Essays in International Finance

by

Mihail K. Miletkov

(Under the Direction of Jeffry M. Netter)

Abstract

The dissertation explores two key issues in international finance: the liberalization of the national stock markets and the protection of the minority shareholders. In the first essay we document that both political and economic factors influence the government's decision whether and when to allow foreign investors to purchase domestic equity securities. Among the economic factors, the level of financial development, the structure of the economy, the level of investor protection, and the level of the government's involvement in the economy are significant determinants of the stock market liberalization decision. The significant political factors include the government's political orientation and the influence of foreign governments and agencies through the allocation of foreign financial aid. In the second essay we examine the effect of the presence of the government as a minority shareholder on the protection of the minority shareholders in privatized firms. Consistent with the government's incentive to foster security market development and to enlist the support of the median-class voters for the privatization process we find that the government effectively monitors the controlling shareholders in the newly privatized firms and curbs their ability to expropriate the minority shareholders.

Index words: International finance, liberalization, stock markets, privatization, private benefits of control, government, ownership, shareholder expropriation

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Dedication

To my wife Bojana, my mother Ana, my father Krassimir, my brothers Fr. Nikolay and Simeon, my grandmother Nikolina, and in memory of my grandmother Lilia and my grandfathers Miletko and Nikola. Thank you for all the love and support.

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Chapter 1

Introduction

The dissertation explores two key issues in international finance: the liberalization of the national stock markets and the protection of the minority shareholders. The first essay in my dissertation investigates the potential determinants of the government's decision to allow foreign investors to purchase domestic equity securities. We document that the more industrialized countries, which have higher levels of financial development, provide better legal protection of the minority shareholder rights, and have less interventionist governments are more likely to liberalize their equity markets. Additionally, the more nationalistic governments and governments that represent special interest groups are less likely to allow foreign investors to purchase domestic equity securities, while the governments that receive more foreign financial aid are more likely to liberalize their equity markets. The latter result contributes to the debate about the effectiveness of foreign financial aid by illustrating that foreign financial aid may indirectly affect economic growth through its influence on the government's decision to liberalize their national equity markets.

The second essay in my dissertation examines the effect of the presence of the government as a minority shareholder on the protection of the minority shareholders in privatized firms. Consistent with the government's incentive to foster security market development and to enlist the support of the median-class voters for the privatization process we find that the government effectively monitors the controlling shareholders in the newly privatized firms and curbs their ability to expropriate the minority shareholders. Furthermore, the evidence suggests that the minority government ownership acts as a substitute for the lack of alternative mechanisms for minority shareholder protection.

Chapter 2

Political and Economic Factors Affecting the Government's Decision to Allow Foreign Investors to Purchase Domestic Equity Securities

2.1 Introduction

Over the past two decades a great number of emerging market and developing countries have liberalized their equity markets. The majority of the academic studies on the subject document that the stock market liberalizations substantially reduce the cost of capital (Blair Henry (2000a), Blair Henry (2003), Bekaert and Harvey (2000), Chari and Blair Henry (2004b)), increase aggregate investment (Blair Henry (2000b)), and promote economic growth (Bekaert, Harvey, and Lundblad (2005)). Peter Blair Henry summarizes the empirical evidence on the effects of equity market liberalizations in a 2003 Congressional Testimony: "...all the evidence we have indicates that countries derive substantial economic benefits from opening their stock markets to foreign investors..." Given the abundance of studies examining the effects of stock market liberalizations on firm performance and economic growth, it is surprising that there is a lack of research on the potential determinants of the stock market liberalization decision. Specifically, if the equity market liberalizations lead to the positive welfare effects documented in the literature, why governments choose either to delay or completely resist the liberalization of their stock markets?

In this paper we examine some of the potential determinants of the government's decision to liberalize their national stock markets. We use an extensive list of countries for which we can identify if and when a stock market liberalization occurred, and use a probit model and a duration model to analyze the stock market liberalization decision. Our results suggest that both political and economic factors influence the government's decision whether and when to liberalize their national equity markets. Among the economic factors, the level of financial development, the structure of the economy, the level of investor protection, and the level of the government's involvement in the economy are significant determinants of the stock market liberalization decision. The significant political factors include the government's political orientation and the influence of foreign governments and agencies through the allocation of foreign financial aid.

Our finding that the amount of foreign financial aid received by the governments in the emerging market and developing countries is significantly and positively related to the probability of a stock market liberalization contributes to the long-standing debate about the effectiveness of foreign aid. Specifically, economists have long sought to demonstrate that foreign financial aid promotes economic growth. The majority of the empirical studies, however, fail to identify a robust positive effect of foreign financial aid on economic growth (Easterly (2003), Easterly, Levine, and Roodman (2004), Rajan and Subramanian (2005)). Easterly, Levine, and Roodman (2004) state the need for further research which "...will continue to explore pressing macroeconomic and microeconomic questions surrounding foreign aid, such as whether aid can foment reforms in policies and institutions that in turn foster economic growth..." Our paper provides some evidence in this direction. We find that

foreign financial aid is positively related to the likelihood of a stock market liberalization, which in turn fosters economic growth (Bekaert, Harvey, and Lundblad (2005)).

The remainder of the paper proceeds as follows. Section 2.2 presents the data and identifies the political and economic factors that can influence the likelihood of a stock market liberalization. Section 2.3 describes the methodology employed in the analyses of the stock market liberalization decision. Section 2.4 presents the empirical findings. Section 2.5 tests the robustness of the empirical findings. Section 2.6 concludes.

2.2 Data

2.2.1 Dating the stock market liberalizations

The objective of the paper is to examine the political and economic factors that affect the government's decision to liberalize the domestic stock markets. Our first task, therefore, is to identify the dates of the equity market liberalizations. We obtain these dates from Bekaert, Harvey, and Lundblad (2005).[1] They conduct a comprehensive study of the relationship between equity market liberalization and economic growth, and document that equity market liberalizations increase economic growth. The stock market liberalization dates correspond to the dates of formal regulatory change after which foreign investors officially have the opportunity to invest in domestic equity securities. Our indicator variable for the official stock market liberalization takes the value of one on and after the year of the stock market liberalization, and zero otherwise. Bekaert, Harvey, and Lundblad (2005) examine 95 countries and present the official equity market liberalization dates for the countries that

[1]Most of the dates are based on Bekaert and Harvey's (2002) chronology of important financial, economic and political events in emerging markets.

liberalized their stock markets. The majority of the developed countries liberalized their equity markets before 1980.[2] Out of the remaining 78 countries 6 are considered developed economies (Greece, Iceland, Japan, New Zealand, Portugal, and Spain), which leaves us with 72 emerging market and developing countries. For 70 of these 72 countries we have data on the majority of the variables that we use in the subsequent analysis. Therefore, our final sample consists of 70 emerging market and developing countries out of which 36 liberalized their stock markets in the period from 1980 to 2000.

There are alternative methods to date the equity market liberalizations. For example, the "First Sign" measure is based on the earliest of three possible events: the launching of a country fund, the announcement of an American Depository Receipt (ADR) or the official equity market liberalization. Additionally, Edison and Warnock (2003) propose a continuous measure of equity market liberalizations that reflects the availability of domestic equity securities to foreign investors. Since the objective of our study is to examine factors that influence the *government's* decision to liberalize the national stock markets we employ the official stock market liberalization dates, because they are directly related to regulatory changes.

2.2.2 Factors affecting the likelihood of a stock market liberalization

The potential determinants of the government's decision to liberalize the domestic equity markets include economic and political factors, which we present and discuss in the next

[2]These 17 counties include Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Netherlands, Norway, Singapore, Sweden, Switzerland, United Kingdom, United States.

section. The majority of our data is obtained from the World Bank Databases and from the OECD's website. Table 2.1 presents a list of variable definitions and sources of the data.

Economic factors

In the following paragraphs we discuss the economic factors that can potentially influence the government's decision to liberalize their domestic equity markets. We present the various proxies that we use and the hypothesized relationship between each factor and the likelihood of a stock market liberalization.

Economic development and country size

The success of the equity market liberalizations largely depends on the demand for shares of companies in the liberalizing countries by foreign investors. Therefore, the countries with higher levels of economic development may be more likely to liberalize their equity markets, since they are also more likely to benefit from these reforms. Alternatively, it is possible that the poorer countries, which lack investment capital, are less opposed to foreign ownership and therefore, are more likely to liberalize their equity markets. The relationship between the level of economic development and the likelihood of equity market liberalization is ambiguous and remains an empirical question. We include country size in the analysis, because it is possible that the costs of structural reforms may be higher in larger countries. We use gross national income per capital (GNI per capita) as a proxy for the level of economic development and population size as a proxy for country size.

Financial development

The countries that have better developed financial markets are more likely to have the institutions necessary to support a market economy, and therefore are more likely to attract foreign investors following the liberalization of their stock markets. We proxy for the development of the banking sector with PRIVATE CREDIT, which equals the financial intermediary credits to the private sector divided by the gross domestic product. We measure stock market development with TURNOVER, which equals the ratio of annual equity value-traded to market capitalization.

Structure of the economy

We expect that in the countries where agriculture constitutes the majority of economic activity and the capital requirements are smaller, the likelihood of stock market liberalization will be lower. In the more industrialized countries, on the other hand, which have larger capital requirements, the likelihood of equity market liberalization will be higher. Our proxies for the structure of the economy are AGRICULTURE and INDUSTRY. AGRICULTURE equals the sum of the economic value added in forestry, hunting, fishing, and cultivation of crops and livestock production divided by the gross domestic product. INDUSTRY equals the sum of the economic value added in mining, manufacturing, construction, electricity generation, and water and gas production divided by the gross domestic product.

Business environment

The level of investor protection affects the willingness of foreign investors to purchase domestic equity securities. We expect that the countries that have institutions protecting

the rights of the minority shareholders are more likely to benefit from the stock market liberalizations, and therefore, are more likely to liberalize their equity markets. Our proxy for the level of investor protection and more broadly for the presence of institutions supporting financial development is the common-law/civil-law dummy variable proposed by La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998). These authors document that the countries with common law legal origin have stronger legal protection of investor rights than the countries with civil law legal origin.[3]

Countries that are more integrated into the global economy, by being open to trade and capital flows, might be more likely to liberalize their equity markets.[4] However, openness to trade may also be associated with large economic rents for incumbent firms that oppose the liberalization of the domestic equity markets, because the removal of barriers to foreign equity ownership promotes financial development and spurs competition. The incumbent firms, which are well-established and politically connected and therefore, can raise all the required funds from local banks and retained earnings, will oppose the development of the domestic financial markets, because financial development may allow the less established, competing firms, to obtain outside financing.[5] The direction of the relationship between trade openness and stock market liberalization is ambiguous and is left as an empirical question. Our proxy for openness to trade is TRADE OPENNESS, which equals the sum of exports and imports of goods and services divided by gross domestic product. The proxy

[3]Beck, Demirgüç-Kunt, and Levine (2003) find that legal origin matters for financial development because the legal traditions differ in their ability to adapt efficiently to evolving economic conditions.

[4]The 2002 World Development Report, published by the World Bank, (p.9) states that: "Openness to trade and the exchange of ideas within countries and between countries has served as a catalyst for institutional change throughout history."

[5]See Rajan and Zingales (2003) for a thorough discussion of this topic.

for openness to foreign capital is FDI, which equals net foreign direct investment divided by gross domestic product.

Government in the economy

The government's involvement in economic activity is another potential determinant of the equity market liberalization decision. Governments which are less market oriented and instead rely on the political process to allocate resources and goods and services are less likely to support financial development in general, and equity market liberalization in particular. Additionally, government officials may be reluctant to remove the barriers to foreign equity ownership in order to preserve the rents that they extract from the government's involvement in the economy. This argument is supported by the evidence in Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2002), which suggests that government regulation of economic activity benefits politicians and bureaucrats. Following La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1999) and La Porta, Lopez-de-Silanes, and Shleifer (2002) we proxy for the level of the government's involvement in the economy with GOVERNMENT CONSUMPTION, which equals all government current expenditures for purchases of goods and services divided by gross domestic product, and the BLACK MARKET PREMIUM index, which reflects the premium one must pay to exchange the domestic currency for dollars in the black market relative to the official exchange rate.[6]

A government can signal its commitment to market oriented reforms by privatizing its state owned enterprises (SOEs). Megginson, Nash, Netter, and Poulsen (2004) further show

[6]The original version of the BLACK MARKET PREMIUM index ranges from 0 to 10 with higher values of the index indicating smaller differences between the official exchange rate and the black market exchange rate. We multiply the original values of the index by -1 in order to interpret the higher values of the index as indicating higher levels of government interference in the economy.

that the privatizing governments use share issue privatizations to foster the development of the domestic equity markets. The privatizing governments may have an incentive to liberalize their stock markets in order to expand the market for the subsequent share issue privatizations(Martell and Stulz (2003)). We hypothesize, therefore, that the governments, which have launched a privatization program are more likely to liberalize their equity markets. Our indicators for whether the government has launched a privatization program are FIRST PRIVATIZATION and FIRST SIP. The FIRST PRIVATIZATION indicator takes the value of one on and after the year of the country's first privatization, and zero otherwise. We obtain the first privatization date from Boehmer, Nash, and Netter (2005) and the Securities Data Corporation's Mergers and Acquisitions database. The FIRST SIP indicator takes the value of one on and after the year of the country's first share issue privatization, and zero otherwise. We obtain the data on the share issue privatizations from the Securities Data Corporation's Global New Issues database.

Political factors

Internal

The political orientation of the government can influence the stock market liberalization decision. For example, a nationalist government is more likely to oppose foreign ownership of domestic assets and therefore, may be less likely to liberalize the domestic equity markets. Additionally, if the government represents a special interest group, which might oppose the liberalization of the equity markets, we expect a lower likelihood of observing a stock market liberalization. Our proxies for the political orientation of the government include

the EXECUTIVE NATIONALIST and the EXECUTIVE SPECIAL INTERESTS indicator variables, which we obtain from the World Bank's Database of Political Institutions. The EXECUTIVE NATIONALIST variable equals one in all the years when the party of the executive is defined as nationalist and zero otherwise. The EXECUTIVE SPECIAL INTERESTS variable equals one in all the years when the party of the executive represents special interest groups and zero otherwise.[7]

External

Foreign governments and international financial institutions can attempt to exert influence on the policies of the domestic governments through the allocation of foreign financial aid (Bourguignon and Sundberg (2007)). Previous studies demonstrate that the allocation of foreign aid is largely based on political and strategic considerations (Alesina and Dollar (2000), Kuziemko and Werker (2006)). Alesina and Dollar (2000) analyze bilateral aid flows and conclude that: "Factors such as colonial past and voting patterns in the United Nations explain more of the distribution of aid than the political institutions or economic policy of the recipients." In a recent paper Bourguignon and Sundberg (2007) state that: "...donor views of the 'right development policies', have been promoted through aid conditionality with little reference to country context: public enterprise privatization and finance liberalization have at times been treated as necessarily good...".

The majority of the studies on the effects of foreign financial aid on institutional development and government policy find either a negative relationship or an insignificant relation-

[7]The party of the executive is considered to represent special interest groups if it is classified as nationalist, if words such as "Rural" or "Peasant" appear in the party's name or if farmers are a key party constituency or if the party has a religious affiliation.

ship. There is no evidence that foreign financial aid promotes democracy or market-oriented economic reforms (Knack (2004), Heckelman and Knack (2005), and Easterly (2007)) while there is evidence indicating that foreign financial aid worsens the quality of governance (Knack (2001), Rajan and Subramanian (2007)).

To the best of our knowledge, we are the first to directly examine the relationship between foreign financial aid and the liberalization of the equity markets. We hypothesize a positive relationship between foreign financial aid and the likelihood of equity market liberalization. The exact channels through which foreign financial aid influences the domestic government's decision to liberalize the stock markets is unclear, but some possible scenarios are that the recipient governments use the foreign financial aid to compensate the politically powerful constituencies that may be adversely affected by the liberalization reforms, or that the "donors" use the foreign financial aid to "purchase" the support of the government officials for the liberalization reforms. We measure foreign financial aid with "official development assistance" (ODA), which we obtain from the OECD's Development Assistance Committee website. ODA aid includes grants and loans with at least 25 percent grant element from multilateral as well as bilateral aid agencies.

2.3 Methodology

The objective of the paper is to shed light on the determinants of the government's decision to liberalize their national stock markets. We begin the analysis by comparing the characteristics of countries that liberalize their equity markets in the period from 1980 to 2000 to those that do not. Next, we estimate a cross-sectional probit regression to estimate each variable's partial effect on the likelihood of a stock market liberalization. Finally, we explore the panel

nature of our data and estimate a duration model and a panel probit regression. The prior literature documents that the stock market liberalization event may affect many of our independent variables (Bekaert, Harvey, and Lundblad (2005)). To address this potential simultaneity we use lags of all of the independent variables in the estimations.

