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Politics, Instability, and International Investment Flows

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Abstract

We analyze the role of political instability for the organizational form of foreign investment, whether it takes the form of a majority- or minority-owned investment. We focus on the instability generated by the change of the party in power in a democratic system, rather than on the risk of changes of political regime or expropriation risk associated with this change. In majority-owned establishments, a foreign investor retains the control and enjoys fewer agency problems, while for minority-owned investments or joint ventures domestic partners of a foreign investor can lobby the government for preferential arrangements, such as firm-specific tax breaks. Political instability decreases the payoff to political connections in the future and decreases the attractiveness of minority-owned investments. The implications of our model are supported by empirical tests.

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1 Introduction

International equity flows have become more important in recent years, with an aggregate amount of 781 billion US dollars in pre-crisis period. These flows are found to be important for the development of financial markets and economic growth.[1] During the recent crisis, the capital flight contributed to the propagation of the crisis and deterioration of the global economic situation. Until recently, there was a clear distinction in the academic literature between foreign direct investment (FDI) and foreign portfolio investment (FPI). More recent papers, however, show that this distinction is more subtle. Baker et al. (2008) find that FDI flows are responsive to a recipient country's stock market valuation, suggesting that multinational corporations use FDI in place of portfolio investment, in order to make arbitrage profits. Goldstein et al. (2008), on the other hand, present evidence that collective investment funds, previously engaged only in FPI, now became sources of FDI. There is a growing body of literature that analyzes determinants of the composition of foreign investment, i.e. on the share of FDI and FPI in total aggregate international investment.[2]

In this paper, we offer a political economy explanation for the choice of the form of foreign investment, highlighting the role of political instability. We offer a theoretical model and test its predictions using firm-level data on foreign ownership. We consider a foreign investor who chooses between majority-owned investment (or greenfield investment, or FDI) and a

[1] See e.g. Bekaert and Harvey (2000), Errunza and Miller (2000), Henry (2000), Chari and Henry (2004), and Bekaert, Harvey, and Lundblad (2005).

[2] This literature aims to explain basic stylized facts about foreign investment flows: that FDI is more prevalent in developing countries than in developed, and that the volatility of FDI flows is much smaller than that of FPI flows. Albuquerque (2003) argues that FDI is more difficult to expropriate, so in countries with poor property rights protection we should observe more FDI than FPI. Goldstein and Razin (2006) and Goldstein et al. (2008) focus instead on different resale values of FDI and FPI given different liquidity needs of foreign investors. They argue that fixed costs of FDI together with asymmetric information in the resale market explain why developing countries have more FDI. Kirabaeva (2008) examines the effect of liquidity risk on the composition of investment flows.

minority-owned investment (or joint venture, or FPI). With FDI, the foreign investor retains control, whereas with FPI, control belongs to domestic partners of the foreign investor, i.e. to inside shareholders. Profit diversion is minimized with majority owned investment in which the foreign investor has both ownership and control. If a foreign investor is a minority shareholder, and the control over the firm belongs to domestic investors, the latter have a comparative advantage in lobbying the government for policies that are profitable for their business. In the model, these policies have the form of preferential tax breaks.[3] As a result, the tax duties of a firm with minority foreign capital might be lower than the tax duties of a firm fully controlled by foreign investors. In sum, there are costs and benefits of majority-owned investment: it is more efficient because it minimizes agency problems, but it is associated with less valuable political connections. The model is also applicable to the choice of entry mode by MNCs, i.e. the choice between greenfield investments and joint ventures.

The policy choice in the model is endogenized by incorporating government's incentives. Political instability decreases the benefits of the deals with domestic partners, because all political connections with unstable governments have a shorter expected time horizon. Political instability also changes the magnitudes of other effects in the model. It decreases the importance of property rights protection, exacerbates the effect of wealth bias in a system, and magnifies the effect of pre-tax returns to investment for the relative value of FPI. The model considers the effect of an unexpected crisis on the composition of investment flows. The model predicts that there is a negative effect of a sharp decline in the rate of return on the relative attractiveness of minority-owned investments. This effect is expected to be

[3]Alternatively, such policies may constitute protection of domestic producers, such as tariffs or quotas, differential access to credit, licensing or other barriers for potential entrants, the absence of expropriation or extortive taxation, valuable government contracts, etc.

stronger in countries with a more stable current regime, i.e. in those countries in which the existing pre-crisis investment flows were less skewed in favor of majority-owned investments.

To empirically test the model's premises and implications, we combine firm-level data from a large-scale international survey with country-level data on economic and financial development, political instability, and the quality of the legal system. Political instability within a democratic system is captured by variables such as the number of government crises, number of checks and balances, dummy for when a chief executive's party controls all the houses of legislatures, etc. We use three sources of data: a World Bank survey of small firms in developing countries, SDC mergers and acquisitions data, and aggregate BEA data on U.S. foreign affiliates. Our main predictions are consistently corroborated through different data sets.

Empirically, we first show that firms that are financed with a large share of foreign capital are less likely to think that tax administration is a large obstacle to their business. We then argue that for all types of data there is a positive effect of political instability on the prevalence of majority-owned investment.

Our paper contributes to various streams of finance and economic literature that investigate the composition of international investment. The theoretical part of our paper is related to Desai et al. (2006) who analyze the interaction of corporate taxes and corporate governance. In their model, the government introduces a corporate tax which may, under some conditions, decrease the extent of managerial diversion. What we add to this theoretical discussion is the analysis of the role of political instability in the economy in which governments' incentives depend on the party in power. In addition, we add an international dimension to this problem by considering majority- and minority-owned foreign investment. The logic of our model is also related to the discussion in Henisz (2000), who studies the en-

try mode of FDI by multinational corporations. He argues that for FDI, the factors that are relevant for the entry mode decision are political hazards (investment might be expropriated by a government), which could be avoided by partnership with domestic shareholders, and contractual hazards, as the initial up-front investment might be devalued or expropriated by domestic partners, as well as their interaction. [4]

The rest of the paper is organized as follows. Section 2 reviews relevant literature, section 3 presents a theoretical model, section 4 discusses empirical results, and section 5 concludes.

2 Literature

Our paper extends several streams of literature. First, it is related to standard governance-firm valuation models (Johnson et al., 2000, La Porta et al., 2002, Shleifer and Wolfenzon, 2002). It is similar to the discussion in Stulz (2006), who explores the interaction between the ownership structure, managerial diversion, and state behavior.

A number of authors highlight the negative role of political instability in shaping economic outcomes. Alesina et al. (1996) show that economic growth in a country is lower in times of political instability. Alesina and Perotti (1996) argue that income inequality increases political instability which, in turn, decreases aggregate investment in a country. Siegel and Roe (2008) argue that political instability prevents financial market developments. Bernhard and Leblang (2006) show that stock market returns are lower in times of political instability. Siegel (2007) shows that in an unstable political system, some political connections might have negative value under some administrations and positive value under others.

[4] Note that we use a different conceptualization of contractual hazards, which is a basic managerial diversion problem in our framework, thus following the standard approach in corporate governance literature.

There is also modeling research which analyzes international trade or investment flows and endogenizes the government's choice of policy. Adserà and Boix (2002) construct a model of policymaking in which trade openness and the size of the public sector are determined endogenously in a game between business, people, and the government. Svensson (1998) build a model that explains why governments in unstable and polarized societies may not have sufficient incentives to undertake legal reform to protect property rights and encourage private investment.

A major branch of the literature on institutional determinants of the quality of a financial system was started by La Porta et al. (1998) who emphasize the importance of the legal system and, in particular, of the origin of a legal system for financial outcomes. Johnson et al. (2000) highlight that profit diversion might happen even in countries with a strong institutional environment.

Recently, a number of authors have investigated how political factors affect FDI. Empirical findings for the relationship between FDI and political regimes are mixed. Jensen (2003, 2006) finds that a democratic regime in a host country increases FDI by multinational corporations (MNC). Jensen (2007) finds that democracy decreases political risk as estimated by a political risk insurance agency, and that the mechanism of this effect works through increasing constraints on the executive. O'Neal (1994) finds that the rate of return to FDI is a negative function of democracy. Resnick (2001) shows that a transition to democracy has a negative effect on FDI. Li and Resnick (2003) document that democracy has a negative effect on FDI once property rights protection is controlled for. Alesina and Dollar (1998) find that democratic institutions are not significant determinants of FDI, while economic and development variables have significant effects. Henisz (2004) shows that a higher number of veto players in the country reduces policy uncertainty. Henisz (2000) finds that the entry

mode of MNCs depends on the extent of political constraints on the executive power in a country.

