of around 23 percent.

Notice that, though the results suggest also that socioeconomic conditions should be a main target for reform, these are endogenous to the economy and harder to change through government effort alone. We have therefore not considered this area as a prime reform target.

All in all, our results suggest that the Portuguese institutional performance is well below that of the EU's most institutionally advanced countries, and there is therefore a lot of leeway for betterment. Improvements in the institutional performance, corresponding to a convergence with the best European practices, have a very important impact on incoming FDI. Reforms impacting the overall institutional performance and lowering political risk – assessed though the firms' freedom and the political risk indicators, respectively – are estimated to boost FDI into Portugal by around 60 to 70 percent.[11]

6. Concluding Remarks and Policy Implications

More than identifying institutional gaps, this article aims at fostering the debate, within the society and amongst policy-makers, for the potential gains of reforming Portuguese institutions on inward Foreign Direct Investment. It must be stressed, that, although our analysis identifies the institutional areas that should be considered as prime targets in a potential institutional reform, designing specific reform proposals requires a deeper investigation on the current institutional framework.

This article identifies those institutional areas with larger effects on incoming Foreign Direct Investment and investigates, for those areas, the relative institutional position of Portugal and the effects of an institutional reform in Portugal implying a convergence with the best European practices. Reform options are evaluated using the most recent available institutional data we had access to, namely the 2013 Index of Economic Freedom, the 2006 Political Risk Rating of the International Country Risk Guide, and the 2013 Doing Business.

We find that countries with better institutions are able to attract considerably larger amounts of Foreign Direct Investment. The most important institutional factors affecting foreign investments are associated with the legal and bureaucratic environment, the prevalence of corruption and the degree of protection

11 Using the six most institutionally advanced countries instead does not yield substantial differences in the results. In this case, the impact on Portugal's FDI associated with a convergence in the firms' freedom indicator is around 55 percent. For the political risk indicator, the effect is around 60 percent. Additionally, observe that the impacts of individual institutional reforms do not add up to the effects of an encompassing institutional reform, since reforms are not disjoint sets (they are correlated). That is, improvements in some institutional area are mechanically associated with improvements in others, and thus the global effect is smaller than the simple addition of individual effects. For instance, lower corruption levels are associated with better protection of property rights and lower investment restrictions.

of property rights, the independence of financial institutions from state control, and restrictions on the flow of investment capital. Business friendly regulations, taken alone, do not seem to play an important role in the attractiveness of foreign investments.

Our results show that Portugal has still a lot of leeway for betterment in the most important institutional areas affecting Foreign Direct Investment. Closing the Portuguese institutional gap *vis-à-vis* the EU's most institutionally advanced countries has an estimated effect on incoming foreign investments of around 60 percent. Our analysis of reform possibilities in Portugal indicate that the country should focus on decreasing corruption, lessening restrictions on investment, and strengthening and improving the legal system, since these areas have the largest impacts on Foreign Direct Investment and the better impact–effort ratios.

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