The cross-sectional probit model allows us to investigate the differences in the characteristics of countries that liberalize their stock markets and countries that do not liberalize their stock markets. The dependent variable in the model equals one if the country liberalizes its national stock market in the period from 1980 to 2000, and zero otherwise. In order to address the potential simultaneity in the relationship between our explanatory variables and the stock market liberalization indicator we only use the data prior to the official equity market liberalizations. This, however, creates a challenge: what dates do we use for the countries that did not liberalize their stock markets? Fortunately, an earlier version of Bekaert, Harvey, and Lundblad (2005) provides a clever strategy to resolve this issue. They suggest for the countries that did not liberalize their equity markets to use the official liberalization dates of their closest geographic neighbors. Therefore, for the countries that did not liberalize their equity markets, we average the explanatory variables over the five years preceding the official liberalization year of their closest geographic neighbor, while for the countries that liberalize their stock markets, we average the explanatory variables over the five years preceding the year of their official equity market liberalization.[8]

The cross-sectional probit model ignores important information about the time dimensionality of our data and is sensitive to the choice of dates for the non-liberalizing countries. The Cox proportional hazard model does not require the choice of dates for the non-

[8] We get similar results when we use three year averages of the data.

liberalizing countries, and explores the panel nature of the data. The duration model allows us to investigate the timing of the stock market liberalization decision, and explicitly accounts for the censoring of the data. This latter feature is especially important for our analysis, because the countries that did not liberalize their equity markets by the end of our sample period may still liberalize afterwards. The probability that a country liberalizes its stock market in period t is given by the hazard rate:

$$\text{h(t)} = \frac{\text{probability of liberalizing between t and t} + \Delta \text{ t}}{\text{probability of liberalizing after t}}$$

Following Cox (1972) we estimate the semiparametric model $h(t) = h_0(t)e^{X(t)\beta}$ where X(t) is a set of observable (possibly time-varying) covariates, β is a vector of unknown parameters associated with these covariates, and $h_0(t)$ is the baseline hazard function, which is left unspecified and corresponds to the hazard rate when all the covariates are set to zero.

The data for the Cox proportional hazard model is split into seven three year sub periods covering the period from 1980 to 2000.[9] We use lagged values of the independent variables to reduce the potential endogeneity due to the fact that the equity market liberalizations affect the majority of our explanatory variables. The stock market liberalization indicator variable takes the value of one in the three year period of the stock market liberalization, and zero otherwise.

Our final estimation technique is a panel probit regression, which allows us to address the potential endogeneity due to the presence of unobservable country heterogeneity and time

[9] We average the annual data to account for the high level of persistence in the majority of our economic variables and for the effects of business cycles.

effects. We estimate a random effects probit model that incorporates country heterogeneity by including a specific unobservable country effect in the error term.[10] We control for the unobservable time effects by including time fixed effects. The data for the panel probit model is the same as the data used in the Cox proportional hazard model.[11]

2.4 Results

2.4.1 Descriptive statistics and univariate analysis

Tables 2.2, 2.3, and 2.4 presents descriptive statistics on the dependent and independent variables. Table 2.4(Panel A) also presents the results from univariate tests for differences in characteristics between the liberalizing countries and the non-liberalizing countries. The univariate results suggest that the liberalized countries are, on average, lager in size and have more productive economies. The results support our hypotheses regarding the relationship between financial development and the likelihood of a stock market liberalization. The measure for the development of the banking sector (PRIVATE CREDIT) is approximately two times larger for the liberalized countries than for the non-liberalized countries (39.51 percent versus 21.57 percent). The proxy for the stock market development (TURNOVER) is 15.85 percent in the liberalized countries versus 0.92 percent in the non-liberalized countries. The univariate tests also support our hypotheses regarding the structure of the economy. The liberalized countries are more industrialized relative to the non-liberalized countries, and have a smaller proportion of economic value added in agriculture. The variables that reflect the general business environment include LEGAL ORIGIN, TRADE OPENNESS, and FDI.

[10] An important restriction of the random effects model is that the unobservable country effect is assumed to be uncorrelated with the explanatory variables.

[11] We have a balanced panel with seven three year periods for each of the 70 countries.

The results support our prediction that the common law countries are more likely to liberalize their equity markets; 17 out of the 36 countries that liberalized their equity markets in the sample period have a common law legal origin while only 9 out of the 34 non-liberalizing countries have a common law legal origin. Our hypothesis about the government's role in the economy suggests that the more interventionist governments are less likely to remove the barriers to foreign equity ownership. The univariate tests show that GOVERNMENT CONSUMPTION is almost identical in the liberalized and non-liberalized countries, but the BLACK MARKET PREMIUM index is higher in the non-liberalized countries. Therefore, the size of the government is roughly the same in the two groups, but the governments in the non-liberalized countries tend to favor more interventionist policies. With respect to our privatization hypothesis, there is some evidence that the privatizing governments are more likely to liberalize their equity markets. During our sample period 35 of the 36 countries that liberalized their stock markets privatized at least one state owned enterprise and 27 of the 36 countries did a share issue privatization. For the non-liberalized countries 31 out of the 34 countries privatized at least one state owned enterprise and only 6 of the 34 countries did a share issue privatization.

The political factors that can potentially influence the government's decision to liberalize the local stock markets include the government's political orientation and the influence of foreign governments and international financial institutions. The evidence in Table 2.4(Panel A) suggests that liberalized countries are less likely to have a nationalist government, but are more likely to have a government that represents special interest groups (these differences, however, are not statistically significant). Table 2.4(Panel A) also shows that the countries,

which liberalize their equity markets receive significantly more foreign financial aid than the countries, which do not liberalize their stock markets.

The univariate analysis provides an overview of the potential determinants of the stock market liberalization decision. This analysis, however, does not allow us to disentangle the relative importance of each factor and is subject to obvious reverse causality issues. In the next section, we estimate a cross-sectional probit model, which partially addresses the above concerns.

2.4.2 Cross-sectional probit model

Table 2.5 presents the results from the following cross-sectional probit model:

$$\begin{aligned} \text{P(Liberalization} = 1|\ \text{x}\ ) = \mathbf{G}(&\beta_0 + \beta_1 \text{GNI per capita} + \beta_2 \text{population} + \beta_3 \text{common law} + \\ &\beta_4 \text{trade openness} + \beta_5 \text{FDI} + \beta_6 \text{black market premium index} + \\ &\beta_7 \text{government consumption} + \beta_8 \text{agriculture} + \beta_9 \text{private credit} + \\ &\beta_{10} \text{turnover} + \beta_{11} \text{foreign financial aid}) + \varepsilon \end{aligned}$$

The results support some of our predictions about the effects of the economic variables on the likelihood of a stock markets liberalization. The level of financial development, as measured by the equity turnover ratio, is positively and significantly related to the probability of a stock market liberalization. Regarding the structure of the economy, the negative and significant coefficient on AGRICULTURE suggests that the likelihood of a stock market liberalization is lower in the countries where agriculture constitutes the majority of economic activity. The parameter estimates for the coefficients of the proxies for the level of investor protection and for the openness to foreign capital are also positive and significant. Our hypotheses about the effect of government involvement in the economy predicts that the bigger and

more interventionist governments are less likely to remove the barriers to foreign equity ownership. Consistent with this hypotheses we find that GOVERNMENT CONSUMPTION and the BLACK MARKET PREMIUM index are both negatively related to the probability of a stock market liberalization. Finally, the positive coefficient on POPULATION does not support the hypothesis that the costs of structural reforms might be higher in the larger countries.

Regarding the political variables, the results in Table 2.5 indicate that the countries which receive more foreign financial aid are more likely to liberalize their equity markets. This is consistent with our hypotheses that foreign governments and international financial institutions can use the allocation of foreign financial aid to influence the domestic government's stock market liberalization decision. This finding has important implications for the long-standing debate about the effectiveness of foreign financial aid. The World Bank asserts that the primary goal of foreign financial aid is to fight poverty and to promote economic development. The majority of the empirical studies, however, fail to identify a robust positive effect of foreign financial aid on economic growth (Easterly (2003), Easterly, Levine, and Roodman (2004), Rajan and Subramanian (2005), Easterly (2007)). The majority of the academic studies attempt to document a direct link between foreign financial aid and economic growth. Our findings, however, reveal an indirect link between foreign financial aid and economic growth; foreign financial aid is positively related to the likelihood of a stock market liberalization, which in turn fosters economic growth.

Most of the academic studies on the effects of foreign financial aid measure aid as a percentage of gross national income or on a per capita basis. We, however, use a measure of foreign financial aid that equals the total official development assistance received by the

national governments in the recipient countries, and include gross national income per capita (GNI per capita) and population size as separate regressors. This measure is more appropriate for our analysis, because we are investigating the factors that can potentially influence the *government's* decision to liberalize the domestic equity markets. The actual dollar amount of the foreign financial aid is a better indicator of the influence of the donors on the policies of the domestic governments (potentially a small group of government officials), because as Boone (1996) demonstrates, foreign financial aid mostly benefits local political elites. Furthermore, Kuziemko and Werker (2006) use a similar measure of foreign financial aid to show that foreign aid is used to bribe the rotating members on the U.N. Security Council.

The probit model in Table 2.5 is estimated in a static setting, which allows us to investigate the differences in the characteristics of countries that liberalize their stock markets and those that do not. This model alleviates the reverse causality issues since we average the explanatory variables over the five years preceding the official liberalization year, but is sensitive to the choice of dates for the non-liberalizing countries and does not explore the panel nature of our data.[12]

2.4.3 Cox proportional hazard model

In this section we model the duration of the time–period until a country's stock market liberalization, given the observable covariates. The model treats all the countries that do not liberalize their equity markets during our sample period as right censored. Table 2.6

[12]Another problem with the cross-sectional probit model is that we cannot test the effects of FIRST PRIVATIZATION, FIRST SIP, EXECUTIVE NATIONALIST, and EXECUTIVE SPECIAL INTEREST on the likelihood of a stock market liberalization. The size of our sample renders the estimation of such a highly parameterized model infeasible. We return to the analysis of these variables in the Cox regressions and in the panel probit model.

presents the results from six different specifications of the Cox proportional hazard model. For ease of interpretation we report hazard ratios instead of coefficients. These ratios measure how much the hazard of liberalization (i.e. the instantaneous risk of liberalization) increases for a unit change in the respective covariate. A hazard ratio greater than one indicates that the covariate increases the probability of a stock market liberalization, while a hazard ratio lower than one indicates that the covariate decreases the probability of a stock market liberalization.

Model 1 in Table 2.6(Panel A) is almost identical to the specification in the cross-sectional probit model. The only new covariate is INDUSTRY, which measures the country's level of industrialization. The majority of the results corroborate the findings from the static probit model. The level of financial development, as measured by the development of the banking sector (PRIVATE CREDIT) and of the stock markets (TURNOVER), is positively related to the hazard of liberalization. The liberalization of the stock markets is also more likely in the more industrialized countries, and less likely in the countries where agriculture constitutes the majority of economic activity. Regarding the nature of the government's economic policy, the more interventionist governments are less likely to liberalize their equity markets. Finally, the countries which receive more foreign financial aid and have a common law legal tradition are more likely to liberalize their stock markets.

There are, however, a number of differences between the results from the probit model and the hazard model. The level of economic development and the size of the country are negatively and significantly related to the hazard of liberalization, and the openness to foreign capital is no longer significant. The negative effect of GNI per capita on the hazard of liberalization supports the view that the poorer countries, which lack investment capital,

are less opposed to foreign equity ownership and therefore, are more likely to liberalize their equity markets. The negative effect of POPULATION is consistent with the hypothesis that the costs of structural reforms might be higher in the larger countries.[13]

To interpret the economic significance of the covariates we examine the effect of various changes in the covariates on the hazard of liberalization.[14] For example, the hazard ratio associated with GNI per capita is 0.9996. Therefore, a $100 increase in GNI per capita reduces the probability of a stock market liberalization by approximately 4 percent.[15] Similarly, a 10 million increase in population reduces the probability of a stock market liberalization by approximately 7 percent. The hazard ratio associated with the common law indicator is 6.78. Thus, a unit change (i.e. moving from a civil law country to a common law country) increases the probability of equity market liberalization almost sevenfold. Regarding the BLACK MARKET PREMIUM index, a unit increase in the index translates into a 25 percent reduction in the hazard of liberalization. Similarly, a unit (1 percent) increase in GOVERNMENT CONSUMPTION decreases the hazard of liberalization by approximately 20 percent. The hazard ratios associated with the variables which proxy for the structure of the economy AGRICULTURE and INDUSTRY are 0.9293 and 1.0922 respectively. This implies that a unit (1 percent) increase in AGRICULTURE (INDUSTRY) decreases (increases) the probability of a stock market liberalization by 7 (9) percent. Regarding the proxies for the level

[13] When comparing the results from the Cox proportional hazard model and the cross-sectional probit model, it is important to note that the duration model is more appropriate for analyzing the stock market liberalization decision and is less subject to bias.

[14] All the covariates are lagged three year averages of the data. Therefore, each hazard ratio measures how much the hazard of liberalization (in the next three year period) increases for a unit change in the three year average of the covariate.

[15] The hazard ratio equals $e^{X(t)\beta}$. Therefore, the hazard ratio associated with a 100 unit increase in X(t) equals $[e^{X(t)\beta}]^{100}$.

of financial development, a 10 percent increases in PRIVATE CREDIT and TURNOVER increases the hazard of equity market liberalization by 22 percent and 89 percent respectively. Finally, the hazard ratio associated with our measure of foreign financial aid is 1.001. Therefore, a $100 million increase in foreign financial aid increases the probability of a stock market liberalization by approximately 10 percent.

Models 2 and 3 in Table 2.6(Panel A) test the effect of the government's political orientation on the likelihood of a stock market liberalization. EXECUTIVE NATIONALIST and EXECUTIVE SPECIAL INTERESTS are both negatively related to the probability of a stock market liberalization (i.e. both have hazard ratios lower than one), which is consistent with our hypothesis that a nationalist government or a government that represents a special interest group is more likely to oppose the liberalization of the domestic equity markets. These variables, however, are only marginally significant (p-values of 0.12).

Table 2.6(Panel B) examines the effect of privatization on the probability of a stock market liberalization and the robustness of our results. Models 4 and 5 show that the FIRST PRIVATIZATION and FIRST SIP dummy variables do not significantly affect the hazard of liberalization. Specification 6 tests the robustness of the results from model 1 in Table 2.6(Panel A) to including regional dummies (the hazard ratios for the regional dummies are not reported in the Table for brevity). We include regional indicators for countries located in the Middle East and North Africa, Sub-Saharan Africa, Asia excluding the Middle East, and Latin America (the excluded category in the model). The results suggest that the countries located in the Middle East and North Africa are significantly more likely to liberalize their equity markets. The majority of our results remain qualitatively the same. The only variable which loses significance is PRIVATE CREDIT (p-value of 0.14).

Table 2.7 further investigates the effect of foreign financial aid on the probability of a stock market liberalization by splitting the foreign aid into two categories: bilateral versus multilateral aid. Prior literature suggests that bilateral aid has a large positive effect on government consumption while multilateral aid does not (Burnside and Dollar (2000)).[16] In the less transparent environments of the emerging market countries, the increases in government consumption, associated with the increases in foreign financial aid, can potentially be used by the governments to compensate the politically-powerful groups, which might be adversely affected by the equity market liberalization reforms. Additionally, the increases in government consumption, financed with the foreign financial aid, might be correlated with increases in the private consumption of the government officials (i.e., foreign financial aid can be used to "purchase" the support of the government officials for the reforms). Both of these arguments suggest that we should find a stronger relationship between bilateral aid and the likelihood of a stock market liberalization than between multilateral aid and the likelihood of a liberalization. The evidence from model 1 in Table 2.7(Panel A) supports this hypotheses. The effect of bilateral aid on the hazard of liberalization is positive and significant (hazard ratio of 1.001 and p-value of 0.000) while the effect of multilateral aid on the hazard of liberalization is not statistically significant. Therefore, the bilateral aid flows appear to drive the relationship between foreign financial aid and the probability of a stock market liberalization.[17]

[16] This can be attributed to the fact that multilateral aid tends to be more project oriented.

[17] In unreported regressions, we split the bilateral aid into aid from the United States, Japan, France, and the United Kingdom. Aid from Japan is consistently positively and significantly related to the probability of a stock market liberalization. US aid is also significant in several specifications, but looses significance after we include the Middle East and North Africa dummy variable.