We extend the prior studies by examining the role of political instability on the mode of entry to foreign markets. We also examine how the sensitivity of institutional factors (property rights protection and the quality of legal environment) with respect to the mode of entry changes as political instability increases.

3 Model

In this section, we describe a theoretical model of interaction between foreign investors, a government, and inside shareholders of a firm. We assume that there is a foreign investor who chooses between majority- and minority-owned investment. With majority-owned investment, a foreign investor keeps control over production, while with minority-owned investment, the control belongs to domestic managers and shareholders. For majority-owned entities, the diversion of profit by managers or insider shareholders is minimized. Therefore, this form of investment solves agency problems more efficiently. With minority-owned investment or joint ventures, inside shareholders lobby the government for preferential tax breaks, so the tax duties of a firm with minority foreign capital are lower than the tax duties of a firm fully controlled by foreign investors. The main trade-off being analyzed is between better incentives in the firm's management, which solves agency problems and lends itself to better conditions for doing business, which provide the firm with a valuable competitive advantage.

Domestic firms often enjoy better conditions for doing business. They might have better access to external financing (Rajan and Zingales 2003a, 2003b), and governments may pro-

tect incumbents from foreign competition. Domestic investment funds enjoy preferential tax treatment in the EU.[5] Governments often choose to support domestic agricultural producers through tax subsidies.[6] Individual tax breaks distributed according to the will of politicians were common in Russia in the 1990s.[7] In sum, there is evidence that domestic firms often have lower tax rates as compared to foreign firms. This justifies the main theoretical assumption in the model that domestically owned firms with a small share of foreign capital, at least those with political connections, enjoy lower tax rates than comparable firms with large foreign ownership, which might also face indirect taxes (Desai et al. 2004).

In our model, the government cares about inside shareholders from a particular party and about social welfare. It chooses the tax rate for a firm in order to minimize the weighted sum of the social welfare function and the utility function of inside domestic shareholders. The problem for a foreign investor is complicated by the fact that governments may change, and the probability that the new government may not continue supporting inside shareholders is less than 1. In terms of the model, political instability decreases the benefits of majority-owned investment, since now all potential deals with the government have shorter expected time horizons and are, therefore, less valuable.

Overall, the choice between majority- and minority-owned investment is determined by expected payoffs of the foreign investor from these two forms of ownership. In the equilibrium, some investors choose to be major owners and some investors choose to buy smaller stakes, as corresponding payoffs include a stochastic component orthogonal to all variables in the model. As a result, the share of firms which choose majority-owned over minority-owned

[5] Pirkko Juntunen "Tax bias hinders EU single market ." 19 January 2003. The Financial News.

[6] E.g. see Michelle Remo "Gov't hikes tax subsidy for NFA to P32B". 17 August 2008. Philippine Daily Inquirer.

[7] "Ways of Making Russians Pay". 2 November 1996. The Economist.

investments and joint ventures is determined by fundamental parameters of the model.

3.1 Setup

Foreign investment

We assume that there is a foreign investor who chooses between majority- and minority-owned investment and cares about the expected rate of return. Similarly, in Albuquerque (2003) and Razin et al. (1998), the main difference between FDI and FPI is in who gets control over the assets. With FDI, the foreign investor keeps both ownership and control. With FPI, the foreign investor does not retain control, and the profit from the project is subject to diversion by inside shareholders who have complete control. With FPI, inside shareholders are able to lobby for special policies for their business. In our model, the government has an option to give preferential tax breaks to individual businesses.

Political connections are not perpetual, however, and the political situation in a host country is uncertain. If a new party comes to power, the company might lose its preferential arrangements as the new government prefers to strike deals with its own supporters. As a result, tax rates for businesses with relatively small foreign stakes depend on which government is in power. Tax rates for majority-owned foreign businesses are always high as a host country's government never represents the interests of foreign investors. Even if official FDI income taxes are relatively low, there are some indirect taxes that are particularly important for FDI businesses (Desai et al. 2004).

The pre-tax rate of return to an investment project is $R = \overline{R}$ in the absence of diversion. So, in our setup, $\overline{R}$ corresponds to majority-owned investment, and $\underline{R}$ is determined from a managerial problem that corresponds to investment with small foreign stakes. Here the

implicit assumption is that for majority-owned investment projects agency problems are smaller as compared with the projects in which foreign investors are minority shareholders.

We model optimal diversion by following the approach in Johnson et al. (2000) and we assume that managers solve the following problem: $S^* = \arg\max S + \alpha\overline{R}(1-S) - \frac{\psi\overline{R}^2 S^2}{2}$, here S is the fraction of the profit, diverted by managers, α is the part of profit which managers officially receives, and costs of diversion depend on ψ, which characterizes the extent of protection for outside shareholders. We assume that α is sufficiently small to ensure that $1 - \alpha\overline{R} \geq 0$. In this setup, optimal S is given by $\dfrac{1-\alpha\overline{R}}{\psi}$, and $\underline{R} = (1 - \dfrac{1-\alpha\overline{R}}{\psi})\overline{R}$, and $\overline{R}$ corresponds to the absence of diversion.

Government

The government cares about both the population of a country and a certain group of inside shareholders. Inside shareholders could be from party A or party B. The main difference between these two parties from the foreign investor's point of view is that the government may give preferential tax breaks only to its own supporters or give no tax breaks. So, if the foreign investor decides to become a minority shareholder, it makes sense to invest into the assets of supporters of party A when party A is in power.

Initially, the government is of type A, without loss of generality. Next period, the government remains the same with probability γ, and changes to a type B government with probability $1 - \gamma$.

After-tax returns to majority-owned investment is given by $(1 - t_H)\overline{R}$. The expected return to a majority-owned project is, therefore, given by $(1 - t_H)\overline{R}$. Returns to a project with a small share of foreign capital, for which majority shareholders are supporters of a

party in power, are given by the following expected utility: $\gamma(1-t_L)\underline{R}+(1-\gamma)(1-t_H)\underline{R}$.[8] Here γ is a parameter which characterizes the political stability of a regime. Lower values of γ imply that there is a higher probability for change of the party in power.

The government's problem for type A or B

The government cares about inside shareholders from their own party and about the social welfare. It chooses the tax rates so that the joint weighted utility of inside shareholders and the rest of the population is maximized. If a project in question belongs to inside shareholders from the government's party, the government gets a one-period utility function

$$\lambda(1-t_L)\underline{R}+\nu(t_L\underline{R}).$$

Here $\nu(\cdot)$ is the utility from public goods, produced out of tax revenues $t_L\underline{R}$, and $(1-t_L)\underline{R}$ is the aggregate post-tax profit of the firm.

The utility of an average citizen in a country who is not an inside shareholder is normalized to 0. Note that $t\underline{R} < t\overline{R}$, so the government which aims to maximize tax revenues prefers to tax firms with a larger share of foreign capital. The solution of the problem $\lambda(1-t_L)\underline{R}+\nu(t_L\underline{R}) \rightarrow \max_{t_L}$ is assumed to be interior. It is given by f.o.c. $-\lambda\underline{R}+\underline{R}\nu'(t_L\underline{R})=0$. Denote it by $t_L^*(\lambda)$. Note that $\dfrac{\partial t_L^*(\lambda)}{\partial\lambda}<0$, i.e. "the greater the weight that the government puts on inside shareholders, the lower the special tax rate that the government chooses for firms with connections will be.

[8]Note that by construction, the variance of FPI is larger than the variance of FDI. Goldstein and Razin (2006) and Goldstein et al. (2008) assume that it is the case using a different justification: in their model, the variance of return to FDI project is small because a foreign investor has stronger control over production, and, as a result, he has more information about the outcome of the production.

The tax rate for firms with large foreign ownership corresponds to the case in which the government does not put additional weight on the welfare of shareholders of the firm. In this case, the government solves $\nu(tR) \to \max_t$, which has a solution $t = 1$ if $\nu(tR)$ is always increasing over its domain [0,1]. There is, however, optimal $t < 1$ which maximizes budget revenues, and it is less than 1 because of deadweight losses from taxation, which result in an associated Laffer curve. Thus, the problem of the government $\nu(tR) \to \max_t$ has an interior solution denoted by t_H.

Majority-owned companies vs minority-owned companies

As discussed above, the expected utility of the foreign investor from a minority-owned project is equal to $U_{FPI} = \gamma(1 - t_L^*(\lambda))\underline{R} + (1-\gamma)(1-t_H)\underline{R}$. The utility of a foreign investor from a majority-owned project is $(1 - t_H)\overline{R}$. The foreign investor prefers a minority-owned project if

$$\gamma(1 - t_L^*(\lambda))\underline{R} + (1-\gamma)(1-t_H)\underline{R} \geq (1-t_H)\overline{R} \tag{1}$$

and a majority-owned project otherwise. In this setup, the benefits of having a local partner are limited to the ability to get a lower tax rate from the government.[9] So far, we have assumed that foreign investors are risk neutral and they maximize just an expected return. If foreign investors become more risk averse, they should be more likely to pursue majority-owned projects, which would be a potential modification of the current model..

[9]Alternatively, joint ventures, or FPI, might be preferable from a foreign investor's point of view as inside shareholders have better knowledge of a country or because FPI is has higher liquidity (Goldstein and Razin, 2006).

3.2 Comparative statics

The comparative statics is derived from the comparison of utilities of a foreign investor from two forms of investment.

The first result of comparative statics describes the effect of political instability on the composition of foreign investment flows.

Proposition 1 *(The effect of political stability) Higher political stability of a current regime, γ, leads to relatively lower investment in majority-owned entities.*

Proof. Proof: $\dfrac{\partial U_{minor}}{\partial \gamma} = (1 - t_L^*(\lambda))\underline{R} - (1 - \bar{t})\underline{R} > 0.$ ■

If a government makes a special deal with a company with a small share of foreign capital, and it is expected to stay in power for a longer time (γ is higher), such a deal becomes more valuable for a potential outside shareholder. Even though outside foreign shareholders, foreigners, are not able to pressure the government, they might enjoy a positive externality if inside shareholders can do it. This should be true both at the firm level and at the aggregate levels.

This proposition implies that higher political instability should positively affect the ratio of majority-owned foreign investment to overall foreign investment. In other words, high instability implies that only majority-owned investment, which is less dependent upon the identity of a ruling party (or identity of a ruler, in an autocratic country), is profitable. Note that this prediction does not go against the general wisdom that political instability is an obstacle to FDI investors, as it is focused on the ratio of majority-owned FDI to aggregate foreign investment, not on the volumes of FDI.

The next proposition shows how the effect of political instability depends on the extent of agency problems in a firm.

Proposition 2 *(Interaction of stability and agency problems) The relative profitability of majority-owned investment is lower in firms with lower agency problems or if the rights of outside shareholders are better protected (ψ is larger). The magnitude of this effect is higher if the regime is more stable.*

Proof. $\dfrac{\partial U_{minor}}{\partial\gamma\partial\psi} = \dfrac{\partial U_{minor}}{\partial\gamma\partial\underline{R}}\dfrac{\partial\underline{R}}{\partial\psi} = [(1-t_L^*(\lambda)) - (1-t_H)]\,\overline{R}(1-\alpha\overline{R})/\psi^2 > 0$ ■

The next proposition shows how the choice between majority- and minority-owned investment is affected by the interaction of political stability and inequality in political power.

Proposition 3 *(Interaction of stability and political inequality) The negative effect of political stability on the relative profitability of majority-owned investment is magnified if the weight, which the government puts on inside shareholders, is higher.*

Proof. $\dfrac{\partial U_{minor}}{\partial\gamma\partial\lambda} = -\underline{R}\dfrac{\partial t_L^*(\lambda)}{\partial\lambda} > 0.$ ■

The intuition behind this proposition is simple. If political inequality is higher, the government puts more weight on the utility of inside shareholders, and the potential deal with the government becomes more valuable for foreign investors. This effect is amplified if the government is going to stay in power for a longer time period (i.e. if γ is higher). Empirically, if the ratio of majority-owned FDI to total investment is a dependent variable, we should expect the sign of the interaction between measures of stability and political inequality to be negative.

3.3 Global Financial Crisis

The model can be extended for the case of an unanticipated negative shock which adversely affects the rate of return. We assume that during a crisis $\overline{R}$ decreases. Therefore, the utility

of a foreign investor from both types of investment goes down. The ratio of $\underline{R}$ to $\overline{R}$, which is equal to $1 - \dfrac{1-\alpha\overline{R}}{\psi}$, positively depends on $\overline{R}$. When $\overline{R}$ goes down, the ratio of $\underline{R}$ to $\overline{R}$ goes down as well, and minority-owned investment becomes relatively less attractive for foreign investors, as they expect managers to divert relatively more. The condition (1) for choosing a minority-owned form of investment can be rewritten as

$$\left(\gamma(1-t_L^*(\lambda)) + (1-\gamma)(1-t_H)\right)\overline{R}\left(1 - \frac{1-\alpha\overline{R}}{\psi}\right) \geq (1-t_H)\overline{R}$$

Note that, as both U_{minor} and U_{major} go down when $\overline{R}$ goes down, the effect of crisis on the aggregate foreign investment is unambiguously negative. The following proposition describes the effect of crisis:

Proposition 4 *(Effect of crisis) If the rate or return on the project unexpectedly goes down, the relative attractiveness of minority-owned investment as compared with majority-owned investment goes down.*

Proof. $\dfrac{\partial\left(\dfrac{U_{minor}}{U_{major}}\right)}{\partial\overline{R}} = \dfrac{\left(\gamma(1-t_L^*(\lambda)) + (1-\gamma)(1-t_H)\right)}{(1-t_H)}\dfrac{\alpha}{\psi} > 0.$ ■

Now consider the effect of interaction of change in $\overline{R}$ and other parameters of the model. The following proposition makes predictions about the size of the effect of decrease in $\overline{R}$, as a function of political stability and political inequality.

Proposition 5 *(Interaction of crisis, political stability, and political inequality) If the rate of return on the project unexpectedly goes down, the relative attractiveness of minority-owned investment, as compared to majority-owned investment, goes down, and this effect is stronger in countries with higher political stability (γ) and higher weight on inside shareholders (λ).*

Proof. First, $\dfrac{\partial\left(\dfrac{U_{minor}}{U_{major}}\right)}{\partial\gamma\partial\overline{R}} = [(1-t_L^*(\lambda)) - (1-t_H)]\,\dfrac{\alpha}{\psi(1-t_H)} > 0.$

Then, $\dfrac{\partial\left(\dfrac{U_{minor}}{U_{major}}\right)}{\partial\lambda\partial\overline{R}} = \left[-\gamma\dfrac{\partial t_L^*(\lambda)}{\partial\lambda}\right]\dfrac{\alpha}{\psi(1-t_H)} > 0.$ ■

This proposition implies that we should expect a stronger increase in the ratio of majority-owned to aggregate foreign investment in countries with more stable political power and in countries with larger political inequalities. For stable countries, investors found them attractive, as the expected stream of benefits from political connections is large. The crisis, however, makes the managers more interested in diverting the profits, so the relative attractiveness of minority-owned investment in these countries declines. For unstable countries, the relative benefits of minority-owned investment are less important, so foreign investors invest less in the form of FPI from the very beginning. Therefore, the change in the composition of foreign investment in these countries should be smaller, as they already have the composition of investment flows adjusted for relative unattractiveness of minority-owned investment. A similar logic holds for political inequality. The greater the weight that the government puts on inside shareholders, the less change that is needed in the composition of investment flows, which are necessary to adjust to new circumstances after the crisis.

3.4 Many firms and general equilibrium

The propositions above present the comparative statics for an individual firm which interacts with the government. Basically, all comparative statics is based on the comparison of the utility of the foreign investor under majority-owned investment and under minority-owned investment. Now we consider the case of stochastic payoffs $\widetilde{U}_{major} = U_{major} + \upsilon$ and $\widetilde{U}_{minor} =$

$U_{minor} + \xi$. The difference between U_{major} and U_{minor} is assumed to be random i. i. d. firm-specific variable ε_i with zero mean. For simplicity, we assume that the government plays a separate game with each firm. Then in the equilibrium some firms choose majority-owned investment and some firms choose minority-owned investment despite the fact that fundamental parameters of the problem are such that the comparison of U_{major} and U_{minor} is unambiguous.

Note that in aggregate data we do not observe the choice of individual firms, but rather see aggregate assets of majority-owned affiliates and of all affiliates. What we do observe is $M \sum I\{\widetilde{U}_{major} > \widetilde{U}_{minor}\}$ as aggregate assets of majority-owned affiliates, and $M \sum I\{\widetilde{U}_{major} > \widetilde{U}_{minor}\} + M \sum I\{\widetilde{U}_{major} < \widetilde{U}_{minor}\}$ as aggregate assets of foreign affiliates; here M is the average size of a foreign affiliate. The ratio of aggregate assets of majority-owned affiliates to aggregate assets of all foreign affiliates can be written as:

$$\frac{\sum I\{U_{major} - U_{minor} > \epsilon_i\}}{\sum I\{U_{major} - U_{minor} < \epsilon_i\} + \sum I\{U_{major} - U_{minor} > \epsilon_i\}} = \frac{\sum I\{U_{major} - U_{minor} > \epsilon_i\}}{N} \tag{2}$$

In (2), N is the total number of firms. As N approaches infinity, this ratio approaches $F(U_{major} - U_{minor})$, by the law of large numbers. If F is uniformly distributed with density ψ, the ratio of aggregate assets of majority-owned affiliates to aggregate assets of all foreign affiliates, $\frac{major}{major + minor}$, is proportional to $\frac{U_{major} - U_{minor}}{\psi}$. Therefore, all propositions of comparative statics that show when minority-owned investment is more or less profitable as compared with majority-owned investment should still hold for the ratio of aggregate assets of majority-owned affiliates to aggregate assets of the foreign affiliates. In other words, we expect all described effects to be observed not only for the individual firms, but also for the composition of foreign equity flows in aggregate data.