An important characteristic of foreign financial aid is "aid conditionality". International financial institutions often condition the release of foreign financial aid on the implementation of structural reforms by the recipient governments. This approach of aid allocation suggests that foreign financial aid increases *after* the implementation of the reforms. Therefore, "aid conditionality" does not explain the results in our study, since we document a positive and significant relationship between the foreign financial aid received *before* the reforms and the subsequent probability of a stock market liberalization. Furthermore, "aid conditionality" is mainly associated with multilateral aid while our results are mainly driven by the bilateral aid. Another issue with the allocation of foreign financial aid is that the donors can favor governments, which are more market oriented and have already implemented some policy reforms. This argument also does not explain our results since Burnside and Dollar (2000) "...found no significant tendency for total aid or bilateral aid to favor good policy."

Models 2 and 3 in Table 2.7(Panel A) test the effect of the government's political orientation on the likelihood of a stock market liberalization. Consistent with the previous evidence from Table 2.6, we find that EXECUTIVE NATIONALIST and EXECUTIVE SPECIAL INTERESTS are both negatively and significantly related to the probability of a stock market liberalization. Regarding the effect of privatization on the likelihood of a stock market liberalization, models 4 and 5 in Table 2.7(Panel B) show no significant relationship between our proxies for privatization FIRST SIP and FIRST PRIVATIZATION and the hazard of liberalization. Finally, in specifications 6 and 7 we test whether a particular world region is driving our main results. We include the same regional dummies as in model 6 of Table 2.6(Panel B) and find that only the indicator variable for countries located in the

Middle East and North Africa is positively related to the hazard of liberalization.[18] All of our results are robust to including these regional indicators.

2.4.4 Panel probit model

Tables 2.8 and 2.9 report the estimates from a panel probit model, which allows us to explicitly account for some of the unobservable country and time effects. To control for these sources of potential endogeneity we estimate random effects regressions with time fixed effects. The majority of the panel probit results are consistent with the results from the Cox regressions, which attests to the robustness of our results. Model 1 in Table 2.8(Panel A) is identical to model 1 in Table 2.6(Panel A) with the exception that the former includes random effects and time fixed effects. The main differences between the results from the Cox regression and the probit model are that the coefficients on GNI per capita, POPULATION, and INDUSTRY lose their significance while the coefficient on TRADE OPENNESS becomes negative and significant. In model 2 we include the NATIONALIST dummy variable and find that it has a significant negative effect on the probability of a stock market liberalization.[19] Specification 3 in Table 2.8(Panel B) shows that the first SIP indicator variable has a positive and significant effect on the probability of a stock market liberalization.[20] The partial effect of SIP (0.1932) on the probability of a stock market liberalization suggests that the countries which have privatized a state owned enterprise through a share issue privatization are 19 percent more likely to liberalize their equity markets in the subsequent three year period.

[18] The hazard ratios for the regional dummies are not reported in the Table for brevity.

[19] We also estimate the regression with the EXECUTIVE SPECIAL INTERESTS variable and obtain almost identical results, but do not report them for brevity.

[20] We also estimate the regression with the FIRST PRIVATIZATION indicator variable and obtain similar results, but do not report them for brevity.

This result provides some support for the hypothesis that the privatizing governments, which are committed to market oriented reforms, have an incentive to liberalize their stock markets in order to expand the market for the subsequent share issue privatizations. In fact, 30 out of the 36 countries that liberalized their stock markets during our sample period subsequently sold a state owned enterprise (SOE) through a SIP. Furthermore, 10 of these countries launched a SIP in the year of or the year immediately following the official equity market liberalization.

In model 4 of Table 2.8(Panel B) we examine the robustness of the probit results to including regional dummy variables.[21] The majority of the results are qualitatively the same. Finally, in Table 2.9 we reestimate all the regressions from Table 2.8 after splitting the total foreign financial aid into bilateral and multilateral aid. Consistent with the results from the Cox proportional hazard model we find that the bilateral aid drives the positive relationship between foreign financial aid and the likelihood of a stock market liberalization.

2.5 Robustness

In this section we perform a number of tests to confirm the robustness of our main findings.[22] The descriptive statistics in Table 2.4(Panel B) show that there are several potential outliers in the data. The maximum value for population, for example, is 1,015.923 million people. This

[21] The reported coefficients are for the regression that includes only the dummy variable for countries of the Middle East and North Africa. We cannot include all the regional dummy variables simultaneously, because the maximization algorithm exhibits convergence problems with too many binary variables. We do, however, estimate the model by including the regional dummies sequentially and obtain qualitatively similar results.

[22] We mainly concentrate on the robustness of the Cox proportional hazard model, because it is the most appropriate model for analyzing the stock market liberalization decision. The results from this section are not reported, but are available upon request.

value corresponds to the population of India, which is in the sample of liberalized countries. We drop India from the sample and reestimate the Cox proportional hazard model. The coefficient on population loses significance, but the remaining results are qualitatively the same. Another source of potential outliers is GOVERNMENT CONSUMPTION, which has extremely high values for Kuwait (76.22 percent). All of our results, including the results on GOVERNMENT CONSUMPTION, are robust to excluding Kuwait from the sample.

One of the most interesting results in the paper is the positive relationship between foreign financial aid and the likelihood of a stock market liberalization. To lessen the effect of outliers, we winsorize the foreign financial aid variable at the five percent level and drop Israel and Egypt from the sample, because they are the largest recipients of aid from the United States, which is also the largest donor of foreign financial aid. The results are robust to both of these alternative specifications. Finally, our findings remain unaffected when we drop the microstates (countries with less than 1 million inhabitants).

2.6 Conclusion

In this paper we analyze some of the potential determinants of the government's decision to allow foreign investors to purchase domestic equity securities. We document that both political and economic factors influence the stock market liberalization decision. Specifically, the more industrialized countries, which have higher levels of financial development, provide better legal protection of the minority shareholder rights, and have less interventionist governments are more likely to liberalize their equity markets. Regarding the political factors, nationalist governments and governments that represent special interest groups are less likely to allow foreign investors to purchase domestic equity securities. Additionally, the

governments that receive more foreign financial aid, especially bilateral aid, are more likely to liberalize their equity markets. The exact channels through which foreign financial aid influences the domestic government's decision to liberalize their national stock markets is unclear. It is possible, however, that the recipient governments use the foreign financial aid to compensate the politically powerful groups that would otherwise oppose the stock market liberalization decision, or that the "donors" use the foreign financial aid to "purchase" the support of the government officials for the liberalization reforms.

The positive effect of foreign financial aid on the likelihood of a stock market liberalization may indicate the presence of an indirect link between foreign financial aid and economic growth. Specifically, foreign financial aid is positively related to the likelihood of a stock market liberalization, which in turn promotes economic growth.

2.7 Tables

Table 2.1. Variable Definitions

Variables	Description
Official liberalization date	Binary variable corresponding to a date of formal regulatory change after which foreign investors officially have the opportunity to invest in domestic equity securities. Official Liberalization dates are based on Bekaert and Harvey (2002) 'A Chronology of Important Financial, Economic and Political Events in Emerging Markets', http://www.duke.edu/ charvey/chronology.htm.
GNI per capita	Gross national income per capita based on purchasing power parity (PPP), constant 2005 USD *Source*: World Bank Development Indicators 2005. CD-ROM
Population	Average annual population figure (in millions) based on the de facto definition of population, which counts all residents regardless of legal status or citizenship–except for refugees not permanently settled in the country of asylum, who are generally considered part of the population of the country of origin. *Source*: World Bank Development Indicators 2005. CD-ROM
Private credit	Private credit divided by gross domestic product. Credit to private sector refers to financial resources provided to the private sector, such as through loans, purchases of non-equitysecurities, and trade credits and other accounts receivable, that establish a claim for repayment. *Source*: World Bank Development Indicators 2005. CD-ROM
Market turnover	Ratio of annual equity value-traded to market capitalization. *Source*: World Bank Development Indicators 2005. CD-ROM
Agriculture	Annual share of value added in agriculture as a percentage of gross domestic product. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources. Agriculture corresponds to International Standard Industrial Classification (ISIC) divisions 1-5. *Source*: World Bank Development Indicators 2005. CD-ROM

Industry	Annual share of value added in industry as a percentage of gross domestic product. Industry corresponds to International Standard Industrial Classification (ISIC) divisions 10-45. *Source*: World Bank Development Indicators 2005. CD-ROM
Common Law	Binary variable equal to one if the country's legal system is based on common law, and zero otherwise. *Source*: Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2005)
Trade openness	The sum of exports and imports of goods and services divided by gross domestic product. *Source*: World Bank Development Indicators 2005. CD-ROM
Foreign direct investment	Average annual foreign direct investment is net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments (% of GDP). *Source*: World Bank Development Indicators 2005. CD-ROM
Government consumption	General government final consumption as a fraction of GDP: includes all government current expenditures for purchases of goods and services (including compensation of employees). It also includes most expenditures on national defense and security, but excludes government military expenditures that are part of government capital formation. Source: World Bank Development Indicators 2005. CD-ROM
BlackMktPrem	An index indicating the premium one must pay to exchange the domestic currency for dollars in the black market relative to the official exchange rate. The index ranges from -10 to 0 with smaller values of the index indicating smaller differences between the official exchange rate and the black market exchange rate. The index is calculated at five year intervals during the period from 1980 to 2000. *Source*: Gwartney, James and Robert Lawson (2006). Economic Freedom of the World: 2006 Annual Report. Vancouver: The Fraser Institute. Data retrieved from www.freetheworld.com.
First privatization	Binary variable which takes the value of one on and after the year of the first privatization of a state owned enterprise (SOE), and zero otherwise. *Source*: Boehmer, Nash, and Netter (2005) and Securities Data Corporation's Mergers and Acquisitions database.

SIP	Binary variable which takes the value of one on and after the year of the country's first share issue privatization (SIP), and zero otherwise. *Source*: Securities Data Corporation's Global New Issues database.
Nationalist	Binary variable equal to one if the party of the executive is classified as a nationalist party, and zero otherwise. *Source*: World Bank's Database of Political Institutions.
Spec. interest	Binary variable equal to one if the party of the executive is classified as representative of special interests groups. The party of the executive is considered to represent special interest groups if it is classified as nationalist, if words such as "Rural" or "Peasant" appear in the party's name or if farmers are a key party constituency or if the party has a religious affiliation. *Source*: World Bank's Database of Political Institutions.
All donors	Aid disbursements from all donors, including the 22 member countries of the OECD's Development Assistance Committee (DAC), the European Commission,and other international organizations. The statistics are compiled according to internationally agreed definitions and classifications. The data covers DAC donors' bilateral aid flows to developing countries and countries in transition (including projects executed by non-governmental organizations and multilateral institutions on behalf of the donor), and projects by the World Bank, the regional development banks and some UN agencies. It excludes private grants and aid from non-DAC bilateral donors. Amounts are expressed in millions of constant (2005) US Dollars. *Source*: www.stats.oecd.org
DAC bilateral	Aid disbursements from the countries members of the OECD's Development Assistance Committee (DAC), USD (2005) mln. *Source*: www.stats.oecd.org
Multilateral	Aid disbursements from non-governmental organizations and multilateral institutions including projects by the World Bank, the regional development banks and UN agencies, USD (2005) mln. *Source* : www.stats.oecd.org

Table 2.2. Timing of the stock market liberalizations and the privatizations for the subsample of liberalized countries.

The table presents the official equity market liberalization dates for all the countries that liberalize their stock markets in the period from 1980 to 2000 as well as dates for the first privatization of a state owned enterprise (SOE), and the first Share Issue Privatization (SIP). The last column presents the country's legal origin.

Country	Off. lib.	First SOE priv.	First SIP	Legal origin
Argentina	1989	1990	1991	French
Bangladesh	1991	1994		English
Botswana	1990			English
Brazil	1991	1988	1995	French
Chile	1992	1988	1998	French
Colombia	1991	1991	1998	French
Cote d'Ivoire	1995	1995	1998	French
Ecuador	1994	1993	1995	French
Egypt, Arab Rep.	1992	1993	1993	French
Ghana	1993	1994	1994	English
India	1992	1991	1993	English
Indonesia	1989	1994	1991	French
Israel	1993	1986	1987	English
Jamaica	1991	1986		English
Jordan	1995	1995	2002	French
Kenya	1995	1986	1986	English
Korea, Rep.	1992	1989	1989	German
Malaysia	1988	1985	1985	English
Malta	1992	1998		English
Mauritius	1994	2000		French
Mexico	1989	1988	1991	French
Morocco	1988	1993	1993	French
Nigeria	1995	1989	1989	English
Oman	1999	1992	2004	French
Pakistan	1991	1990	1992	English
Peru	1992	1991	1994	French
Philippines	1991	1989	1991	French
Saudi Arabia	1999	1994	2002	English
South Africa	1996	1988	1988	English
Sri Lanka	1991	1989	1991	English
Thailand	1987	1988	1989	English
Trinidad and Tobago	1997	1993		English
Tunisia	1995	1995	1995	French
Turkey	1989	1988	1993	French
Venezuela, RB	1990	1990	1996	French
Zimbabwe	1993	1994	1997	English

Table 2.3. Timing of the privatizations for the subsample of non-liberalized countries.

The table presents the official equity market liberalization dates for the closest neighbors of the countries that did not liberalize their stock markets in the period from 1980 to 2000 as well as dates for the first privatization of a state owned enterprise (SOE), and the first Share Issue Privatization (SIP). The last column presents the country's legal origin.

Country	Neighbor's Off. lib.	First SOE priv.	First SIP	Legal origin
Algeria	1988	1998		French
Barbados	1997	1992		English
Benin	1995	1994		French
Burkina Faso	1993	1994		French
Cameroon	1995	1996		French
Central African Republic	1995			French
Chad	1995	1999		French
Congo, Rep.	1995	1996		French
Costa Rica	1991	1994		French
Dominican Republic	1991	1999		French
El Salvador	1989	1998		French
Fiji	1987	1990		English
Gabon	1995	1998	1998	French
Guatemala	1989	1997		French
Guyana	1990	1991		English
Haiti	1991	1992		French
Honduras	1989	1994	1999	French
Iran, Islamic Rep.	1999	1995		French
Kuwait	1999	1994	1995	French
Lesotho	1996	1999		English
Madagascar	1996	1999		French
Malawi	1993	1996		English
Mali	1995	1996		French
Nepal	1992	1992		English
Nicaragua	1991	1994		French
Paraguay	1989	1994		French
Rwanda	1995	1997		French
Senegal	1995	1997	1997	French
Sierra Leone	1995	1997		English
Swaziland	1996			English
Syrian Arab Republic	1995			French
Togo	1993	1997		French
Uruguay	1989	1990	1993	French
Zambia	1993	1993	1995	English

Table 2.4 (Panel A). Summary statistics.

The table presents summary statistics for the period from 1980 to 2000, and the results from a two–sample mean comparison test for the countries that liberalized and those that did not liberalize their stock markets. The variables Trade openness, Foreign direct investment, Government consumption, Agriculture, Industry, and Private credit are all expressed as fractions of gross domestic product. Market turnover is expressed as a fraction of total market capitalization. GNI per capita is measured in constant US dollars. Population is measured in millions, and All donors financial aid, DAC bilateral financial aid, and Multilateral financial aid are expressed in millions of constant US dollars.

	Subsample of countries that did not liberalize in the period from 1980 to 2000 (34 countries)				
Variable	N obs.	Mean	Std. dev.	Min	Max
GNI per capita	709	2684.34^a	2823.51	300	20050
Population	711	7.58^a	9.60	0.2491	63.66
Trade openness	714	69.75^c	39.02	8.96	282.40
Foreign direct investment	712	1.52	3.76	-28.62	39.81
Black market premium index	155	-6.99^b	3.99	-10	0
Government consumption	712	14.39	6.41	2.9	76.22
Agriculture	693	25.37^a	12.80	0.18	61.77
Industry	693	27.05^a	11.59	8.91	74.86
Private credit	712	21.56^a	15.37	1.95	112.63
Market turnover	714	0.92^a	8.13	0	144.9
All donors financial aid	688	326.56^a	317.42	-9.68	3512.54
DAC bilateral financial aid	688	195.75^a	160.58	-34.12	900.92
Multilateral financial aid	688	102.73^a	110.71	-8.13	1718.01
Years with Nationalist gvmnt.	714	3.26	6.44	0	21
Years with Special interest gvmnt.	714	3.24	6.39	0	21
	Subsample of countries that liberalized in the period from 1980 to 2000 (36 countries)				
GNI per capita	756	4395.89^a	3417.37	450	19490
Population	756	60.19^a	141.35	0.34	1015.92
Trade openness	755	66.28^c	38.07	6.32	228.88
Foreign direct investment	714	1.51	2.00	-6.90	17.42
Black market premium index	175	-7.72^b	3.22	-10	0
Government consumption	749	14.90	6.74	2.98	41.48
Agriculture	705	15.83^a	10.64	0.99	59.73
Industry	705	34.04^a	9.79	6.25	71.60
Private credit	739	39.51^a	27.49	1.54	165.72
Market turnover	756	15.85^a	38.63	0	475.46
All donors financial aid	738	697.18^a	881.71	-404.62	7289.92
DAC bilateral financial aid	738	477.26^a	631.46	-402.88	5377.96
Multilateral financial aid	735	175.18^a	338.97	-30.89	3163.02
Years with Nationalist gvmnt.	756	2.75	5.768	0	21
Years with Special interest gvmnt.	756	3.58	5.88	0	21

a—statistically significant at 1% level, *b* —statistically significant at 5% level, *c* —statistically significant at 10% level.