A more complicated case to consider is the equilibrium in which a single government plays the game with multiple firms. Individual tax rates still remain individual, but now the social welfare is a concave function of the sum of tax revenues, while the government cares about all corporate insiders together. The new government's problem can be written as

$$\sum_{i=1}^{N_1} \frac{\lambda}{N_1}(1-t_L^i)\underline{R} + \nu(\underline{R}\sum_{i=1}^{N_1} t_L^i + \underline{R}\sum_{i=1}^{N_2} t_H^i + \overline{R}\sum_{i=N_2}^{N_3} t_H^i) \to \max_{\mathbf{t}_L,\mathbf{t}_H} \tag{3}$$

where N_1 is the number of firms for which inside shareholders have political connections, N_2 is the number of firms for which inside shareholders do not currently have political connections, and $N_3 - N_2$ is the number of majority-owned firms. First order conditions for a tax rate of privileged firms are

$$-\frac{\lambda}{N_1}\underline{R} + \underline{R}\nu'(\underline{R}\sum_{i=1}^{N_1} t_L^i + \underline{R}\sum_{i=1}^{N_2} t_H^i + \overline{R}\sum_{i=N_2}^{N_3} t_H^i) = 0 \tag{4}$$

for $i = 1, ..., N_1$. Note that optimal $t_L^i(\lambda)$ is a decreasing function of λ, so the comparative statics for majority- vs minority-owned investment comparison still holds. Another interesting trade-off emerges as N_1, the number of insider firms with connections, increases. On the one hand, as the number of firms increases, the government cares less about each firm individually, so the optimal tax rate for these firms should be closer to the social optimum. On the other hand, as the aggregate amount of collected taxes goes up, the social utility from public good provision becomes flatter because of its concavity, so the socially optimal tax goes down. Presumably, the first effect should dominate in the real world, and in economies with more concentrated firm ownership, the distortions in tax policy introduced by lobbying should be larger.

4 Empirical Evidence

In this section we provide empirical evidence that is in line with the main proposition of the model, that the composition of foreign investments depends on political instability, by which we understand the probability that the government from the same party will remain in power in the next period. We also provide evidence in favor of the specific mechanism at work, namely, that the key advantage of the minority-owned projects is that they allow connections of the local partners to be leveraged to secure preferential tax treatment for the firm.

4.1 Data

We test our hypotheses using both firm-level and aggregate data. The firm-level data is drawn from two independent sources. First, we use firm-level data collected by the Enterprise Surveys Unit during the years of 2002 to 2006 in 43 different countries geographically distributed as follows: 3 African, 7 Latin and Central American, 6 Western European and 27 Central and Eastern European countries. The survey contains information on the ownership structure of the firms and particular problems that they face. Only firms with a non-zero fraction of foreign ownership were included in the sample. Some important control variables were not available for some countries, which left us with a total sample size of 3,888 firms.

Our key dependent variable, *majority-owned project*, is a dummy variable based on firms' responses to the following question in the survey:"What percentage of your firm is owned by: ... foreign private sector." Following the IMF methodology we consider investment to be majority-owned (FDI) if the fraction of foreign capital is larger or equal to 20 percent, and

minority-owned (FPI) if it is less than 20 percent.[10]

In addition, the survey contains some basic information about the firms, such as the size size of the firm (dummies for a medium and a large size) and whether the firm exports its product (dummy variable equals 1 if the firm sells some of its products abroad).

The second firm-level dataset that we use is worldwide Mergers and Acquisitions data extracted from the Securities Data Corporation (SDC). The SDC collects data on M&A from a variety of sources: news, SEC filings and their international counterparts, trade publications, wires, and proprietary surveys of investment banks and law firms. The database includes public and private transactions involving at least five percent of the ownership of a company where the transaction was valued at $ 1 million or more, or where the value of the transaction was undisclosed. Our sample comprises information on 30,525 transactions from 2002 to 2005. The acquirer and target firms are located in 54 countries, including 4 countries in Africa, 13 countries in Asia, 26 countries in Europe, 2 countries in the Middle East, 8 countries in South America and Canada.

The key dependent variable is a dummy variable for *majority-owned investment* if the foreign acquirer's percentage owned after the transaction is over 50%. In addition we use a dummy variable denoting a *change from minority-owned investment to a majority-owned investment*. Almost 90% of the transactions resulted in foreign acquisition of over 50% of the control of the target companies. More than half of these transactions represented a change from minority-owned investment to a majority-owned investment.

In addition to the firm-level data we use aggregate data on the U.S. foreign investments from the Bureau of Economic Analysis (BEA) of the U.S. Commerce Department. The

[10]IFC 1997, 9. International Finance Corporation. 1997. Foreign Direct Investment. IFC Lessons from Experience Series No. 5. Washington, D.C.: World Bank.

BEA conducts an annual survey of U.S. direct investment abroad.[11]The survey provides information aggregated by country of investor on the total assets of U.S. foreign affiliates in 54 countries during 1997-2008, including 4 countries in Africa, 13 countries in Asia, 27 countries in Europe, 2 countries in the Middle East and 8 countries in South America. The list of countries covered by BEA almost fully coincides with the set of countries included in our SDC firm-level dataset.[12] We include only non-bank foreign affiliates of non-bank U.S. parents since the financial sector differs substantially from other industries, and banking institutions' characteristics such as banks' assets are not directly comparable to other firms' variables. To test the impact of political instability on the organization mode we employed as the main dependent variable *assets of majority owned U.S. foreign affiliates to assets of all U.S. foreign affiliates*. According to the BEA survey definition a "majority-owned nonbank affiliate" (MOFA) is a foreign affiliate in which the combined direct and indirect ownership interest of all U.S. parents exceeds 50 percent". In our sample 82% of foreign affiliates are majority owned by U.S. parent firms. The standard deviation is 16.35%, the minimum ownership is 22.90% and the maximum is 100%.

In contrast to previous studies, we focus on political instability in the form of lawful instability within a democratic system, rather than the probability of a regime change. To measure political instability, we use two data sources. First, we use data on government crises from the Banks (2008) data archive. This source is widely used in the economic literature on the effects of political instability (e.g. Alesina et al. 1996). Second, we use data from the World Bank's Database on Political Institutions compiled by Beck et al. (2010). In

[11]This reporting is compulsory for all firms above a minimum asset threshold under the International Investment and Trade in Services Survey Act.

[12]The only exception is that the BEA sample contains Czech Republic and the SDC sample contains Canada.

particular, we use variables such as a dummy variable for whether the party of the executive controls all relevant houses, vote share of party with most seats in legislature, government fractionalization and number of veto players. For these measures, higher values correspond to less political instability except for government fractionalization, for which higher values are associated with greater instability.

We also use several country-level variables to control for a country's economic and financial development. In particular, we use GDP per capita (logged), the size of the population (logged), market capitalization to GDP ratio as a proxy for the country's financial development, and share of urban population from World Development Indicators. We also use the measure of democracy from Polity IV database and the measure of capital control by the Economist Intelligence Unit.

Table A1 contains summary statistics (Panel A firm level varibles from WB, Panel B from SDC, Panel C from BEA). Table A2 contains summary statistics by country.

4.2 Empirical results

We start by providing evidence in favor of the proposed mechanism that drives the difference between FDI and FPI; namely, that firms that face more problems with government regulation and taxes are more likely to have a minority stake by foreigners, as in this case local partners can secure better treatment in terms of government regulation and taxes. In particular, we test whether majority-owned firms perceive taxes as a less important problem for their business, as compared with minority-owned firms. In the Enterprise Surveys dataset, firms were asked whether taxes and tax administration, among other issues, posed important obstacles for the operation and growth of their business. They were also invited

to judge the severity of the obstacle on a " four-point scale where: 0 = No obstacle 1 = Minor obstacle 2 = Moderate obstacle 3 = Major obstacle 4 = Very Severe Obstacle." We check whether firms that mentioned taxes, tax administration, and trade regulation among important obstacles are indeed the firms which were chosen for minority-owned foreign investment. The results reported in Table 1 indicate, that among a long list of potential problems, firms with majority stake by foreigners are less likely to view all the issues that are directly linked to government regulation - tax rates, tax administration, and customs and trade regulations - as a serious problem. In all other respects except for the skills of available workers, majority-owned projects are not different from minority-owned projects. Note that we focus on within country variation, as all our estimates include country, industry, and year fixed effects. This finding is consistent with the premise that preferential tax breaks is one of the important frictions leading foreign investors to give up control and to engage in a minority-owned method of financing.

Next, we use several different data sets to test the main prediction of the model regarding the effect of political instability on the choice between majority- and minority-owned investment (Proposition 1), namely, that higher political instability makes foreign investors more likely to acquire majority stakes in local firms.

The results of this estimation using the Enterprise Surveys dataset show that controlling for firms' characteristics, the effect of political instability on the prevalence of majority-owned foreign investment is indeed positive (see Table 2). Political instability, considered as peaceful change of government within the current system and proxied by government crises, has a positive effect on the likelihood of majority-owned foreign investment. Conversely, political *stability* in the other estimations, proxied by the vote share of the party with most seats in legislature, has a negative and significant effect on the likelihood of majority-owned

foreign investment. Note that many country-level instability variables vary little with time, and, as a result, the coefficients are imprecisely estimated which makes it more difficult to find significant coefficients. Moreover, the lack of variation over time causes some of the control variables to be dropped in the estimation as a result of collinearity. Overall, the results that use firm-level data on foreign ownership from Enterprise Survey are consistent with the predictions of Proposition 1.

Next, we test the same hypothesis using a different firm-level data set, which contains information on cross-border mergers and acquisitions. In particular, we test whether in countries with higher political instability, firms are more likely to acquire majority stakes in foreign firms. Tables 3 and 4 report the results of the analysis of the effects of instability on a variable capturing acquisitions of major shares in foreign companies (majority-owned investment if the acquirer's percentage owned after the transaction is over 50%). Consistent with our hypothesis, the situation in which the party of the executive controls all relevant houses and a higher number of veto players, both of which indicate lower level of political uncertainty, have a negative effect on acquisitions of major shares in foreign companies (see Table 3). In addition, higher government fractionalization, which is indicative of the higher level of political uncertainty, makes it more likely that a stake in a foreign firm will be increased to a majority. Overall, the results using firm-level data on the acquisitions of foreign companies from SDC dataset are also consistent with the predictions of Proposition 1.

Finally, Table 5 presents the estimation results using annual aggregate data from BEA. In this analysis we use as the dependent variable the share of assets of majority owned U.S. foreign affiliates in total assets of U.S. foreign affiliates. Consistent with our hypothesis, political instability measured in the form of government crises is associated with a positive

effect on the share of majority owned U.S. foreign affiliates, whereas a higher vote share of the party with the most seats in the legislature, which indicates lower political instability, has have a negative effect on this share. Thus, the results of the aggregate level analysis are also consistent with the main prediction of the model.

In general, the results using three independent data sources on the composition of international investment flows consistently show that higher political instability is associated with a higher share of majority-owned investments, which confirms the main prediction of the theoretical model. In addition, there is empirical evidence that provides support for the particular mechanism proposed in the model; namely, that foreigners are more likely to limit their investments to a minority stake in firms that experience problems with government regulation and taxes, since in that case it provides incentives for the local partners to use their connections to help mitigate these problems.

5 Conclusion

We offer a political economy explanation for the composition of international investment flows. In our model, majority-owned investment is more efficient because it mitigates agency problems, while investment in firms controlled by domestic partners is profitable as it facilitates lobbying and other interactions with the government of the host country. In the latter case, domestic partners of foreign investors are able to press the government for particular policies that are beneficial to a firm such as individual tax breaks or government contracts. Political instability decreases the relative value of minority-owned investment, as compared with majority-owned investment, so it affects the equilibrium capital allocation. We predict that political instability makes minority-owned investment a relatively less attractive option

as compared with majority-owned investment. We also find that agency problems exacerbate the effect of political instability.

Our model takes into account political characteristics and political stability of a host country and derives testable predictions for both aggregate data and firm- and industry-level data. It is consistent with some stylized facts and existing empirical evidence about the composition of foreign investment. To test the model directly, we use three independent data sources on the composition of international investment flows to examine the effect of political instability, defined as a lawful change of the party in power, on the share of majority-owned investments (i.e. FDI or greenfield investments). Consistent with our model, political instability increased the probability of majority-owned investments. In addition, the results provide tentative support to the mechanism proposed in the model, as foreign investors limit their investments to a minority stake in firms that experience more problems with taxes and government regulations.

References

Adserà, A. and C. Boix (2002). Trade, democracy and the size of the public sector: The political underpinnings of openness. *International Organization 56(2)*, 229–262.

Albuquerque, R. (2003). The composition of international capital flows: Risk sharing through foreign direct investment. *Journal of International Economics 61*, 353–383.

Alesina, A. and D. Dollar (2000). Who gives foreign aid to whom and why? *Journal of Economic Growth 5*, 33–64.

Alesina, A., S. Ozler, N. Roubini, and P. Swagel (1996). Political instability and economic growth. *Journal of Economic Growth 1*, 189–211.

Alesina, A. and R. Perotti (1996). Income distribution, political instability, and investment. *European Economic Review 40*, 1203–1228.

Baker, M., C. F. Foley, and J. Wurgler (forthcoming). Multinationals as arbitrageurs? the effect of stock market valuations on foreign direct investment. *Review of Financial Studies*.

Banks, A. S. (2005). Cross-national time-series data archive. Electronic resource.

Beck, T., G. Clarke, A. Groff, P. Keefer, and P. Walsh (2001). New tools in comparative political economy: The database of political institutions. *World Bank Economic Review 15(1)*, 165–176.

Bernhard, W. and D. Leblang (2006). *Democratic Processes and Financial Markets: Pricing Politics*. Cambridge University Press.

Bueno de Mesquita, B., A. Smith, R. M. Siverson, and J. D. Morrow (2003). *The Logic of Political Survival*. MIT Press.

Campante, F. (2008). Redistribution in a model of voting and campaign contributions. Working Paper.

Desai, M. A., A. Dyck, and L. Zingales (2007). Theft and taxes. *Journal of Financial Economics 84(3)*, 591–623.

Desai, M. A., C. F. Foley, and J. R. Hines, Jr. (2004). Foreign direct investment in a world of multiple taxes. *Journal of Public Economics 88*, 2727– 2744.

Djankov, S., T. Ganser, C. McLiesh, R. Ramalho, and A. Shleifer (2008). The effect of corporate taxes on investment and entrepreneurship. NBER Working Paper No. 13756.

Durnev, A. and L. Fauver (2008). Stealing from thieves: Firm governance and valuation when states are predatory. Working paper, McGill University.

Goldstein, I. and A. Razin (2006). An information-based tradeoff between foreign direct investment and foreign portfolio investment. *Journal of International Economics 70*, 271–295.

Goldstein, I., A. Razin, and H. Tong (2008). Liquidity, institutional quality, and the composition of international equity outflows. NBER Working Paper.

Henisz, W. J. (2000). Institutional environment for multinational investment. *Journal of Law, Economics, and Organizations 16(2)*, 334–364.

Henisz, W. J. (2004). Political institutions and policy volatility. *Economics and Politics 16(1)*, 1–27.

International Country Risk Guide (2008). Dataset on risks. PRS Group.

Jensen, N. (2003). Democratic governance and multinational corporations: The political economy of foreign direct investment. *International Organization 57(3)*, 587–616.

Jensen, N. (2006). Firm-level responses to politics: Political institutions and the operations of u.s. multinationals. Working Paper.

Jensen, N. (forthcoming). Political regimes and political risk: Democratic institutions and expropriation risk for multinational investors. *Journal of Poltiics*.

Johnson, S., R. L. Porta, F. L. de Silanes, and A. Shleifer (2000). Tunneling. *American Economic Review Papers and Proceedings 90*, 22–27.

Johnson, S. H., P. D. Boone, A. Breach, and E. Friedman (2000). Corporate governance and the asian financial crisis. *Journal of Financial Economics 58(1-2)*, 141–186.

Kaufmann, D., A. Kraay, and M. Mastruzzi (2008). Governance matters vii: Aggregate and individual governance indicators, 1996-2007. World Bank Policy Research Working Paper No. 4654.

Keefer, P. and D. Stasavage (2003). The limits of delegation: Veto players, central bank independence and the credibility of monetary policy. *American Political Science Review*.

Kirabaeva, K. (2008). International capital flows and liquidity crises. Working paper.