Table 2.4 (Panel B). Summary statistics.

The table presents summary statistics for all the countries in our sample for the period from 1980 to 2000. The variables Trade openness, Foreign direct investment, Government consumption, Agriculture, Industry, and Private credit are all expressed as fractions of gross domestic product. Market turnover is expressed as a fraction of total market capitalization. GNI per capita is measured in constant US dollars. Population is measured in millions, and All donors financial aid, DAC bilateral financial aid, and Multilateral financial aid are expressed in millions of constant US dollars.

	All countries in the sample (70 countries)				
Variable	N obs.	Mean	Std. dev.	Min	Max
GNI per capita	1465	3567.57	3257.33	300	20050
Population	1467	34.69	105.01	0.25	1015.92
Trade openness	1469	67.97	38.56	6.32	282.40
Foreign direct investment	1426	1.51	3.01	-28.62	39.81
Black market premium index	330	-7.37	3.62	-10	0
Government consumption	1461	14.65	6.59	2.9	76.22
Agriculture	1398	20.56	12.69	0.18	61.77
Industry	1398	30.58	11.27	6.25	74.86
Private credit	1451	30.70	24.11	1.54	165.72
Market turnover	1470	8.60	29.24	0	475.46
All donors financial aid	1426	518.37	696.40	-404.62	7289.92
DAC bilateral financial aid	1426	341.44	488.32	-402.88	5377.96
Multilateral financial aid	1423	140.15	257.95	-30.89	3163.02
Years with Nationalist gvmnt.	1470	3	6.06	0	21
Years with Special interest gvmnt.	1470	3.41	6.09	0	21

Table 2.5. Cross–sectional probit model.

The dependent variable in the probit model takes the value of one if the country liberalizes its national stock market in the period from 1980 to 2000 and zero otherwise. For the countries that liberalize their national stock markets, the explanatory variables are averaged over the five years preceding the liberalization year. For the countries that do not liberalize their equity markets, the explanatory variables are averaged over the five years preceding the liberalization year of their closest geographic neighbor. The tables reports Quasi-Maximum Likelihood adjusted standard errors.

	Coefficient	Part. effect
GNI per capita, log	0.3886	0.0044
	(0.6443)	
Population	0.0912[a]	0.0010
	(0.0285)	
Common Law	2.4576[b]	0.0352
	(1.0325)	
Trade openness	0.0173	0.0002
	(0.0156)	
Foreign direct investment	0.6856[b]	0.0078
	(0.3222)	
Black market premium index	-0.3811[a]	-0.0043
	(0.1331)	
Government consumption	-0.3243[a]	-0.0037
	(0.0983)	
Agriculture	-0.1587[a]	-0.0018
	(0.0466)	
Private credit	0.0201	0.0002
	(0.0184)	
Market turnover	0.0284[c]	0.0003
	(0.0171)	
All donors financial aid	0.0056[a]	0.00006
	(0.0015)	
N of obs.		60
Log-likelihood		-10.6

a —statistically significant at 1% level, b —statistically significant at 5% level , c —statistically significant at 10% level.

Table 2.6 (Panel A). Cox regressions.

The table presents the results from the duration model estimated using partial maximum likelihood (Cox, 1972). The data for the model estimation is split into seven three year sub periods covering the period from 1980 to 2000. We model the duration between a country's entry in our sample and its official equity market liberalization. The official equity market liberalization indicator variable takes the value of one in and after the three year period of the stock market liberalization, and zero otherwise. The countries that did not liberalize their equity markets in the period from 1980 to 2000 are treated as right–censored. The explanatory variables are lagged three year averages of the data. The table reports hazard ratios and the associated standard errors (in parenthesis below).

	Hypoth. sign	Model 1	Model 2	Model 3
GNI per capita	+/-	0.9996^{c}	0.9996^{c}	0.9996^{c}
		(0.0002)	(0.0002)	(0.0002)
Population	+/-	0.9930^{a}	0.9921^{a}	0.9921^{a}
		(0.0024)	(0.0025)	(0.0025)
Common Law	+	6.7822^{a}	8.7993^{a}	8.7992^{a}
		(3.5456)	(4.9624)	(4.9624)
Trade openness	+/-	1.0015	0.9965	0.9965
		(0.0102)	(0.0107)	(0.0107)
Foreign dir. inv.	+	0.9366	0.9624	0.9624
		(0.1297)	(0.1385)	(0.1389)
BlackMktPrem	-	0.7492^{a}	0.7350^{a}	0.7350^{a}
		(0.0607)	(0.0626)	(0.0626)
Gov. consumpt.	-	0.7965^{a}	0.8077^{a}	0.8077^{a}
		(0.0542)	(0.0577)	(0.0577)
Agriculture	-	0.9293^{c}	0.9278^{b}	0.9278^{b}
		(0.0361)	(0.0348)	(0.0348)
Industry	+	1.0922^{a}	1.0944^{a}	1.0944^{a}
		(0.0199)	(0.0328)	(0.0328)
Private credit	+	1.0199^{c}	1.0262^{b}	1.0262^{b}
		(0.0120)	(0.0124)	(0.0124)
Market turnover	+	1.0658^{a}	1.0686^{a}	1.0686^{a}
		(0.0223)	(0.0225)	(0.0225)
All donors	+	1.0010^{a}	1.0010^{a}	1.0010^{a}
		(0.0002)	(0.0002)	(0.0002)
Nationalist	-	—	0.3147	—
		—	(0.2340)	—
Spec. interest	-	—	—	0.3147
		—	—	(0.2340)
N of groups/failures		62/30	62/30	62/30
N of observations		312	312	312
Log likelihood		-86.80	-85.41	-85.41

a—statistically significant at 1% level, *b* —statistically significant at 5% level, *c* —statistically significant at 10% level.

Table 2.6 (Panel B). Cox regressions.

The table presents the results from the duration model estimated using partial maximum likelihood (Cox, 1972). The data for the model estimation is split into seven three year sub periods covering the period from 1980 to 2000. We model the duration between a country's entry in our sample and its official equity market liberalization. The official equity market liberalization indicator variable takes the value of one in and after the three year period of the stock market liberalization, and zero otherwise. The countries that did not liberalize their equity markets in the period from 1980 to 2000 are treated as right–censored. The explanatory variables are lagged three year averages of the data. The table reports hazard ratios and the associated standard errors (in parenthesis below).

	Hypoth. sign	Model 4	Model 5	Model 6
GNI per capita	+/-	0.9996^{c}	0.9996^{c}	0.9996^{b}
		(0.0002)	(0.0002)	(0.0002)
Population	+/-	0.9922^{a}	0.9921^{a}	0.9933^{a}
		(0.0026)	(0.0026)	(0.0026)
Common Law	+	8.7089^{a}	8.9065^{a}	10.2702^{a}
		(5.1535)	(5.2847)	(6.6679)
Trade openness	+/-	0.9965	0.9965	0.9965
		(0.0107)	(0.0107)	(0.0112)
Foreign dir. inv.	+	0.9619	0.9643	0.9765
		(0.1396)	(0.1417)	(0.1462)
BlackMktPrem	-	0.7361^{a}	0.7345^{a}	0.7401^{a}
		(0.0652)	(0.0631)	(0.0674)
Gov. consumpt.	-	0.8075^{a}	0.8068^{a}	0.7385^{a}
		(0.0579)	(0.0591)	(0.0698)
Agriculture	-	0.9270^{b}	0.9276^{b}	0.9029^{b}
		(0.0371)	(0.0349)	(0.0445)
Industry	+	1.0936^{a}	1.0947^{a}	1.0895^{b}
		(0.0360)	(0.0330)	(0.0373)
Private credit	+	1.0259^{b}	1.0263^{b}	1.0197
		(0.0129)	(0.0125)	(0.0135)
Market turnover	+	1.0689^{a}	1.0689^{a}	1.0683^{a}
		(0.0226)	(0.0231)	(0.0235)
All donors	+	1.0010^{a}	1.0010^{a}	1.0008^{a}
		(0.0002)	(0.0002)	(0.0003)
Nationalist	-	0.3140	0.3144	—
		(0.2341)	(0.2341)	—
SIP	+	1.0478	—	—
		(0.8410)	—	—
First privatiz.	+	—	0.9690	—
		—	(0.4617)	—
N of groups/failures		62/30	62/30	62/30
N of observations		312	312	312
Log likelihood		-86.80	-85.41	-85.41

a—statistically significant at 1% level, *b* —statistically significant at 5% level, *c* —statistically significant at 10% level.

Table 2.7 (Panel A). Cox regressions with different types of foreign financial aid.

The table presents the results from the duration model estimated using partial maximum likelihood (Cox, 1972). The data for the model estimation is split into seven three year sub periods covering the period from 1980 to 2000. We model the duration between a country's entry in our sample and its official equity market liberalization. The official equity market liberalization indicator variable takes the value of one in and after the three year period of the stock market liberalization, and zero otherwise. The countries that did not liberalize their equity markets in the period from 1980 to 2000 are treated as right–censored. The explanatory variables are lagged three year averages of the data. The table reports hazard ratios and the associated standard errors (in parenthesis below).

	Hypoth. sign	Model 1	Model 2	Model 3
GNI per capita	+/-	0.9997^{c}	0.9997^{c}	0.9997^{c}
		(0.0002)	(0.0002)	(0.0002)
Population	+/-	0.9922^{a}	0.9910^{a}	0.9910^{a}
		(0.0029)	(0.0030)	(0.0030)
Common Law	+	5.9130^{a}	7.6695^{a}	7.6695^{a}
		(3.2201)	(4.4864)	(4.4864)
Trade openness	+/-	1.0029	0.9981	0.9981
		(0.0103)	(0.0107)	(0.0107)
Foreign dir. inv.	+	0.9424	0.9717	0.9717
		(0.1292)	(0.1407)	(0.1407)
BlackMktPrem	-	0.7581^{a}	0.7408^{a}	0.7408^{a}
		(0.0594)	(0.0614)	(0.0614)
Gov. consumpt.	-	0.7990^{a}	0.8070^{a}	0.8070^{a}
		(0.0539)	(0.0577)	(0.0577)
Agriculture	-	0.9284^{c}	0.9270^{b}	0.9270^{b}
		(0.0352)	(0.0355)	(0.0355)
Industry	+	1.0952^{a}	1.1008^{a}	1.1008^{a}
		(0.0352)	(0.0355)	(0.0355)
Private credit	+	1.0203^{c}	1.0271^{b}	1.0271^{b}
		(0.0119)	(0.0124)	(0.0124)
Market turnover	+	1.0655^{a}	1.0693^{a}	1.0693^{a}
		(0.0222)	(0.0227)	(0.0227)
DAC bilateral	+	1.0012^{a}	1.0012^{a}	1.0012^{a}
		(0.0003)	(0.0003)	(0.0003)
Multilateral	+	1.0015	1.0017	1.0017
		(0.0013)	(0.0013)	(0.0013)
Nationalist	-	—	0.2968^{c}	—
		—	(0.2212)	—
Spec. interest	-	—	—	0.2968^{c}
		—	—	(0.2212)
N of groups/failures		62/30	62/30	62/30
N of observations		312	312	312
Log likelihood		-86.80	-85.41	-85.41

a—statistically significant at 1% level, *b* —statistically significant at 5% level, *c* —statistically significant at 10% level.

Table 2.7 (Panel B). Cox regressions with different types of foreign financial aid.

The data for the model estimation is split into seven three year sub periods covering the period from 1980 to 2000. We model the duration between a country's entry in our sample and its official equity market liberalization. The official equity market liberalization indicator variable takes the value of one in and after the three year period of the stock market liberalization, and zero otherwise. The countries that did not liberalize their equity markets in the period from 1980 to 2000 are treated as right–censored. The explanatory variables are lagged three year averages of the data. The table reports hazard ratios and the associated standard errors (in parenthesis below).

	Hypoth. sign	Model 4	Model 5	Model 6	Model 7
GNI per capita	+/-	0.9997^{c}	0.9997^{c}	0.9996^{b}	0.9996^{b}
		(0.0002)	(0.0002)	(0.0002)	(0.0002)
Population	+/-	0.9911^{a}	0.9910^{a}	0.9910^{a}	0.9910^{a}
		(0.0030)	(0.0030)	(0.0032)	(0.0032)
Common Law	+	7.3935^{a}	7.3997^{a}	13.1193^{a}	13.1193^{a}
		(4.5824)	(4.6035)	(9.3278)	(9.3278)
Trade openness	+/-	0.9983	0.9983	0.9959	0.9959
		(0.0107)	(0.0107)	(0.0115)	(0.0115)
Foreign dir. inv.	+	0.9710	0.9673	1.0071	1.0071
		(0.1422)	(0.1430)	(0.1454)	(0.1454)
BlackMktPrem	-	0.7435^{a}	0.7416^{a}	0.7141^{a}	0.7141^{a}
		(0.0635)	(0.0618)	(0.0720)	(0.0720)
Gov. consumpt.	-	0.8066^{a}	0.8088^{a}	0.7337^{a}	0.7337^{a}
		(0.0579)	(0.0587)	(0.0720)	(0.0720)
Agriculture	-	0.9246^{c}	0.9274^{b}	0.9000^{b}	0.9000^{b}
		(0.0377)	(0.0356)	(0.0394)	(0.0394)
Industry	+	1.0983^{a}	1.1007^{a}	1.1021^{a}	1.1021^{a}
		(0.0377)	(0.0356)	(0.0394)	(0.0394)
Private credit	+	1.0264^{b}	1.0268^{b}	1.0292^{b}	1.0292^{b}
		(0.0129)	(0.0125)	(0.0144)	(0.0144)
Market turnover	+	1.0690^{a}	1.0687^{a}	1.0752^{a}	1.0752^{a}
		(0.0227)	(0.0230)	(0.0246)	(0.0246)
DAC bilateral	+	1.0012^{a}	1.0012^{a}	1.0009^{b}	1.0009^{b}
		(0.0003)	(0.0003)	(0.0004)	(0.0004)
Multilateral	+	1.0017	1.0017	1.0017	1.0017
		(0.0013)	(0.0014)	(0.0014)	(0.0014)
Nationalist	-	0.2940^{c}	0.2961^{c}	0.2725^{c}	—
		(0.2204)	(0.2203)	(0.2175)	—
Spec. interest	-	—	—	—	0.2725^{c}
		—	—	—	(0.2175)
SIP	+	1.1611	—	—	—
		(0.9324)	—	—	—
First privatiz.	+	—	1.0861	—	—
		—	(0.5358)	—	—

a—statistically significant at 1% level, *b* —statistically significant at 5% level, *c* —statistically significant at 10% level.

Table 2.8 (Panel A). Panel Probit model.

The table presents the results from the panel probit model estimated using maximum likelihood. The data for the model estimation is split into seven three year sub periods covering the period from 1980 to 2000. The dependent variable takes the value of one in and after the three year period of the stock market liberalization, and zero otherwise. The explanatory variables are lagged three year averages of the data. All specifications include random effects and time fixed effects. The table reports the coefficients and standard errors (in parenthesis below), and the associated partial effects.