La Porta, R., F. Lopez-de Silanes, and A. Shleifer (1999). Corporate ownership around the world. *Journal of Finance 54*, 471–517.

La Porta, R., F. Lopez-de Silanes, A. Shleifer, and R. Vishny (1998). Law and finance. *Journal of Political Economy 106(6)*, 1113–1155.

La Porta, R., F. Lopez-de Silanes, A. Shleifer, and R. Vishny (2002). Investor protection and corporate valuation. *Journal of Finance 57(3)*, 1147–1170.

Lane, P. and G. M. Milesi-Ferretti (2007). The external wealth of nations mark ii: Revised and extended estimates of foreign assets and liabilities. *Journal of International Economics 73*, 223–250. IMF Working Paper 06/69.

Li, Q. and A. Resnick (2003). Reversal of fortunes: Democracy, property rights and foreign direct investment inflows in developing countries. *International Organization 57(1)*, 1–37.

Marshall, M. G. and K. Jaggers (2006). Polity iv project: Political regime characteristics and transitions, 1800-2004 dataset users' manual. University of Maryland.

Meyer, K. E. and H. V. Nguyen (2005). Foreign investment strategies and sub-national institutions in emerging markets: Evidence from vietnam. *Journal of Management Studies 42(1)*, 63–93.

Rajan, R. G. and L. Zingales (2003a). The great reversals: The politics of financial development in the twentieth century. *Journal of Financial Economics 69*, 5–50.

Rajan, R. G. and L. Zingales (2003b). *Saving Capitalism from the Capitalists: Unleashing the Power of Financial Markets to Create Wealth and Spread Opportunity*. Crown Business.

Razin, A., E. Sadka, and C.-W. Yuen (1998). A pecking order of capital inflows and international tax principles. *Journal of International Economics 44(1)*, 45–68.

Resnick, A. (2001). Investors, turbulence, and transition: Democratic transition and foreign direct investment in nineteen developing countries. *International Organization 27(4)*, 381–398.

Shleifer, A. and T. Frye (1997). The invisible hand and the grabbing hand. *American*

Economic Review Papers and Proceedings 87, 354–358.

Shleifer, A. and R. Vishny (1997). A survey of corporate governance. *Journal of Finance 52(2)*, 737–783.

Shleifer, A. and D. Wolfenzon (2002). Investor protection and equity markets. *Journal of Financial Economics 66*, 3–27.

Siegel, J. and M. Roe (2008). Political instability and financial development. Working Paper.

Stulz, R. M. (2005). The limits of financial globalization. *Journal of Finance 60*, 1595–1638.

Svensson, J. (1998). Investment, property rights and political instability: Theory and evidence. *European Economic Review 42*, 1317–1341.

Table 1. Business constraints and the form of foreign investment.

	Business Constraints									
	Tax Rates	Tax Administration	Customs And Trade Regulations	Telecommunications	Electricity	Transport	Access To Land	Labor Regulations	Skills Of Available Workers	Licensing And Operating Permits
Majority-owned foreign investment	-0.375***	-0.359***	-0.222**	0.005	0.113	-0.011	-0.097	-0.146	-0.167**	-0.076
	[0.098]	[0.100]	[0.101]	[0.077]	[0.093]	[0.089]	[0.091]	[0.095]	[0.076]	[0.095]
Medium size	-0.032	-0.080	0.038	0.073*	-0.014	0.128***	0.050	0.151**	0.023	0.152***
	[0.069]	[0.069]	[0.075]	[0.043]	[0.058]	[0.045]	[0.046]	[0.061]	[0.063]	[0.041]
Large size	0.057	-0.060	0.211***	0.069	0.023	0.168***	0.071	0.322***	0.091	0.162***
	[0.087]	[0.085]	[0.065]	[0.045]	[0.065]	[0.051]	[0.055]	[0.077]	[0.063]	[0.051]
Exporter	-0.016	-0.128**	-0.213***	-0.042	-0.016	-0.017	0.056	0.005	0.034	-0.001
	[0.058]	[0.061]	[0.068]	[0.049]	[0.042]	[0.049]	[0.047]	[0.060]	[0.047]	[0.050]
Log (GDP per capita)	2.044*	0.598	2.822***	-0.296	-0.802	0.013	1.288*	1.495***	1.285**	0.406
	[1.053]	[0.933]	[0.602]	[0.384]	[0.716]	[0.386]	[0.705]	[0.458]	[0.625]	[1.031]
Market capitalization, as % of GDP	0.011	0.004	0.017***	-0.007	-0.011*	-0.001	0.004	0.020***	0.010*	0.019***
	[0.009]	[0.006]	[0.004]	[0.004]	[0.006]	[0.004]	[0.005]	[0.005]	[0.006]	[0.007]
Log (Population)	-1.124	5.610	-0.837	-10.81***	-4.005	-3.917**	-9.039**	-2.310	-15.752***	7.709
	[5.949]	[3.906]	[2.538]	[2.111]	[3.341]	[1.874]	[3.316]	[2.332]	[2.529]	[4.577]
Polity	0.437*	0.773***	0.778***	0.356***	0.009	0.021	-0.034	1.206***	0.946***	0.686***
	[0.230]	[0.192]	[0.138]	[0.103]	[0.190]	[0.099]	[0.158]	[0.122]	[0.163]	[0.182]
Urban population (% of total)	0.582**	0.393**	0.637***	0.161*	0.175	0.239***	0.149	0.356***	0.290**	0.209
	[0.263]	[0.154]	[0.134]	[0.093]	[0.149]	[0.082]	[0.119]	[0.096]	[0.116]	[0.143]
Capital account liberalization	-0.089	0.070	0.062	0.245*	0.425**	0.213*	0.008	-0.203	-0.030	-0.217
	[0.213]	[0.177]	[0.091]	[0.123]	[0.198]	[0.117]	[0.187]	[0.135]	[0.173]	[0.191]
Country, industry, and year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,543	3,527	3,501	3,600	3,606	3,597	3,442	3,544	3,596	3,517
Number of countries	30	30	30	31	31	30	31	30	31	30
Number of years	4	4	4	4	4	4	4	4	4	4
R-squared	0.14	0.12	0.12	0.12	0.19	0.11	0.07	0.16	0.12	0.10

Robust standard errors, clustered by country, are in brackets. *** p<0.01, ** p<0.05, * p<0.1. Source: all firm-level variables are from a small firm survey conducted by Enterprise Surveys Unit, World Bank, in developing countries in 2002-2006. GDP per capita, population, urban population, and market capitalization are from WDI. Capital account liberalization is from Chinn and Ito, 2007. Polity is from Marshall and Jaggers (2008) Polity IV project. Sample: firms with non-zero foreign ownership are included in the sample. Dependent variable: an answer to the question "please tell us if any of the following issues are a problem for the operation and growth of your business" on a five-point scale with 0 = No obstacle, 1 =Minor obstacle 2 = Moderate obstacle 3 = Major obstacle 4 = Very Severe Obstacle.

Table 2. Majority owned foreign investment and political instability.

	Majority-owned foreign investment (>20%)				
Government crises	0.0387***				
	[0.00788]				
Party of executive controls all relevant houses		-0.0194			
		[0.0392]			
Vote share of party with most seats in legislature			-0.00547*		
			[0.00293]		
Government fractionalization				0.0022	
				[0.0185]	
Number of veto players					0.0082
					[0.00796]
Medium size	-0.0003	0.0199*	0.0135	0.0185*	0.0186*
	[0.00888]	[0.0115]	[0.0102]	[0.0104]	[0.0105]
Large size	-0.0244**	-0.0077	-0.0088	-0.0097	-0.0095
	[0.00937]	[0.0127]	[0.0129]	[0.0118]	[0.0118]
Exporter	-0.0227***	-0.0078	-0.0017	-0.0095	-0.0095
	[0.00817]	[0.0101]	[0.00971]	[0.00949]	[0.00946]
Log (GDP per capita)		0.0369	0.181**	0.0373	0.0687
		[0.0485]	[0.0761]	[0.0651]	[0.0618]
Market capitalization, as % of GDP		0.0006	0.00391*	-0.0003	0.0006
		[0.00126]	[0.00223]	[0.000852]	[0.00107]
Log (Population)		-1.415**	-0.882*	-1.671***	-1.419***
		[0.585]	[0.486]	[0.241]	[0.432]
Polity			-0.0406***	-0.0470***	-0.0381**
			[0.0122]	[0.0139]	[0.0168]
Urban population (% of total)		-0.0329***	-0.0354***	-0.0288***	-0.0186
		[0.0116]	[0.00477]	[0.00951]	[0.0131]
Capital account liberalization		-0.0187	0.0143	0.0319**	0.0211
		[0.0192]	[0.0133]	[0.0130]	[0.0154]
Country, industry, and year fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	3,419	3,660	3,334	3,881	3,888
Number of countries	54	29	26	30	30
Number of years	2	4	4	4	4
R-squared	0.08	0.06	0.05	0.06	0.06

Robust standard errors, clustered by country, are in brackets. *** p<0.01, ** p<0.05, * p<0.10. . Source: all firm-level variables are from a small firm survey conducted by Enterprise Surveys Unit, World Bank, in developing countries in 2002-2006. GDP per capita, population, urban population, and market capitalization are from WDI. Capital account liberalization is from Chinn and Ito, 2007. Polity is from Marshall and Jaggers (2008) Polity IV project. Sample: firms with non-zero foreign ownership are included in the sample. Estimation with country fixed effects is possible, as for many countries surveys were administered in at least two years. In some specifications country-level controls are dropped from the regression because of collinearity with country fixed effects.

Table 3. Political instability and acquisitions of major stakes in foreign companies .

	Dummy for acquisitions of a major stake in foreign company				
Government crises	-0.001				
	[0.019]				
Party of executive controls all relevant houses		-0.0386***			
		[0.014]			
Vote share of party with most seats in legislature			-0.001		
			[0.001]		
Government fractionalization				-0.051	
				[0.034]	
Number of veto players					-0.006***
					[0.002]
Log (GDP per capita)	-0.022	-0.051	0.100	-0.072	0.007
	[0.490]	[0.128]	[0.114]	[0.122]	[0.096]
Market capitalization, as % of GDP	-0.001	-0.001	0.000	-0.001	0.000
	[0.001]	[0.000]	[0.000]	[0.000]	[0.000]
Log (Population)	-0.532	-0.210	0.289	-0.233	0.221
	[2.751]	[0.508]	[0.510]	[0.513]	[0.456]
Polity	-0.7433***	0.0313*	0.018	0.0342*	0.018
	[0.059]	[0.019]	[0.025]	[0.018]	[0.017]
Urban population (% of total)	0.010	0.011	-0.003	0.006	0.006
	[0.047]	[0.010]	[0.011]	[0.010]	[0.008]
Capital account liberalization	0.050	0.002	0.008	0.014	0.013
	[0.121]	[0.022]	[0.018]	[0.016]	[0.016]
Country, industry, and year fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	7,748	17,309	17,570	18,355	18,359
Number of countries	54	52	53	55	54
Number of years	2	4	4	4	4
R-squared	0.08	0.08	0.08	0.08	0.08

Robust standard errors, clustered by country, are in brackets. *** p<0.01, ** p<0.05, * p<0.1. Only firms with non-zero foreign ownership are included in the sample. Source: all merger-level variables are SDC dataset 2002-2005. GDP per capita, population, urban population, and market capitalization are from WDI. Capital account liberalization is from Chinn and Ito, 2007. Polity is from Marshall and Jaggers (2008) Polity IV project.

Table 4. Political instability and increasing ownership to majority stakes in foreign companies.

	Dummy for a change from minority to majority ownership in foreign companies				
Government crises	0.004				
	[0.032]				
Party of executive controls all relevant houses		-0.028			
		[0.042]			
Vote share of party with most seats in legislature			-0.0001		
			[0.002]		
Government fractionalization				0.2146**	
				[0.086]	
Number of veto players					-0.006
					[0.004]
Log (GDP per capita)	0.556	-0.229	-0.378	-0.491	-0.405
	[0.827]	[0.291]	[0.404]	[0.294]	[0.336]
Market capitalisation, as % of GDP	-0.001	-0.001	-0.001	-0.001	-0.001
	[0.002]	[0.001]	[0.001]	[0.001]	[0.001]
Log (Population)	3.884	-0.323	1.071	0.616	1.440
	[5.128]	[1.561]	[1.968]	[1.386]	[1.622]
Polity		0.031	0.042	0.007	0.026
		[0.026]	[0.030]	[0.025]	[0.027]
Urban population (% of total)	0.1409**	-0.006	-0.015	0.003	-0.008
	[0.064]	[0.025]	[0.038]	[0.025]	[0.028]
Capital account liberalization	0.108	-0.021	-0.020	-0.018	-0.033
	[0.213]	[0.078]	[0.072]	[0.065]	[0.066]
Country, industry, and year fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	1,245	2,630	2,537	2,748	2,749
Number of countries	49	51	51	53	53
Number of years	2	4	4	4	4
R-squared	0.06	0.05	0.05	0.05	0.05

Robust standard errors, clustered by country, are in brackets. *** p<0.01, ** p<0.05, * p<0.10. Source: all merger-level variables are SDC dataset 2002-2005. GDP per capita, population, urban population, and market capitalization are from WDI. Capital account liberalization is from Chinn and Ito, 2007. Polity is from Marshall and Jaggers (2008) Polity IV project. Only companies with non-zero initial foreign ownership are included. In some specifications country-level controls are dropped from the regression because of collinearity with country fixed effects.

Table 5. Political instability and majority owned U.S. affiliates.

	Share of assets of majority owned U.S. foreign affiliates in total assets of U.S. foreign affiliates				
Government crises	0.0204*				
	[0.010]				
Party of executive controls all relevant houses		-0.0201			
		[0.020]			
Vote share of party with most seats in legislature			-0.0007		
			[0.001]		
Government fractionalization				-0.0459	
				[0.055]	
Number of veto players					-0.0089**
					[0.004]
Log (GDP per capita)	0.0768	-0.045	-0.1046	-0.1137	-0.1144
	[0.163]	[0.129]	[0.114]	[0.123]	[0.125]
Market capitalization, as % of GDP	-0.0001	0.0005	0.0004	0.0003	0.0003
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Log (Population)	0.5601	0.5945	0.9123	0.6628	0.6317
	[1.020]	[0.914]	[0.891]	[0.832]	[0.821]
Polity	0.0023	0.0039	-0.0074	0.0048	0.0046
	[0.006]	[0.009]	[0.005]	[0.009]	[0.008]
Urban population (% of total)	-0.0222*	-0.0104	0.0002	-0.0066	-0.0067
	[0.013]	[0.010]	[0.010]	[0.010]	[0.010]
Capital account liberalization	-0.004	-0.0173	-0.0131	-0.0112	-0.0134
	[0.021]	[0.020]	[0.020]	[0.022]	[0.020]
Country, industry, and year fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	326	398	374	419	420
Number of countries	53	51	53	54	54
Number of years	7	9	9	9	9
R-squared	0.82	0.73	0.81	0.77	0.78

Robust standard errors, clustered by country, are in brackets. *** p<0.01, ** p<0.05, * p<0.1. Source: share of assets of majority owned U.S. foreign affiliates in total assets of U.S. foreign affiliates is from U.S. Bureau of Economic Analysis (BEA) 1997-2008. GDP per capita, population, urban population, and market capitalization are from WDI. Capital account liberalization is from Chinn and Ito, 2007. Polity is from Marshall and Jaggers (2008) Polity IV project.

APPENDIX

Table A1. Summary statistics.

Panel A: Firm-level variables, survey of Economic Enterprise Unit, World Bank 2002-2006.

Variable	Obs	Mean	Std. Dev.	Min	Max
Business constraints: tax rates	3052	1.836501	1.323391	0	4
Business constraints: tax administration	3032	1.620053	1.292097	0	4
Business constraints: customs and trade regulation	3029	1.584021	1.299053	0	4
Business constraints: telecommunications	3129	0.8478747	1.182728	0	4
Business constraints: electricity	3128	1.229859	1.40397	0	4
Business constraints: transportation	3117	0.9974334	1.238811	0	4
Business constraints: access to land	3005	0.7487521	1.158151	0	4
Business constraints: labor regulations	3057	1.237161	1.226221	0	4
Business constraints: skills and education of available workers	3118	1.332585	1.229269	0	4
Business constraints: business licensing and operating permits	3040	1.108224	1.20564	0	4
Majority-owned foreign investment	3419	0.3021351	0.4592507	0	1
Medium firm (20-99 employees)	3419	0.512723	0.4999112	0	1
Large firm (100+ employees)	3419	1.508921	0.4999935	1	2
Exporter	3419	7.173289	0.9036237	4.853648	9.238494
GDP per capita (logged), WDI	3419	30.57632	39.49634	0	160.6598
Market capitalization to GDP, WDI	3419	17.72561	2.068833	14.122	20.97667
Population (logged), WDI	3356	2.339392	6.662134	-9	10
Polity, Polity IV	3419	49.75033	16.93413	12.4	83
Urban population, WDI	2177	2.988057	0.8733413	2	4
Financial liberalization, Chinn and Ito (2007)	3419	0.1219655	0.3272938	0	1
Party of executive controls all relevant houses, WGI	3165	0.5440758	0.4981322	0	1
Vote share of party with most seats in legislature, WGI	2646	24.5939	21.04904	0	66.36
Government crises, Banks 2008	3316	0.2618903	0.2914785	0	0.7822264
Government fractionalization, WGI	3189	2.819066	1.466972	1	6
Checks and balances	3052	1.836501	1.323391	0	4