	Hypoth. sign	Model 1		Model 2	
GNI per capita	+/-	-0.0001	-2E-06	-0.0001	-2E-09
		(0.0002)		(0.0002)	
Population	+/-	1.2E-10	3.1E-12	2.3E-09	8.6E-14
		(1.6E-09)		(1.8E-09)	
Common Law	+	2.6380^a	0.2703	4.7819^a	0.1260
		(0.6844)		(1.0846)	
Trade openness	+/-	-0.0199^b	-0.0005	-0.0387^a	1.5E-06
		(0.0106)		(0.0119)	
Foreign dir. inv.	+	0.0936	0.0023	0.1943	7.3E-06
		(0.1291)		(0.1793)	
BlackMktPrem	-	-0.2488^a	-0.0062	-0.3016^a	-1.1E-05
		(0.0754)		(0.0889)	
Gov. consumpt.	-	-0.2855^a	-0.0071	-0.3924^a	-1.5E-05
		(0.0585)		(0.0987)	
Agriculture	-	-0.1546^a	-0.0039	-0.2670^a	-1.0E-05
		(0.0511)		(0.0684)	
Industry	+	0.0586	0.0015	0.1098^a	4.1E-06
		(0.0357)		(0.0415)	
Private credit	+	0.0399^a	0.0010	0.0552^a	2.1E-06
		(0.0144)		(0.0191)	
Market turnover	+	0.0518^a	0.0013	0.0817^a	3.1E-06
		(0.0163)		(0.0258)	
All donors	+	0.0009^a	2.3E-05	0.0011^a	4.0E-08
		(0.0004)		(0.0003)	
Nationalist	-	—		-3.2757^a	-9.0E-05
		—		(0.9228)	
N of groups		63		63	
N of obs.		357		357	
Log lik.		88.79		88.79	

a—statistically significant at 1% level, b —statistically significant at 5% level, c —statistically significant at 10% level.

Table 2.8 (Panel B). Panel Probit model.

The table presents the results from the panel probit model estimated using maximum likelihood. The data for the model estimation is split into seven three year sub periods covering the period from 1980 to 2000. The dependent variable takes the value of one in and after the three year period of the stock market liberalization, and zero otherwise. The explanatory variables are lagged three year averages of the data. All specifications include random effects and time fixed effects. The table reports the coefficients and standard errors (in parenthesis below), and the associated partial effects.

	Hypoth. sign	Model 3		Model 4	
GNI per capita	+/-	-0.0002	-4.8E-06	0.0003	9.8E-10
		(0.0002)		(0.0002)	
Population	+/-	-2.9E-09	-8.2E-11	-4.8E-09^{c}	-1.8E-14
		(1.8E-09)		(2.5E-09)	
Common Law	+	2.4441^{a}	0.2451	6.2699^{a}	0.2536
		(0.6933)		(2.3850)	
Trade openness	+/-	-0.0111	-0.0003	-0.0213^{b}	-8.1E-08
		(0.0097)		(0.0100)	
Foreign dir. inv.	+	0.0213	0.0006	-0.0399	-1.5E-07
		(0.1321)		(0.1952)	
BlackMktPrem	-	-0.2110^{a}	-0.0059	-0.3358^{a}	-1.3E-06
		(0.0740)		(0.1155)	
Gov. consumpt.	-	-0.2492^{a}	-0.0070	-0.5645^{a}	-2.1E-06
		(0.0566)		(0.1929)	
Agriculture	-	-0.1531^{a}	-0.0043	-0.3592^{a}	-1.4E-06
		(0.0449)		(0.1509)	
Industry	+	0.0428^{c}	0.0012	0.0299	1.1E-07
		(0.0331)		(0.0438)	
Private credit	+	0.0320^{b}	0.0009	0.0740^{b}	2.8E-07
		(0.0162)		(0.0298)	
Market turnover	+	0.0451^{a}	0.0013	0.0997^{b}	3.8E-07
		(0.0150)		(0.0460)	
All donors	+	0.0010^{a}	2.9E-05	0.0013^{a}	4.8E-09
		(0.0003)		(0.0005)	
Nationalist	-	-1.1810^{c}	-0.0173	-2.5935^{b}	-6.4E-06
		(0.6680)		(1.1688)	
SIP	+	1.7256^{a}	0.1932	3.9855^{b}	0.0739
		(0.6228)		(1.6873)	
N of groups		63		63	
N of obs.		357		357	
Log lik.		88.79		88.79	

a—statistically significant at 1% level, *b* —statistically significant at 5% level, *c* —statistically significant at 10% level.

Table 2.9 (Panel A). Panel Probit model with different types of foreign financial aid.

The table presents the results from the panel probit model estimated using maximum likelihood. The data for the model estimation is split into seven three year sub periods covering the period from 1980 to 2000. The dependent variable takes the value of one in and after the three year period of the stock market liberalization, and zero otherwise. The explanatory variables are lagged three year averages of the data. All specifications include random effects and time fixed effects. The table reports the coefficients and standard errors (in parenthesis below), and the associated partial effects.

	Hypoth. sign	Model 1		Model 2	
GNI per capita	+/-	-4.6E-05	-1.3E-08	-3E-06	-1.4E-12
		(0.0002)		(0.0001)	
Population	+/-	3.2E-09	-9.2E-13	-3.2E-09^{c}	-1.5E-14
		(2.2E-09)		(1.8E-09)	
Common Law	+	4.9076^{a}	0.2703	6.9668^{a}	0.2664
		(1.7459)		(1.6363)	
Trade openness	+/-	-0.0138	-0.0005	-0.0161	7.4E-09
		(0.0102)		(0.0110)	
Foreign dir. inv.	+	0.0350	0.2176	0.0963	4.4E-08
		(0.2176)		(0.1110)	
BlackMktPrem	-	-0.3425^{a}	-0.0062	-0.2776^{a}	-1.3E-07
		(0.1268)		(0.0960)	
Gov. consumpt.	-	-0.4501^{a}	-0.0001	-0.4398^{a}	-2E-07
		(0.1571)		(0.0992)	
Agriculture	-	-0.2445^{a}	-0.0001	-0.3442^{a}	-1.5E-07
		(0.0885)		(0.0856)	
Industry	+	0.0522	0.0015	0.1145^{b}	5.3E-08
		(0.0304)		(0.0479)	
Private credit	+	0.0631^{b}	0.0002	0.0735^{a}	3.4E-08
		(0.0274)		(0.0245)	
Market turnover	+	0.0696^{c}	0.0002	0.0757^{a}	3.5E-08
		(0.0359)		(0.0245)	
DAC bilateral	+	0.0027^{a}	7.7E-07	0.0045^{a}	2.1E-09
		(0.0008)		(0.0011)	
Multilateral	-	-0.0003	-7.7E-08	-0.0011	-4.9E-10
		(0.0011)		(0.0013)	
Nationalist	-	—		-3.1348^{a}	-4.9E-12
		—		(0.9424)	
N of groups		63		63	
N of obs.		357		357	
Log lik.		88.79		88.79	

a—statistically significant at 1% level, *b* —statistically significant at 5% level, *c* —statistically significant at 10% level.

Table 2.9 (Panel B). Panel Probit model with different types of foreign financial aid.

The table presents the results from the panel probit model estimated using maximum likelihood. The data for the model estimation is split into seven three year sub periods covering the period from 1980 to 2000. The dependent variable takes the value of one in and after the three year period of the stock market liberalization, and zero otherwise. The explanatory variables are lagged three year averages of the data. All specifications include random effects and time fixed effects. The table reports the coefficients and standard errors (in parenthesis below), and the associated partial effects.

	Hypoth. sign	Model 3		Model 4	
GNI per capita	+/-	-0.0003	-2.8E-10	-0.0003	2.1E-11
		(0.0002)		(0.0002)	
Population	+/-	-6.9E-09^b	-7E-15	9.0E-09^a	7.7E-16
		(3.2E-09)		(2.7E-09)	
Common Law	+	5.0585^a	0.0416	5.8581^a	0.0476
		(1.4402)		(1.2734)	
Trade openness	+/-	-0.0202	-2.04E-08	-0.0232^b	-2.0E-09
		(0.0109)		(0.0099)	
Foreign dir. inv.	+	-0.1201	-1.2E-07	0.1384	1.2E-08
		(0.2377)		(0.1999)	
BlackMktPrem	-	-0.4230^b	-0.0001	-0.2987^a	-2.6E-08
		(0.1773)		(0.0989)	
Gov. consumpt.	-	-0.5035^a	-5.1E-07	-0.5146^a	-4.4E-08
		(0.1310)		(0.1102)	
Agriculture	-	-0.3124^a	-3.2E-07	-0.2965^a	-2.6E-08
		(0.1083)		(0.0751)	
Industry	+	0.1043^c	1.1E-07	0.0395	3.4E-09
		(0.0547)		(0.0411)	
Private credit	+	0.0835^a	8.5E-08	0.0933^a	8.0E-09
		(0.0275)		(0.0260)	
Market turnover	+	0.0942^a	1E-07	0.0807^a	6.9E-09
		(0.0355)		(0.0273)	
DAC bilateral	+	0.0055^a	5.6E-09	0.0046^a	3.9E-10
		(0.0015)		(0.0010)	
Multilateral	-	-0.0009	-8.9E-10	-0.0014	-1.2E-10
		(0.0017)		(0.0011)	
Nationalist	-	-2.7152^a	2E-06	-2.2413^a	-1.3E-07
		(1.0254)		(0.7915)	
SIP	+	4.1480^a	0.0572	3.4060^a	0.0038
		(1.5650)		(1.1014)	
N of groups		63		63	
N of obs.		357		357	
Log lik.		88.79		88.79	

a—statistically significant at 1% level, b —statistically significant at 5% level, c —statistically significant at 10% level.

Chapter 3

A Cure Rather than a Disease: Government Ownership and Minority Shareholder Protection

3.1 Introduction

The privatization of state-owned enterprises (SOEs) is widely used by governments since the 1980s, and continues to be a major priority for policy makers in a number of countries. Early studies of the privatization programs document that the privatization of SOEs is associated with significant increases in profitability, operating efficiency, and capital expenditures.[1]

A series of recent papers examines the relationship between privatizations and security market development. Megginson, Nash, Netter, and Poulsen (2004) suggest that the development of a liquid stock market and an "equity culture" are among the major objectives of the privatizing governments.[2] They find that the privatizing governments in countries with less developed capital markets are more likely to privatize their more profitable SOEs through share issue privatizations (SIPs) in order to foster security market development. Additionally, Jones, Megginson, Nash, and Netter (1999) document that the privatizing governments consistently underprice SIPs, and favor domestic investors in the allocation of shares in order

[1] For an excellent survey of the privatization literature see Megginson and Netter (2001).

[2] The authors quote one member of the OECD's Privatization Working Group, "[T]he objective of privatizations had nothing to do with raising money for the budget, but solely for broadening the capitalistic base, getting people to become shareholders and private owners....[I]n other words, the objective was purely political to foster market economy and thus democracy."

to induce the median-class voters to support and participate in the privatization process. Boutchkova and Megginson (2000) find that SIPs have significantly increased stock market liquidity and the number of shareholders in many countries.[3]

A number of countries, however, did not experience the desired capital market development following the launch of their mass privatization programs. Atanasov, Ciccotello, and Gyoshev (2005) state that:

> Like Russia and other Eastern European nations such as Czechoslovakia and Poland, Bulgaria engaged in mass privatization. The Bulgarian "Big Bang" was in 1998 and over a thousand firms were listed on the Bulgarian Stock Exchange. Similar to several other Eastern European transition economies, the Bulgarian market suffered after its opening from mass expropriation of minority shareholder wealth. Two-thirds of all Bulgarian firms were de-listed within three years (1999-2001) of their first trading on the Bulgarian Stock Exchange.

The failure of the mass privatization programs to spur the development of the equity markets in many developing countries is largely attributed to the lack of adequate legal and extra-legal institutions that curb the ability of the new controlling shareholders to extract private benefits of control at the expense of the minority shareholders. The present paper examines the role of government in curbing those benefits.

The private benefits of control represent corporate benefits that controlling shareholders receive above and beyond the benefits which accrue to them in proportion to their fractional

[3]However, the authors note that "the extremely large numbers of shareholders created by many share issue privatizations are not a stable ownership structure. For the 47 offers that initially yield over 250,000 shareholders, the total number of shareholders declines by one-third within five years."

ownership in the corporation. The existence of private benefits and minority shareholder expropriation in public companies is well documented in the finance literature. Dyck and Zingales (2004) estimate the magnitude of the private benefits of control in 39 countries, and find that on average corporate control is worth 14 percent of the equity value of a firm. They also document a negative relationship between capital market development and the private benefits of control. Johnson, La Porta, Lopez-de-Silanes, and Shleifer (2000) find that "tunneling," which is defined as the transfer of assets and profits out of the firm for the benefit of its controlling shareholders, is not restricted to emerging markets, but it quite commonly appears even in developed countries. The main forms of tunnelling are self-dealing transactions such as outright theft, transfer pricing, excessive compensation, loan guarantees, asset sales, and dilution.

In this paper we argue that the privatizing governments have an incentive to curb the ability of the controlling shareholders to extract private benefits of control from the NPFs. The privatizing governments, which are attempting to foster security market development, have an incentive to curb the ability of the controlling shareholders to extract private benefits of control, because the extent of private benefits of control adversely affects security market development (Dyck and Zingales (2004)). Additionally, the theoretical model of Biais and Perotti (2002) and the empirical findings of Jones, Megginson, Nash, and Netter (1999) suggest that the privatizing governments build political support by preferentially allocating shares in the NPFs to the median-class voters. The government, therefore, has an incentive to protect the minority shareholders in the NPFs, because if these small shareholders were expropriated by the new controlling shareholders the government would most likely loose their votes in a subsequent election. The following quote from Megginson and Netter (2001)

illustrates the above point: "Democratic governments are usually acutely aware of the political fallout that could result if small investors suffer losses on their SIP (share issue privatization) investments because of inadequate shareholder protection or insider dealings."

The government can pursue different strategies to curb the private benefits of control in the NPFs. For example, the government can implement new laws and/or strictly enforce the existing laws to increase the level of investor protection and reduce the benefits of control. Additionally, the government can set up a regulatory agency similar to the U.S. SEC to oversee the financial markets and to enforce the securities laws. These strategies, however, require considerable time and resources. A more efficient way, at least in the short-run, may be for the government to retain a minority ownership stake in the NPFs until adequate legal and extra-legal institutions are developed to protect the minority shareholders from the potential expropriation by the controlling shareholders. The government, as a minority shareholder, can be especially effective at monitoring the new controlling shareholders, because it has extensive knowledge of the operations of the NPFs, it does not face a free-rider problem, and has access to disciplinary powers that are not available to other shareholders. Additionally, while most governments may be reluctant to interfere with the actions of the new controlling shareholders, because such interference can signal a non-commitment to privatization, the government which acts to protect its rights as a minority shareholder may be more proactive in monitoring, since its actions are less likely to be interpreted as a non-commitment to privatization.

The direct role of the government in curbing the private benefits of control has not been previously investigated. Examining this issue is of great importance given the continuation of the privatization process in a number of countries. For instance, the governments in the

emerging market countries, where the private benefits of control are especially large (Dyck and Zingales (2004)), might be able to increase the efficiency and profitability of their SOEs through privatization, and at the same time reduce the possibilities for minority shareholder expropriation by retaining some ownership in the privatized enterprises.

The following case illustrates that the presence of the government as a minority shareholder can curb the private benefits of control enjoyed by the controlling shareholders:

> The Serbian government...ordered the arrest of Sreten Karić. ...Sreten – former chief executive officer of "Mobtel", is accused of fraud and tax evasion for 2.8 million euro, while he was in charge of the company. This happened through the acquisition of 79 luxurious apartments for 13 million euro, which were subsequently sold at a much lower price to the Karić family and other top officers in the company. In this manner, the government was defrauded since it is a shareholder in "Mobtel". The allegations against Bogolyub Karić...are for tax evasion and fraud through the tunneling of profits from "Mobtel" for the benefit of his firm in Cyprus "Usiko",... [4]

The remainder of the paper proceeds as follows. Section 3.2 briefly reviews the literature on the private benefits of control. Section 3.3 presents the data and methodology employed in measuring the private benefits of control. Section 3.4 presents the empirical findings. Section 3.5 test the robustness of the findings. Section 3.6 concludes.

[4] StandardNews: Jan-19-2006.

3.2 Literature Review

The private benefits of control are the centerpiece of the recent literature in corporate governance. Shleifer and Vishny (1997) define corporate governance as a set of mechanisms through which the suppliers of finance assure themselves of receiving a return on their investment. The authors argue that good governance systems, which reduce the possibilities for diversion of corporate resources by the controlling shareholders, result in higher financial development.

La Porta et al. (1997, 1998, 2000, 2002) document that countries with good legal environments, which protect the potential financiers from the diversion of corporate resources by the controlling shareholders, have larger capital markets, higher dividend payout ratios, and higher corporate valuations. Dyck and Zingales (2004) directly test the relationship between the private benefits of control and financial development, and also find a negative relationship.

Atanasov (2005) examines the magnitude of the private benefits of control in a sample of Bulgarian NPFs. He documents that the majority owners of the Bulgarian NPFs extract more than 85 percent of firm value as private benefits of control.

3.2.1 Sources of the Private Benefits of Control

Given the importance of the private benefits of control, it is necessary to examine their exact nature. The finance literature presents three potential sources of private benefits of control: the psychological value of being in control, the consumption of perquisites, and the expropriation of the minority shareholders. The importance of the first two sources is well established in the finance literature (e.g., Aghion and Bolton (1992) and Jensen and Meckling (1976)).

Recent studies, however, suggest that the minority shareholder expropriation component of the private benefits of control should not be overlooked.

La Porta, Lopez-de-Silanes, and Shleifer (1999) document that the majority of non-U.S. large publicly traded corporations have a controlling shareholder who owns at least 20 percent of the shares. The controlling shareholders usually exercise direct control over the corporations by being part of the top management as CEO or as chairman of the board. Furthermore, 75 percent of the corporations with controlling shareholders do not have another shareholder with at least 10 percent of the shares. Thus, the power of the controlling shareholders is largely uncontested, and is potentially used to expropriate the minority shareholders.

Johnson, La Porta, Lopez-de-Silanes, and Shleifer (2000) study legal cases describing the expropriation of minority shareholders. The authors refer to the expropriation of minority shareholders with the term "tunneling," which is defined as the transfer of assets and profits out of the firm for the benefit of its controlling shareholders. Contrary to what one might expect, tunneling is not restricted to emerging markets, but it quite commonly appears even in developed countries such as France, Italy, and Belgium. The main forms of tunnelling are self-dealing transactions such as outright theft, transfer pricing, excessive compensation, loan guarantees, asset sales, and dilution (Johnson, La Porta, Lopez-de-Silanes, and Shleifer (2000)).

3.2.2 Measuring the Private Benefits of Control

Lease, McConnell, and Mikkelson (1983) are the first to quantify the benefits of control. They estimate the value of corporate control by examining the market prices of the common stocks of companies that have two classes of common stocks outstanding, where the two classes

have identical cash flow rights but different voting rights. The authors find that the class of common stock with superior voting rights trades on average at a 5.44 percent premium relative to the other class. The positive voting premium suggests that the controlling class of securityholders has an opportunity to receive a higher payoff than the non-controlling class of securityholders in at least some states of nature.

The voting premium does not directly measure the private benefits of control since it is calculated from prices set by minority investors who do not get to consume any private benefits. However, as Zingales (1995) suggests, the voting premium reflects the additional payments vote-holders expect to receive for their votes in case of a control contest, and these payments are positively related to the private benefits of control. Thus, the voting premium can be used as a proxy for the private benefits of control (Zingales (1995), Nenova (2003), and Doidge (2004)).

Barclay and Holderness (1989) employ an alternative approach to estimate the private benefits of control. They examine transactions involving transfers of controlling blocks in publicly traded corporations. The price per share that the acquirer of the controlling block pays reflects the cash flow benefits from his fractional ownership in the company and the private benefits he expects to extract from his controlling position in the firm. On the other hand, the market price of the stock on the day after the announcement of the block trade reflects only the cash flow benefits that noncontrolling shareholders expect to receive in proportion to their fractional ownership in the company, in the presence of the new blockholder. Therefore, the difference between the price per share paid by the acquirer of the block and the price quoted in the market the day after the announcement of the block trade represents an estimate of the private benefits of control. Barclay, Holderness, and Sheehan (2001) use

this approach to estimate the private benefits of control in a large sample of U.S. firms, and Dyck and Zingales (2004) use this approach to estimate the private benefits of control in a large sample of international firms.

3.3 Data and Methodology

Following Dyck and Zingales (2004) we estimate the private benefits of control as the difference between the price per share paid by the acquirer of a controlling block (p_b) and the price quoted in the market two days after the sale's announcement (p_e). The value of the private benefits of control as a percentage of the firm's equity value is computed by multiplying the premium paid per share times the number of shares in the block (N_b) and dividing the result by the total market value of the firm's outstanding equity measured at the post announcement exchange price ($p_e N_t$):

$$\text{Private benefits of control} = \frac{(p_b - p_e)N_b}{p_e N_t}$$

The paper contributes to the privatization literature by documenting that the presence of the government as a minority shareholder in privatized firms curbs the ability of the controlling shareholders to expropriate the minority shareholders. Our analysis of the effects of government ownership on the private benefits of control is restricted to newly privatized firms. It is also possible to study the effects of minority government ownership on firms that were never under government control. By restricting the analysis to newly privatized firms, however, we can examine the effects of minority government ownership holding constant some important firm characteristics. Privatized firms, for example, are often substantially different

from other firms in the economy, and the ability and the willingness of the government to monitor the controlling shareholders can be substantially different between privatized firms and firms that were never under government control.

Since the objective of the paper is to examine the role of government in curbing the private benefits of control in privatized firms, we begin the sample collection by compiling a list of privatized firms. We use the Securities Data Corporation (SDC) international mergers and acquisitions database to identify purchases of controlling blocks in the sample of publicly traded privatized firms. The analysis is restricted to purchases of blocks larger than or equal to 10 percent of the firm's stock during the period from 1990 to 2005.[5]

To ensure that the block trades involve the transfer of control rights a number of restrictions are imposed.[6] First, we examine block trades that result in the acquirer moving from a position where he owns less than 20 percent of the shares to a position where he owns more than 20 percent of the shares. The 20 percent cutoff is also consistent with the seminal work by La Porta, Lopez-de-Silanes, and Shleifer (1999) who suggest that 20 percent ownership is typically sufficient for control.

Transactions between related parties such as the transfer of shares among subsidiaries of a common parent are excluded, as well as transactions where the acquirer involves management, since these may not convey changes in control. The next set of restrictions eliminates transactions where the price per share paid by the acquirer of the controlling block does not reflect the benefits of control. Excluded transactions are those identified by SDC as tender

[5]Dyck and Zingales (2004) also use the 10 percent cutoff and report that their estimates of the private benefits of control are unchanged when they employ a 15 percent cutoff.

[6]This section follows the discussion in Dyck and Zingales (2004) since we employ the same set of restrictions.

offers, spinoffs, recapitalizations, exchange offers, repurchases, acquisitions of remaining interest, and block trades conducted through open market purchases.

In order to estimate the private benefits of control we need the price per share paid by the acquirer of the controlling block, and the price quoted in the market two days after the sale's announcement. This restricts the analysis to block trades with reported transaction values involving companies covered in the Datastream database. In addition, the analysis excludes transactions where the reported price per share is based on securities that could not be objectively valued such as warrants, convertible bonds, liabilities, as well as transactions that involve the exercise of options or include an option to purchase additional shares.

The final set of restrictions ensures that the block price and the post-announcement exchange price are not constrained by regulation. For example, there are laws requiring that all shareholders be treated equally in public offers. Thus, transactions where the controlling block is purchased as part of a public offer are excluded.

Company annual reports, the Worldscope Database, and company web sites provide government ownership information for the years of the block trades. Government ownership reflects direct ownership by the state as well as indirect state ownership through government controlled entities.

Table 3.1 presents all the block trades that are used to calculate the block premia, which is our proxy for the private benefits of control. Our final sample consists of 54 observations. The small sample size is mainly due to the constraint that the private benefits of control can be estimated only for the privatized firms that have block trades involving the transfer of control rights. Dyck and Zingales (2004) use the block premium to estimate the private benefits of control in publicly traded companies around the world. Their sample consists of

393 observations. Since our sample is limited to publicly traded privatized firms the sample size of 54 (approximately 14 percent of the sample in Dyck and Zingales (2004)) is not surprising. The average size of the block trades is approximately 39 percent of the firm's outstanding equity, and the average block premium is approximately 19 percent of the firm's equity value measured at the post announcement exchange price.

3.4 Results

3.4.1 Descriptive Statistics and Univariate Analysis

Table 3.2 shows summary statistics on the block premia for different world regions, industries, and different acquirers. The descriptive statistics demonstrate that our sample is diverse across the different world regions, industries, and acquirer types. The countries from East Asia and the Pacific have the lowest average levels of private benefits of control while the countries from Latin America and the Caribbean have the highest average levels of private benefits of control. Regarding the different industries, the firms in retail trade have the lowest while the firms in mining have the highest average levels of private benefits of control. Finally, when the acquirer of the controlling block is a subsidiary the associated private benefits of control are the highest.

Table 3.3 presents descriptive statistics on the government's percentage ownership in the sample firms for the years of the block trades. The average government ownership stake in the target firms is approximately 19 percent. In 14 out of the 54 block trades the government has no ownership stake in the target firms. In 24 of the block trades the government has a minority ownership, which implies that the government's ownership stake after the block

trade is smaller than the ownership stake held by the acquirer of the controlling block. Finally, in 16 of the block trades the government is the largest shareholder, which implies that the government's ownership stake after the block trade is larger than the ownership stake held by the acquirer of the controlling block. The average government ownership stake in the firms where the government is a minority (largest) shareholder is approximately 16 (42) percent.

Table 3.4 compares the average private benefits of control in firms where the government is not a minority shareholder to the average private benefits of control in firms where the government is a minority shareholder or is the largest shareholder. On average, the benefits of control in NPFs with no government ownership are 67.40 percent. When the government is a minority shareholder, however, the average private benefits of control are -1.59 percent. The significant difference between the two categories suggests that the presence of the government as a minority shareholder curbs the controlling shareholder's ability to extract private benefits of control. Furthermore, the negative value of the benefits of control in firms with minority government ownership implies the the costs of being a controlling shareholder in these firms outweigh the benefits of the controlling position. This is consistent with the interpretation that the block discounts compensate the controlling shareholders for incurring significant risk-bearing costs due to the large size of their stakes, and for engaging in costly monitoring activities, which lower agency costs and increase cash flows for all shareholders.

The results from Table 3.4 are, however, subject to an omitted variable bias. Specifically, we need to control for factors affecting both the private benefits of control measure and the government ownership. In the next section we use multivariate regression analysis to account for the potential endogeneity.

3.4.2 Multivariate Analysis

We control for several deal, firm, and country-specific characteristics that can bias our estimates. Prior research documents that private placements and SIPs are often made at substantial discounts relative to the post-announcement exchange price.[7] Doidge (2004) finds that the cross-listing on a U.S. exchange reduces the controlling shareholder's ability to extract private benefits. Additionally, the transfer of blocks larger than 50 percent carries higher control potential than the transfer of smaller blocks, and the presence of another large shareholder can potentially reduce the extent to which the controlling shareholder can exercise control. We account for the effect of the above deal and firm characteristics by including the private placement, privatization deal, U.S. crosslisting, absolute majority stake, and another large shareholder (who owns more than 20 percent of the outstanding shares and is not the government) dummy variables.

Many countries require the acquirers of large blocks to make a tender offer to all remaining shareholders. We control for the effect of the anticipated tender offer on the post-announcement exchange price by including the mandatory tender offer requirement dummy variable that equals one if the transaction triggers the mandatory tender offer requirement, and zero otherwise. Arguably, the most important determinant of the ability of the controlling shareholders to extract private benefits of control is the protection of the minority shareholders' rights provided by the legal system. We include the antidirector,

[7] See Hertzel and Smith (1993), Barclay, Holderness, and Sheehan (2001) and Jones, Megginson, Nash, and Netter (1999).

anti-self-dealing, and rule of law indices to control for differences in the legal environments across countries.[8]

Finally, the main criticism of the Barclay and Holderness (1989) measure of the private benefits of control is that the premium paid for the control block reflects the value of control, as well as other aspects of the control transaction such as the seller's bargaining power. To address this concern, we include two deal characteristics capturing differences in the extent of the seller's bargaining power.[9] First, if the company is in financial distress the seller is more likely to be forced to sell, and his bargaining power is lower. We proxy for financial distress by including a dummy variable that equals one if the earnings per share are zero or negative in the year of the block trade or the year preceding the block trade. Second, the selling shareholder in firms that can be acquired by foreigners has relatively higher bargaining power due to the increased competition. We control for this by inserting a dummy variable that equals one if the acquirer of the controlling block is foreign and zero otherwise.

Before proceeding with the multivariate regression analysis we examine the correlation coefficients between the independent variables. A high degree of correlation between the regressors can lead to concerns about multicollinearity. Table 3.5 illustrates that most of the correlation coefficients between the independent variables are relatively low, which alleviates the potential concerns about multicollinearity.[10]

Tables 3.6 and 3.7 presents the results from the multivariate regressions examining the relationship between the private benefits of control and the presence of the government as a minority shareholder controlling for the deal, firm, and country-specific characteristics. We

[8]The indices are derived from La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998),Pistor, Raiser, and Gelfer (2000), and Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2005).

[9]Dyck and Zingales (2004) also employ these variables to control for differences in the extent of the seller's bargaining power.

[10]The highest correlation coefficient is 0.67.

estimate the following general regression model:

$$\begin{aligned}\text{Block premium} = {} & \beta_0 + \beta_1 \text{Government is a minority shareholder} + \\ & \beta_2 \text{Government is the largest shareholder} + \beta_3 \text{Private placement} + \\ & \beta_4 \text{Absolute majority stake} + \beta_5 \text{Privatization deal} + \\ & \beta_6 \text{Another large shareholder} + \beta_7 \text{Mandatory tender offer requirement} + \\ & \beta_8 \text{US crosslisting} + \beta_9 \text{Foreign acquirer} + \beta_{10} \text{Financial distress} + \\ & \beta_{11} \text{Investor protection indices} + \varepsilon\end{aligned}$$

In Table 3.6 we introduce sequentially the deal, firm, and country-specific characteristics. Model 1 in Table 3.6 introduces the deal-specific characteristics (private placement, privatization deal, absolute majority stake, and foreign acquirer). Model 2 examines the effects of the firm-specific characteristics (U.S. crosslisting, another large shareholder, and financial distress). In models 3 through 6 we include controls for the effects of the various country-specific characteristics (mandatory tender offer requirement, antidirector, anti-self-dealing, and rule of law indices). In table 3.7 we include simultaneously all the deal, firm, and country-specific characteristics. Across all models, the estimated coefficient on the government is a minority shareholder dummy variable is negative and significant. These results support our main hypothesis that the presence of the government as a minority shareholder curbs the ability of the controlling shareholders to extract private benefits of control. These results should be contrasted with Dyck and Zingales (2004) who find that "[c]ontrary to expectations, the presence of another large shareholder has a positive effect on the [block] premium, but this is not statistically significant." Our study suggests that when the other shareholder is the government, the benefits of control are significantly lower. The majority of the control variables have the expected signs, but are not significant at conventional levels.

In Table 3.8 we repeat the tests from Table 3.7, but add the government's percentage ownership as a minority shareholder to examine whether the magnitude of the government's shareholdings affects the ability of the controlling shareholders to extract private benefits of control.

[Table 3.8] Regression equation:

$$\begin{aligned}\text{Block premium} = {} & \beta_0 + \beta_1 \text{Government is a minority shareholder} + \\ & \beta_2 \text{Government's \% ownership as a minority shareholder} + \\ & \beta_3 \text{Government is the largest shareholder} + \beta_4 \text{Private placement} + \\ & \beta_5 \text{Absolute majority stake} + \beta_6 \text{Privatization deal} + \\ & \beta_7 \text{Another large shareholder} + \beta_8 \text{Mandatory tender offer requirement} + \\ & \beta_9 \text{US crosslisting} + \beta_{10} \text{Foreign acquirer} + \beta_{11} \text{Financial distress} + \\ & \beta_{12} \text{Investor protection indices} + \varepsilon\end{aligned}$$

Table 3.8 documents that after controlling for the presence of the government as a minority shareholder, the larger government shareholdings do not result in larger decreases in the private benefits of control. This result indicates that a minority stake, regardless of its size, provides the government with both the incentive and the ability to curb the self-dealing actions of the controlling shareholder.

3.4.3 Government Ownership and Minority Shareholder Protection

It is possible that minority government ownership is a substitute for the lack of alternative mechanisms for minority shareholder protection. For example, the benefit of having the government as a minority shareholder, monitoring the controlling shareholder, would be much lower in the countries that have well developed legal and extra-legal institutions protecting the minority shareholders from the potential expropriation by the controlling shareholders.

Therefore, we expect that the presence of the government as a minority shareholder will be more effective at curbing the private benefits of control in the countries with lower levels of minority shareholder protection, and less effective in the countries with higher levels of minority shareholder protection. Table 3.9 tests this hypothesis by estimating the interactions between the government is a minority shareholder dummy variable and the shareholder protection indices.[11] Higher values of the interaction variables indicate the presence of the government as a minority shareholder in countries where the minority shareholders are better protected from the self-dealing actions of the controlling shareholders.