Panel B. Variables for SDC(mergers and acquisition) based data analysis

Variable	Obs	Mean	Std. Dev.	Min	Max
Dummy for acquisitions of a major stake in foreign company, SDC	18359	0.8417125	0.3650203	0	1
Dummy for a change from minority to majority ownership in foreign companies, SDC	18359	0.6508524	0.4767137	0	1
GDP per capita (logged), WDI	18359	9.373258	1.206394	5.980797	10.59585
Market capitalization to GDP, WDI	18359	79.75459	48.32725	0	255.7352
Population (logged), WDI	18359	17.60503	1.483197	15.18461	20.98909
Polity, Polity IV	18359	7.927719	4.700144	-10	10
Urban population, WDI	18359	72.98673	16.9811	15.1	100
Financial liberalization, Chinn and Ito (2007)	18359	4.379541	0.9922171	2	5
Party of executive controls all relevant houses, WGI	7745	0.1204648	0.4891127	0	4
Vote share of party with most seats in legislature, WGI	17304	0.4051086	0.4909272	0	1
Government crises, Banks 2008	17565	35.384	14.48976	0	73.67
Government fractionalization, WGI	18350	0.2292832	0.2442262	0	0.8278044
Checks and balances	18359	3.8379	1.843501	1	17

Panel C: Variables for BEA (U.S. foreign affiliates) based data analysis

Variable	Obs	Mean	Std. Dev.	Min	Max
Share of assets of majority owned U.S. foreign affiliates in total assets of U.S. foreign affiliates, BEA	420	0.8106488	0.168812	0.2290886	1
GDP per capita (logged), WDI	420	8.638061	1.346537	5.883191	10.59585
Market capitalization to GDP, WDI	420	58.52723	55.15322	0	322.0146
Population (logged), WDI	420	17.19927	1.354068	15.11687	20.98909
Polity, Polity IV	420	6.638095	5.263689	-10	10
Urban population, WDI	420	67.5751	18.5306	15.1	100
Financial liberalization, Chinn and Ito (2007)	420	3.869048	1.076764	1	5
Party of executive controls all relevant houses, WGI	320	0.265625	0.6394107	0	4
Vote share of party with most seats in legislature, WGI	414	0.3285024	0.4702368	0	1
Government crises, Banks 2008	368	33.72549	16.29413	0	74.27
Government fractionalization, WGI	420	0.2959575	0.2785662	0	0.892915
Checks and balances	420	3.77381	1.959928	1	18

Table A2. Summary by country.

Country	Number of firms, WB	Mean share of firms with majority ownership	Numbers of years, SDC	Acquisitions of a major stake in foreign company, SDC	Change from minority to majority ownership in foreign companies, SDC	Number of years, BEA	Share of majority-owned foreign assets, BEA
Albania	26	.9615384	.	.	.	.	.
Algeria	5	1	7	.4285714	.4285714	3	.9535337
Argentina	.	.	158	.7911392	.6075949	9	.8262842
Armenia	27	1	.	.	.	.	.
Australia	.	.	967	.7280248	.5801448	9	.8840485
Austria	.	.	232	.8534483	.6810345	7	.8453623
Azerbaijan	27	1	17	.5882353	.2352941	8	.997304
Bangladesh	32	.84375	.	.	.	.	.
Belarus	49	1	.	.	.	.	.
Belgium	.	.	359	.9247911	.729805	9	.8955204
Bosnia and Herzegovina	22	.9545454	.	.	.	.	.
Brazil	87	.9655172	265	.8226415	.6264151	9	.7748007
Bulgaria	42	.952381	109	.853211	.5688074	8	.7215335
Cambodia	93	1	.	.	.	.	.
Canada	.	.	1122	.9144385	.7691622	.	.
Chile	.	.	87	.816092	.6666667	9	.7882652
China	721	.9875174	1241	.7775987	.4536664	9	.8466847
Colombia	.	.	56	.8928571	.7321429	9	.8223344
Croatia	34	1	.	.	.	.	.
Czech Republic	41	.9512195	.	.	.	3	.5970033
Denmark	.	.	340	.9411765	.7882353	5	.7645687
Ecuador	58	.8793104	20	.8	.65	8	.8946171
Egypt	.	.	36	.75	.5833333	8	.7850109
El Salvador	40	.925	.	.	.	.	.
Eritrea	9	.7777778	.	.	.	.	.
Estonia	31	1	.	.	.	.	.
Ethiopia	19	1	.	.	.	.	.
Finland	.	.	271	.900369	.704797	7	.9872092
France	.	.	1088	.9117647	.765625	9	.8913559
Georgia	26	1	.	.	.	.	.
Germany	.	.	1739	.9143186	.7412306	9	.8718711

Greece	.	.	67	.7611941	.4925373	3	.5594908
Guatemala	46	.9782609	.	.	.	.	.
Honduras	72	.9861111	.	.	.	.	.
Hungary	59	.9661017	169	.8757396	.6390532	7	.8995811
India	37	.6486486	538	.6171004	.3271376	9	.7600389
Indonesia	117	.982906	249	.7751004	.4216867	9	.7671795
Ireland	.	.	229	.930131	.7816594	9	.9924319
Israel	.	.	101	.8613861	.6336634	9	.544837
Italy	.	.	548	.8357664	.6368613	9	.7846931
Japan	.	.	403	.5409429	.3870968	9	.7689906
Kazakhstan	36	1	47	.8297873	.5531915	3	.9904291
Kenya	47	.9148936	.	.	.	.	.
Kyrgyz Republic	43	.9767442	.	.	.	.	.
Latvia	28	.9642857	.	.	.	.	.
Lesotho	28	1	.	.	.	.	.
Lithuania	33	.9393939	.	.	.	.	.
Macedonia, FYR	23	1	.	.	.	.	.
Malaysia	229	.9126638	345	.742029	.5594203	9	.8459381
Mali	20	.95	.	.	.	.	.
Mexico	.	.	236	.8855932	.6991525	9	.7373477
Moldova	40	.975	.	.	.	.	.
Netherlands	.	.	582	.9175258	.7560138	9	.9360217
New Zealand	.	.	317	.8580441	.7066246	9	.7910314
Nicaragua	45	.9777778	.	.	.	.	.
Nigeria	.	.	13	.8461539	.3846154	8	.9749254
Norway	.	.	305	.8786885	.6885246	9	.9361194
Oman	51	.9803922	.	.	.	.	.
Pakistan	12	1	25	.56	.32	5	.7371807
Peru	50	.9	64	.859375	.65625	9	.8481729
Philippines	158	.9240506	103	.6990291	.4466019	9	.8729981
Poland	82	.9878049	258	.8914729	.6124031	7	.8142918
Portugal	.	.	179	.8044693	.6089386	8	.9257859
Romania	46	.9782609	130	.8461539	.6	3	.9125468
Russia	82	.9268293	330	.7424242	.4727273	6	.6525818
Saudi Arabia	.	.	5	.4	.2	9	.2963846

Senegal	62	.9032258	.	.	.	.	.
Singapore	.	.	408	.8014706	.5661765	9	.9656116
Slovakia	30	.9666666	92	.8043478	.4782609	6	.7529942
Slovenia	29	.8965517	.	.	.	.	.
South Africa	114	.9385965	158	.835443	.6075949	9	.5466028
South Korea	.	.	253	.6758893	.4229249	9	.50459
Spain	.	.	571	.82662	.6339755	9	.8714877
Sri Lanka	.	.	13	.7692308	.6153846	8	.9008275
Sweden	.	.	530	.9226415	.7509434	5	.9959947
Switzerland	.	.	370	.9027027	.7459459	9	.9885879
Syrian Arab Republic	7	.7142857	.	.	.	.	.
Tajikistan	9	1	.	.	.	.	.
Tanzania	56	.9821429	.	.	.	.	.
Thailand	.	.	219	.6575342	.3926941	9	.7808577
Turkey	64	1	90	.7888889	.6222222	9	.6060712
Uganda	67	1	.	.	.	.	.
Ukraine	80	.925	111	.8018018	.5225225	6	.8151469
United Kingdom	.	.	2152	.9149628	.8020446	9	.9656376
Uzbekistan	67	.9402985	.	.	.	.	.
Venezuela	.	.	35	.7428572	.5142857	9	.6422362
Zambia	61	1	.	.	.	.	.