[Table 3.9] Regression equation:

$$\begin{aligned}\text{Block premium} = {} & \beta_0 + \beta_1 \text{Government is a minority shareholder} + \\ & \beta_2 \text{Government is a minority shareholder*shareholder protection indices} + \\ & \beta_3 \text{Government is the largest shareholder} + \beta_4 \text{Private placement} + \\ & \beta_5 \text{Absolute majority stake} + \beta_6 \text{Privatization deal} + \\ & \beta_7 \text{Another large shareholder} + \beta_8 \text{Mandatory tender offer requirement} + \\ & \beta_9 \text{US crosslisting} + \beta_{10} \text{Foreign acquirer} + \beta_{11} \text{Financial distress} + \\ & \beta_{12} \text{Investor protection indices} + \varepsilon\end{aligned}$$

Specifications 1 and 2 in Table 3.9 show that the interactions between the government is a minority shareholder dummy variable and the antidirector-rights and the anti-self-dealing indices are not statistically significant. In model 3, however, we find that the interaction between the government is a minority shareholder dummy variable and the rule of law index is positive and significant. This evidence supports our hypothesis that the presence of the government as a minority shareholder is more effective at curbing the private benefits of

[11] The antidirector-rights, anti-self-dealing, and rule of law indices range from 0 to 6, 0 to 1, and 0 to 10 respectively. Higher values of the indices indicate higher levels of investor protection.

control in the countries where the alternative mechanisms for shareholder protection, for example, through the legal system are less developed. For example, the presence of the government as a minority shareholder in New Zealand is associated with approximately 20 percent decrease in the private benefits of control while in the Indonesia it is associated with a 130 percent decrease in the private benefits of control.[12]

In order to increase our confidence in the above findings, we examine another proxy for the overall quality of institutional development. In model 4 we test the effect of a widely used index of property rights on the ability of the controlling shareholders to extract private benefits of control.[13] The negative and significant coefficient on the property rights index indicates that the countries that provide better protection of private property rights curb the ability of the controlling shareholders to extract private benefits of control. In model 5, we find that the estimated coefficient of the interaction between the government is a minority shareholder dummy variable and the property rights index is positive and significant. This result provides further support for the hypothesis that the presence of the government as a minority shareholder is more effective at curbing the private benefits of control in the countries which lack alternative mechanisms for shareholder protection.

Another issue that the above findings address deals with the effect of minority government ownership on the potential sources of private benefits of control. The three sources of private benefits of control are the psychological value of being in control, the consumption

[12]The values of the rule of law index for New Zealand and Indonesia are 10 and 3.98 respectively.

[13]The property rights index is from the Index of Economic Freedom constructed by the Heritage Foundation. The index ranges from 0 to 100 with higher values of the index indicating better protection of private property rights. The index reflects the degree to which a country's laws protect private property rights and the degree to which the government enforces those laws. The index is available annually since 1995. For the years before 1995 we use the 1995 values of the index.

of perquisites, and the expropriation of the minority shareholders. The countries with lower scores on the rule of law and the property rights indices provide more opportunities for minority shareholder expropriation. Therefore, the findings that the presence of the government as a minority shareholder is more effective at curbing the private benefits of control in the countries with lower values of the rule of law and the property rights indices, where the potential for minority shareholder expropriation is higher, suggest that the minority government ownership reduces the minority shareholder expropriation component of the private benefits of control.

3.5 Robustness

Some readers can argue that the acquirers of the controlling blocks in companies where the government is a shareholder pay less for their shares, because the government itself expropriates value from the firms or because government ownership adversely affects firm performance and hampers the ability of the new controlling shareholders to increase the value of the firm. These arguments may be valid in some cases, but they do not affect the results from our study. We measure the private benefits of control with the block premium, which is calculated as the difference between the price per share paid by the acquirer of the controlling block and the price on the Exchange two days after the announcement of the control transaction.[14] The price per share paid by the acquirer of the controlling block reflects the sum of the cash flow benefits that the controlling shareholder expects to receive in proportion to his fractional ownership in the company and the private benefits that he expects

[14]The rest of the measure multiplies the premium per share by the number of shares in the block and divides the result by the total market value of the firm's outstanding equity measured at the post announcement exchange price.

to extract from his controlling position in the firm. On the other hand, the market price of the stock after the announcement of the block trade reflects only the cash flow benefits that the non-controlling shareholders expects to receive in proportion to their fractional ownership in the corporation, in the presence of the new blockholder. The block premium, therefore, reflects *only* the benefits that accrue *exclusively* to the controlling shareholders. Any effect of government ownership on firm performance and on the ability of the new controlling shareholders to increase the value of the firm will be reflected in the price of the stock on the exchange after the announcement of the control transaction, and therefore, will not influence our measure of the private benefits of control. This allows us to investigate the effect of the presence of the government as a minority shareholder on the ability of the controlling shareholders to extract private benefits of control without making any assumptions about the overall effect of government ownership on the value of the firm.

In this section we address the potential alternative interpretations of the block premia and examine the robustness of our findings. The most important alternative interpretation of the block premia is that they reflect systematic overpayments by the acquirers of the controlling blocks rather than private benefits of control. We employ the procedure from Dyck and Zingales (2004) to test the overpayment hypothesis.[15]

If the block premia arise from systematic overpayments, than the stock prices of the acquiring firms will react negatively to the announcement of the block trades. In our sample, we have 9 transaction involving publicly traded companies that have stock prices available in the Datastream database. Table 3.10 presents the analysis of the cumulative abnormal

[15]Barclay and Holderness (1989) reject the overpayment hypothesis in their sample of U.S. block trades, and Dyck and Zingales (2004) reject it in their sample of international block trades.

returns of the acquiring firms employing a 16-day event window (t–8 to t+7) to allow for relevant information about the transactions to be leaked in advance or to be incorporated with delay into the stock price.[16] The mean cumulative abnormal return is positive and insignificant, which is evidence against the overpayment hypothesis.

Another alternative interpretation of the block premia, especially in underdeveloped markets, is that the acquirer of the controlling block has superior information about the target, and the information about the transaction is incorporated slowly into the target's stock price. To test this hypothesis we re-estimate the private benefits of control using the price on the exchange thirty rather than two days after the announcement of the block trade, and repeat all the tests. The main findings remain unchanged.

Our sample consists of 54 observations. Therefore, it is possible that a few outliers are driving the main results. To address this possibility, we winsorize the block premia at the 10 percent level. Alternatively, we drop all observations where the block premia are less than -40 percent or greater than 100 percent. Our main results are robust to these alternative specifications.[17]

We examine whether our results are specific to a particular time period. We include indicator variables for observations during the periods from 1990 to 1995, 1995 to 2000, and 2000 to 2005. None of the time indicators attain statistical significance and they do not affect our main findings. The results are also robust to including country fixed effects,

[16] Dyck and Zingales (2004) also employ the 16-day event window.

[17] The results are also robust the dropping all observations from China, which has a very unique institutional environment, and all observations where there is another large shareholder (other then the government).

regional dummies, industry controls, or controls for the identity of the acquirer (private, government, subsidiary, or public corporation).

Finally, our main findings are robust to excluding transactions where the government's ownership stake exceeds 20, 15, or 10 percent of the firm's outstanding equity. Dropping these observations significantly reduces the degrees of freedom in the regressions, but increases our confidence in the result that the presence of the government as a minority shareholder curbs the ability of the controlling shareholders to extract private benefits of control.

3.6 Conclusion

This paper examines the effect of minority government ownership on the ability of the controlling shareholders in privatized firms to extract private benefits of control. In a sample of NPFs we document that the presence of the government as a minority shareholder curbs the ability of the controlling shareholders to extract private benefits of control. Furthermore, we find that the presence of the government as a minority shareholder is more effective at curbing the private benefits of control in the countries that have weaker institutions protecting the rights of the investors. This suggests that minority government ownership is a substitute for the lack of alternative mechanisms for minority shareholder protection.

Prior studies document that the extent of the private benefits of control adversely affects security market development. In this context our findings are consistent with the privatizing governments' stated objectives of developing a liquid national stock market and an "equity culture". The privatizing governments in countries with lower levels of minority shareholder protection, which are attempting to foster security market development and prevent the "tunneling" of assets and profits out of the NPFs, may find it optimal to retain a minority

ownership stake in the NPFs until adequate legal and extra-legal institutions are developed to protect the minority shareholders from the potential expropriation by the controlling shareholders.

We are not advocating government ownership as a solution to corporate governance failures. Such a cure would be worse than the disease. We attempt, however, to illustrate that the optimal government ownership stake in NPFs can, in some instances, be different from zero.

3.7 Tables

Table 3.1. Sample description.
The table presents all the transactions used in the study. The block premia are reported in the last column and are calculated as the difference between the price per share paid for the control block and the price on the Exchange two days after the announcement of the control transaction, multiplied by the number of shares in the block and divided by the total market value of the firm's outstanding equity measured at the post announcement exchange price. The block premia are expressed as percentages.

Target Nation	Year	Target Name	Acquirer Name	Acquirer Nation	Public Status	% Acquired	Premium
Argentina	2001	Central Puerto SA	Total Austral Argentina	Argentina	Subsidiary	63.94	248.72
Austria	1993	Burgenland Holding AG	Investors	Austria	Private	30.00	6.21
Brazil	1997	Cia Paulista de Forca E Luz	Investor Group	Brazil	Private	41.30	-41.03
Brazil	1998	Cia Energetica do Ceara SA	Destriluz	Spain	Private	55.00	133.73
Brazil	1998	Cia Acos Especiais Itabira SA	Investor Group	Brazil	Private	27.68	-2.36
Brazil	2000	Cia Siderurgica Nacional	Textilia	Brazil	Subsidiary	31.70	215.77
Chile	1993	Empresa Electrica del Norte Grande SA	Southern Electric International Inc	United States	Subsidiary	35.00	0.69
Chile	1997	Empresa Electrica Colbun Machicura SA	Investor Group	Spain	Private	37.50	15.70
Chile	2002	Empresa Electrica del Norte Grande SA	Inversiones Mejillones SA	Chile	Joint Venture	82.34	-46.74
China	2002	Shanghai Light Industry Machinery Co Ltd	Zhongtai Trust and Investment Co.	China	Private	24.00	-21.01
China	2003	Zhejiang Zheda Haina Science and Tech.	Investor Group	China	Private	52.44	-33.69
China	2003	Hefei Meiling Group Holdings Co Ltd	Greencool Enterprise Development	China	Subsidiary	20.03	-11.03
China	2003	Henan Shuanghui Inv. and Dev. Co Ltd	Tahe Haiyu Investment Co Ltd	China	Private	25.00	-13.14
China	2004	Yunnan Jinggu Forestry Co Ltd	Zhongtai Credit Guarantee Co Ltd	China	Private	29.81	-15.56
Czech Republic	2001	Komercni Banka AS	Societe Generale SA	France	Public	60.00	44.03
Czech Republic	2004	Prazska Energetika as	JandT Finance Group	Slovak Rep	Private	33.00	24.43
Czech Republic	2005	Cesky Telecom	Telefonica SA	Spain	Public	51.10	6.34
Egypt	1999	Paints and Chemicals Industries	Gryphon Emerging Markets	United Kingdom	Private	38.20	40.07
France	1995	Carbone Lorraine SA	Cie Financiere de Paribas SA	France	Public	21.40	95.50

Germany	1999	Energie Baden-Wuerttemberg AG	Electricite de France	France	Government	25.01	36.36
Greece	1999	Hellenic Duty Free Shops	Investor Group	Greece	Private	25.00	-11.64
Greece	2003	Hellenic Duty Free Shops	Investor Group	Greece	Private	40.00	4.80
Hong Kong	1991	Cross-Harbour Tunnel Co Ltd	Wharf Holdings Ltd	Hong Kong	Public	24.30	-1.43
Hungary	2005	Antenna Hungaria Magyar Musorszoro	Swisscom AG	Switzerland	Public	75.00	1.78
India	2000	Computer Maintenance Corp	Tata Sons Ltd	India	Private	51.00	6.86
India	2002	Videsh Sanchar Nigam Ltd	Panatone Finvest Ltd	India	Subsidiary	20.00	2.97
India	2002	Hindustan Zinc Ltd	Sterlite Opportunities and Ventures	India	Subsidiary	26.00	2.86
India	2002	Indian Petrochemicals Corp Ltd	Reliance Petroinvestments Ltd	India	Subsidiary	26.00	14.11
Indonesia	2002	Bank Central Asia Tbk PT	Investor Group	Indonesia	Private	51.00	36.25
Indonesia	2004	Bank Permata Tbk PT	Investor Group	United Kingdom	Private	51.00	-13.86
Ireland-Rep	1993	Greencore Group PLC	Investors	Ireland-Rep	Private	30.40	30.93
Israel	1995	Israel Chemicals Ltd	Investor Group	Israel	Private	24.90	-1.86
Israel	1999	Bezeq Israel Telecommunications Co Ltd	Zeevi Communications Holdings Ltd	Israel	Private	20.00	42.17
Italy	1992	Cementir SpA Cementerie del Tirreno	Investor Group	Italy	Private	51.78	27.26
Japan	1999	East Japan Railway Co	Investors	Unknown	Private	25.00	-2.33
Morocco	1995	Banque Marocaine du Commerce Exterieur	Investors	Morocco	Private	26.00	20.31
Morocco	1997	Societe Marocaine de L'Industrie du Raffin	Corral Petroleum Holdings AB	Sweden	Private	67.70	-46.46
Netherlands	1995	Koninklijke PTT Nederland NV	Investors	Netherlands	Private	24.97	65.88
New Zealand	2000	Air New Zealand Ltd	Singapore Airlines Ltd	Singapore	Public	16.70	-11.04
Philippines	1997	Philippine National Bank	Malayan Banking Bhd	Malaysia	Public	60.00	-55.56
Poland	1995	TC Debica	Goodyear Tire and Rubber Co	United States	Public	32.70	66.39
Poland	2000	Telekomunikacja Polska SA	Investor Group	France	Private	35.00	10.39
Poland	2000	Orbis SA	Investor Group	France	Private	35.37	4.83
Portugal	2001	Portucel Empresa de Celulose e Papel SA	Investor Group	Brazil	Private	28.00	-9.85

Portugal	2004	Portucel Empresa de Celulose e Papel SA	Seinpart Participacoes SGPS SA	Portugal	Subsidiary	30.00	-1.38
Russian Fed	2002	NK Slavneft	Investor Group	Russian Fed	Private	75.00	138.69
Slovak Rep	2001	Nafta Gbely AS	Westfaelische Ferngas AG	Germany	Subsidiary	29.10	-1.16
Slovak Rep	2004	Nafta Gbely AS	Ruhrgas Energie Beteiligungs AG	Germany	Subsidiary	40.13	19.88
South Korea	1998	Korea Exchange Bank	Commerzbank AG	Germany	Public	29.79	1.35
South Korea	2003	Korea Exchange Bank	Lone Star Fund	United States	Private	51.00	-10.46
Sri Lanka	1993	Trans Asia Hotels Ltd	Investor Group	Singapore	Private	77.00	0.00
Sri Lanka	1993	Hotel Services Ceylon Ltd	Investor	Unknown	Private	51.40	-7.41
Taiwan	2002	Central Reinsurance Corp	Evergreen Marine Corp	Taiwan	Private	22.50	3.54
United States	1996	Ampal-American Israel Corp	Investor Group	United States	Private	29.60	6.10

Table 3.2. Summary statistics on the block premia.

The block premia are calculated as the difference between the price per share paid for the control block and the price on the Exchange two days after the announcement of the control transaction, multiplied by the number of shares in the block and divided by the total market value of the firm's outstanding equity measured at the post announcement exchange price. All the numbers are expressed as percentages.

	Mean	Median	St. Dev.	N. Obs.
By region				
East Asia and the Pacific	-10.57	-11.03	20.37	14
Eastern Europe and Central Asia	25.73	8.37	41.52	12
Latin America and the Caribbean	65.56	8.20	117.13	8
Middle East and North Africa	10.85	20.31	36.64	5
North America	6.10	6.10	.	1
South Asia	3.23	2.91	7.15	6
Western Europe	31.40	29.09	35.31	8
By industry				
Mining	40.07	11.37	66.38	4
Manufacturing	21.85	-1.62	63.29	16
Transportation and pub. utilities	28.62	6.34	69.94	17
Retail trade	-7.47	-11.64	10.80	3
Finance, insurance, and real estate	3.79	4.82	27.89	10
Services	1.07	2.41	6.34	4
By acquirer's public status				
Government	36.36	36.36	.	1
Joint venture	-46.74	-46.74	.	1
Private	11.75	4.80	40.03	33
Public	16.37	1.78	45.15	9
Subsidiary	49.14	2.91	97.19	10

Table 3.3. Summary statistics on government ownership.

The table presents summary statistics on the government's percentage ownership in the sample firms for the years of the block trades. Government ownership reflects direct ownership by the state as well as indirect state ownership through government controlled entities. Government is not a shareholder if the government's ownership stake after the block trade is zero. Government is a minority shareholder if the government's ownership stake after the block trade is smaller than the ownership stake held by the acquirer of the controlling block. Government is the largest shareholder if the government's ownership stake after the block trade is larger than the ownership stake held by the acquirer of the controlling block. All the numbers are expressed as percentages.

Government Ownerhsip Percentage	Mean	Median	St. Dev.	Min	Max	N. Obs.
Gvmnt is not a shareholder	–	–	–	–	–	14
Gvmnt is a minority shareholder	15.86	12.75	10.42	0.10	40	24
Gvmnt is the largest shareholder	41.58	46.00	9.61	26.12	55	16
Full Sample	19.37	13.60	18.08	–	55	54

Table 3.4. Government minority ownership and the private benefits of control. (univariate test)

The table presents summary statistics on the block premia for the three categories of government ownership, as well as the results from two–sample mean comparison tests. The block premia are calculated as the difference between the price per share paid for the control block and the price on the Exchange two days after the announcement of the control transaction, multiplied by the number of shares in the block and divided by the total market value of the firm's outstanding equity measured at the post announcement exchange price. Government ownership reflects direct ownership by the state as well as indirect state ownership through government controlled entities. Government is not a shareholder if the government's ownership stake after the block trade is zero. Government is a minority shareholder if the government's ownership stake after the block trade is smaller than the ownership stake held by the acquirer of the controlling block. Government is the largest shareholder if the government's ownership stake after the block trade is larger than the ownership stake held by the acquirer of the controlling block. All the numbers are expressed as percentages.

Block Premium	Mean	Median	St. Dev.	Min	Max	N. Obs.
Gvmnt is not a shareholder	67.40	33.64	83.90	-11.04	248.72	14
Gvmnt is a minority shareholder	-1.59[a]	-1.86	32.65	-55.56	95.50	24
Gvmnt is the largest shareholder	6.92[a]	2.91	21.24	-21.01	65.88	16
Total	18.82	3.26	56.32	-55.56	248.72	54

a–significant at 1% level; b–significant at 5% level; c–significant at 10% level.

Table 3.5. Correlations across regressors.
The table shows the correlation coefficient matrix for the independent variables.

	Gvmnt is minority	Gvmnt is largest	Private placement	Privatiz deal	Abs maj	Foreign acquirer	US crosslist	Another large sholder	Financial distress	Mandatory tender off	Antidirect rights	Anti-self dealing	Rule of law index
Gvmnt is minority	1.00												
Gvmnt is largest	-0.57	1.00											
Private placement	-0.04	0.19	1.00										
Privatization deal	0.13	-0.10	-0.43	1.00									
Absolute majority	0.19	-0.44	0.01	0.10	1.00								
Foreign acquirer	0.10	-0.17	0.28	-0.11	0.16	1.00							
US crosslisting	-0.22	-0.02	-0.10	-0.29	-0.26	-0.24	1.00						
Another large sholder	-0.15	-0.05	-0.11	-0.12	-0.17	-0.06	0.14	1.00					
Financial distress	0.13	-0.14	0.07	-0.24	0.37	0.39	-0.20	-0.22	1.00				
Mandatory tender off	0.12	-0.18	0.14	0.00	0.67	0.17	-0.08	-0.34	0.46	1.00			
Antidirector-rights	-0.21	0.12	-0.19	-0.15	-0.03	-0.21	0.35	0.03	-0.17	0.06	1.00		
Anti-self-dealing	-0.03	0.08	-0.03	-0.08	-0.12	-0.34	0.16	0.26	-0.14	-0.11	0.42	1.00	
Rule of law index	-0.32	-0.01	-0.01	-0.05	-0.37	0.10	0.08	0.14	-0.24	-0.37	-0.08	-0.13	1.00

Table 3.6. Government minority ownership and the private benefits of control. (multivariate tests)

The dependent variable is the block premia calculated as the difference between the price per share paid for the control block and the price on the Exchange two days after the announcement of the control transaction, multiplied by the number of shares in the block and divided by the total market value of the firm's outstanding equity measured at the post announcement exchange price. Government is a minority shareholder if the government's ownership stake after the block trade is smaller than the ownership stake held by the acquirer of the controlling block. Government is the largest shareholder if the government's ownership stake after the block trade is larger than the ownership stake held by the acquirer of the controlling block. In models 1 and 2 we introduce (sequentially) controls for the effects of various deal and firm-specific characteristics. In models 3 through 6 we include controls for the effects of various country-specific characteristics. The regressions are estimated by OLS. The standard errors (in parentheses below) are robust and clustered by country. All the numbers are expressed as percentages.

Independent Variables	model 1	model 2	model 3	model 4	model 5	model 6
Gvmnt is a minority shareholder	-64.78^b	-69.96^b	-69.57^b	-68.40^b	-80.43^b	-81.21^b
	(24.73)	(26.84)	(27.50)	(27.06)	(32.67)	(31.92)
Gvmnt is the largest shareholder	-60.51^b	-61.76^b	-61.69^b	-60.24^b	-71.98^b	-71.76^b
	(23.86)	(25.16)	(26.76)	(25.00)	(29.83)	(27.26)
Private placement	-20.26					
	(20.45)					
Privatization deal	-25.95					
	(25.95)					
Absolute majority stake	3.32					
	(19.28)					
Foreign acquirer	-18.82					
	(15.01)					
US crosslisting		-1.33				
		(24.98)				
Another large shareholder		-4.23				
		(28.92)				
Financial distress		-4.31				
		(14.50)				
Mandatory tender offer Req			-6.90	-9.13	-18.53	-23.20
			(12.89)	(12.36)	(16.59)	(18.30)
Antidirector-rights-index			-0.94			1.88
			(5.82)			(5.41)
Anti-self-dealing-index				-43.10		-58.72
				(33.87)		(47.54)
Rule of law index					-6.16	-7.26
					(5.18)	(5.70)
Intercept	93.69^b	69.91^a	73.51^b	91.94^a	123.46^c	155.81^b
	(38.84)	(24.58)	(28.65)	(32.92)	(61.18)	(73.08)
Adj. R-squared	0.24	0.19	0.21	0.24	0.25	0.26
Number of observations	54	54	54	54	52	52

a–significant at 1% level; b–significant at 5% level; c–significant at 10% level.

Table 3.7. Government minority ownership and the private benefits of control. (multivariate tests)

The dependent variable is the block premia calculated as the difference between the price per share paid for the control block and the price on the Exchange two days after the announcement of the control transaction, multiplied by the number of shares in the block and divided by the total market value of the firm's outstanding equity measured at the post announcement exchange price. Government is a minority shareholder if the government's ownership stake after the block trade is smaller than the ownership stake held by the acquirer of the controlling block. Government is the largest shareholder if the government's ownership stake after the block trade is larger than the ownership stake held by the acquirer of the controlling block. In models 1 through 3 we introduce (sequentially) the anti-director, anti-self-dealing, and rule of law indices, which control for differences in the legal environments across countries. In model 4 we include all 3 indices simultaneously. The regressions are estimated by OLS. The standard errors (in parentheses below) are robust and clustered by country. All the numbers are expressed as percentages.

Independent Variables	model 1	model 2	model 3	model 4
Gvmnt is a minority shareholder	-71.96[a]	-66.70[a]	-87.16[a]	-86.95[a]
	(26.11)	(24.09)	(31.49)	(29.51)
Gvmnt is the largest shareholder	-66.44[a]	-64.57[a]	-83.86[b]	-83.74[a]
	(24.10)	(21.34)	(31.60)	(24.40)
Private placement	-35.90	-22.82	-30.34	-27.64
	(24.35)	(16.48)	(21.70)	(20.75)
Privatization deal	-39.91	-35.98	-40.01	-42.07[c]
	(26.11)	(24.04)	(25.06)	(21.22)
Absolute majority stake	3.23	4.36	-5.59	-8.60
	(28.08)	(27.02)	(29.45)	(27.15)
Foreign acquirer	-21.38	-29.66	-13.30	-22.50
	(17.93)	(18.14)	(17.60)	(17.91)
US crosslisting	-19.21	-17.73	-33.60	-31.26
	(27.39)	(22.60)	(30.88)	(26.03)
Another large shareholder	-14.80	-4.27	-18.73	-8.45
	(25.17)	(23.49)	(25.12)	(25.09)
Financial distress	-10.44	-4.83	-15.65	-15.49
	(19.48)	(17.98)	(17.47)	(17.58)
Mandatory tender offer Req	-3.83	-8.13	-12.93	-11.90
	(18.45)	(16.44)	(21.93)	(22.90)
Antidirector-rights-index	-5.58			-1.01
	(7.93)			(8.15)
Anti-self-dealing-index		-65.22		-68.80
		(40.38)		(52.20)
Rule of law index			-6.55	-7.66
			(4.88)	(5.05)
Intercept	137.31[a]	147.77[a]	180.38[a]	228.89[a]
	(47.61)	(43.74)	(65.32)	(73.65)
Adj. R-squared	0.19	0.24	0.22	0.25
Number of observations	54	54	52	52

a–significant at 1% level; b–significant at 5% level; c–significant at 10% level.

Table 3.8. Government's percentage ownership as a minority shareholder and the private benefits of control.

The dependent variable is the block premia calculated as the difference between the price per share paid for the control block and the price on the Exchange two days after the announcement of the control transaction, multiplied by the number of shares in the block and divided by the total market value of the firm's outstanding equity measured at the post announcement exchange price. Government is a minority shareholder if the government's ownership stake after the block trade is smaller than the ownership stake held by the acquirer of the controlling block. Government is the largest shareholder if the government's ownership stake after the block trade is larger than the ownership stake held by the acquirer of the controlling block. Government's % ownership as a minority shareholder is an interaction term between the government is a minority shareholder dummy variable and the government's percentage ownership. In models 1 through 3 we introduce (sequentially) the anti-director, anti-self-dealing, and rule of law indices, which control for differences in the legal environments across countries. In model 4 we include all 3 indices simultaneously. The regressions are estimated by OLS. The standard errors (in parentheses below) are robust and clustered by country. All the numbers are expressed as percentages.

Independent Variables	model 1	model 2	model 3	model 4
Gvmnt is a minority shareholder	-65.39^b	-55.34^c	-73.93^b	-68.32^b
	(29.74)	(27.53)	(34.62)	(31.03)
Gvmnt's % ownership as a min sholder	-0.43	-0.73	-0.85	-1.20
	(0.88)	(1.01)	(0.99)	(1.06)
Gvmnt is the largest shareholder	-66.65^a	-64.70^a	-84.32^b	-84.35^a
	(24.46)	(21.16)	(32.26)	(24.12)
Private placement	-37.70	-25.77	-33.40	-31.97^c
	(25.29)	(17.99)	(24.46)	(20.64)
Privatization deal	-40.26	-36.67	-40.03	-42.36
	(26.74)	(25.09)	(26.39)	(21.44)
Absolute majority stake	3.19	4.39	-4.29	-6.99
	(28.23)	(26.54)	(29.15)	(25.41)
Foreign acquirer	-21.01	-29.54	-11.68	-20.93
	(17.95)	(18.42)	(16.71)	(17.40)
US crosslisting	-19.26	-17.59	-31.49	-28.01
	(27.97)	(22.67)	(31.76)	(26.06)
Another large shareholder	-16.50	-6.58	-23.00	-13.69
	(26.62)	(24.18)	(26.98)	(25.41)
Financial distress	-9.61	-3.40	-14.46	-13.91
	(20.41)	(19.05)	(17.87)	(18.17)
Mandatory tender offer Req	-5.36	-10.73	-18.26	-19.27
	(18.64)	(16.01)	(20.31)	(19.25)
Antidirector-rights-index	-5.54			-1.23
	(8.13)			(8.31)
Anti-self-dealing-index		-69.03		-74.16
		(42.10)		(54.44)
Rule of law index			-7.00	-8.40
			(4.83)	(5.08)
Intercept	138.26^a	151.44^a	185.10^a	239.91^a
	(47.88)	(46.34)	(65.92)	(75.51)
Adj. R-squared	0.17	0.23	0.21	0.25
Number of observations	54	54	52	52

a–significant at 1% level; b–significant at 5% level; c–significant at 10% level.

Table 3.9. Government minority ownership and the protection of the minority shareholders.
The dependent variable is the block premia. Government is a minority shareholder if the government's ownership stake after the block trade is smaller than the ownership stake held by the acquirer of the controlling block. Government is the largest shareholder if the government's ownership stake after the block trade is larger than the ownership stake held by the acquirer of the controlling block. In models 1 through 3 we interact the Government is a minority shareholder dummy variable (sequentially) with the anti-director, anti-self-dealing, and rule of law indices controlling for the effect of the respective shareholder protection index. In models 4 and 5 we include the index of property rights and the interaction between the Government is a minority shareholder dummy variable and the index of property rights. The regressions are estimated by OLS. The standard errors (in parentheses below) are robust and clustered by country. All the numbers are expressed as percentages.

Independent Variables	model 1	model 2	model 3	model 4	model 5
Gvmnt is a minority shareholder	-37.02	-130.59^b	-201.84^a	-85.24^a	-167.53^a
	(52.17)	(53.57)	(71.32)	(25.41)	(53.88)
Gvmnt is a minority shareholder*	-11.91				
Antidirector-rights-index	(16.13)				
Gvmnt is a minority shareholder*		134.79			
Anti-self-dealing-index		(91.09)			
Gvmnt is a minority shareholder*			18.18^c		
Rule of law index			(9.11)		
Gvmnt is a minority shareholder*					1.32^c
Property rights index					(0.74)
Gvmnt is the largest shareholder	-67.16^b	-62.50^a	-78.96^b	-78.75^a	-82.48^a
	(25.48)	(18.34)	(30.36)	(19.83)	(21.42)
Private placement	-33.07	-27.92^c	-23.61	-18.30	-13.73
	(26.87)	(16.39)	(20.45)	(23.74)	(23.47)
Privatization deal	-37.99	-40.13	-30.53	-43.01^c	-40.33^c
	(26.05)	(24.76)	(21.36)	(24.19)	(23.15)
Absolute majority stake	4.12	-1.84	23.16	-1.56	-5.35
	(28.59)	(25.94)	(33.59)	(24.83)	(24.94)
Foreign acquirer	-24.23	-24.31	-2.69	-6.99	-7.02
	(18.73)	(17.83)	(16.98)	(17.58)	(19.13)
US crosslisting	-23.18	-11.46	-17.73	-16.17	-15.59
	(31.22)	(22.20)	(24.78)	(23.07)	(20.22)
Another large shareholder	-13.24	-1.27	-20.06	-26.00	-26.93
	(26.59)	(22.70)	(21.71)	(25.81)	(26.27)
Financial distress	-7.97	-3.02	-10.49	-8.48	-3.85
	(18.78)	(20.16)	(16.60)	(16.62)	(19.25)
Mandatory tender offer Req	-4.35	-9.58	-32.60	-18.15	-19.46
	(18.57)	(17.27)	(25.21)	(18.57)	(18.87)
Antidirector-rights-index	-1.71				
	(11.27)				
Anti-self-dealing-index		-117.06^b			
		(48.25)			
Rule of law index			-14.19^c		
			(7.49)		
Property rights index				-1.06^c	-1.63^b
				(0.52)	(0.65)
Intercept	124.30^b	173.56^a	216.77^a	196.99^a	235.67^a
	(52.73)	(50.70)	(73.47)	(57.95)	(64.44)

a–significant at 1% level; b–significant at 5% level; c–significant at 10% level.

Table 3.10. Does the control premium come from overpayment?

The table reports summary statistics for the cumulative abnormal returns of the companies acquiring the controlling blocks around the dates when the acquisitions of the controlling blocks are announced. We employ a window from eight days prior to the announcement to seven days after the announcement. We have 9 transactions involving publicly traded acquirers, which have stock prices reported in the Datastream database. All the numbers are expressed as percentages.

Cumulative Abnormal Returns of the Acquirer	
	from t – 8 to t+7
Mean	1.69
Median	0.62
Maximum	13.80
Minimum	-7.12
Standard deviation	7.33
Number of observations	9

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