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Authors

Grittersová, Jana
Mahutga, Matthew C

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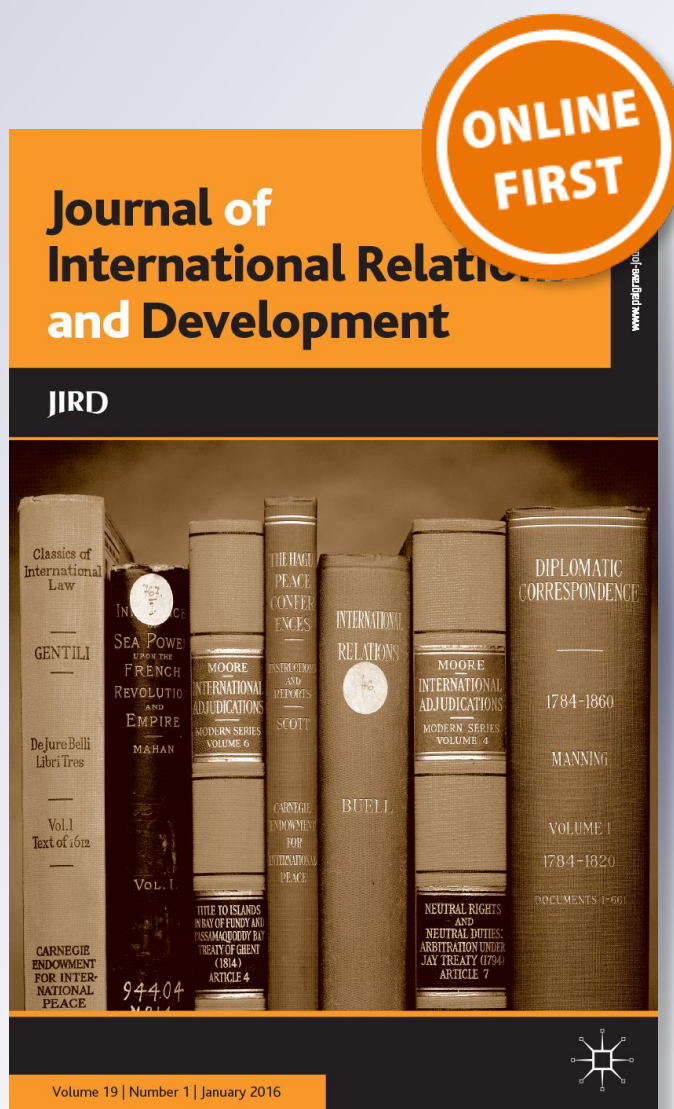10.1057/s41268-019-00172-w

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ORIGINAL ARTICLE

Government ownership of banks, political system transparency, and regulatory barriers to new firm entry

Jana Grittersová[1] · Matthew C. Mahutga[2]

Abstract

Why do governments pursue regulatory reforms fostering entrepreneurship? In this paper, we examine the link between government ownership of banks, political regime transparency, and regulatory barriers to the entry of new industrial firms. We propose a *signalling theory for the deregulation of entry*. We argue that high levels of government ownership of banks *and* political system opacity erode the reputation of national economies in the eyes of international investors. To improve international perceptions of their business and investment climate, governments reduce regulatory barriers to new business entry. Deregulation of new firm entry signals an improved investment climate to foreign investors, and thereby substitutes for political system transparency. This signal is credible, valued by international investors, and easier to implement than alternative signals. Evidence drawn from an analysis of 93 developed and developing countries supports our propositions. Countries with high levels of state ownership of banks exhibit higher regulatory barriers to firm entry. However, this relationship attenuates and even reverses in extremely opaque political systems. Consistent with our argument that international perceptions are the key mechanisms underlying this conditional relationship, we also show that the moderating effect of political system opacity weakens among countries with high levels of government ownership of banks and FDI inflows. Our findings have important implications for the literature on state ownership of banks, the political economy of reform, and for our understanding of strategic signalling in international relations.

Keywords FDI (foreign direct investment) · Global economy · Regulation · Signalling · State-owned banks · Political system transparency

✉ Jana Grittersová
jana.grittersova@ucr.edu

Extended author information available on the last page of the article

Introduction

In his 2014 State of Union address, President Obama called for more government support to entrepreneurs and small business owners, who create the majority of jobs in the United States. Legal barriers to the establishment of new businesses are important determinants of economic opportunity for small entrepreneurs. This paper focuses on the political feasibility of one of the most important economic reforms aimed at reducing costs of entry to new businesses, which involves lowering entry barriers. What factors influence governmental decisions with regard to regulation of entry for new firms? And how can we explain that countries so diverse as Russia, the United States, Bahrain, Australia, Slovenia, China, and Denmark are among those that have the lowest cost barriers to the entry of new industrial firms?

We assess the relationship between bank ownership, political regime transparency, and regulatory barriers to firm entry, and test whether or not the quest for credibility in international financial markets plays a role in this relationship. Prior research suggests that high levels of state ownership of banks may indicate a government's economic interventionism and a heavier overall regulatory burden in the enterprise sector (e.g. higher costs of setting up a new firm) (Morck et al. 2011). This is because governments, state-owned banks, and incumbent (mostly state-owned) firms share a common interest in the preservation of restricted competition in the enterprise sector.

Governments often use state-owned banks to channel funds to powerful political constituencies—incumbent firms—and protect them from competition with high regulatory entry barriers to new firms (Stigler 1971; Djankov et al. 2002; Rajan and Zingales 2003; Morck et al. 2005). Increased competition would not only threaten incumbent firms (both state-owned and private) but also state-owned banks themselves insofar as newly established outsider industrial firms may lobby the government for financial reforms to improve access to finance that would undermine the incumbency rents and viability of public banks. This literature thus implies that regulatory barriers to new firm entry might be particularly sticky in countries with high levels of government ownership of banks.

We propose *a signalling theory of the deregulation* of new firm entry, whereby the effect of state ownership of banks depends on the degree of transparency in the political system. Following Broz (2002, p. 867), we define a transparent political regime as the system in which 'public decisions are made openly, in the context of competing interests and demands, political competition, and sources of independent information'. Transparency is thus synonymous with democracy (Hollyer et al. 2011).[1] We argue that the combination of political system opacity and a substantial state ownership of banks negatively affects the perceptions of the country's business and investment climate by the international community. In this context, autocratic governments have incentives to lower regulatory barriers to firm entry in order to improve their credibility with foreign investors to attract foreign direct investments

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[1] Hollyer et al. (2011) provide empirical evidence that democracies are indeed more transparent political regimes than autocracies.

(FDI). We argue that deregulation of new business entry plays an *informational* role because it reveals information to foreign investors about an improved domestic business and investment environment in countries vigorously competing for foreign capital. This signal is particularly valuable to autocracies, where information is scarce. We further argue that this signal is clear, valued by the international community, and less costly than a political regime change or financial reforms aimed at reducing state ownership of banks.

We evaluate this argument using a time-series cross section of 93 countries over the years 2005, and 2008–2010. We employ the World Bank's *Doing Business* indicators, which are widely recognised as key measures of regulatory barriers to firm entry. These are legal requirements concerning the number of procedures to start a new business, the official costs and the minimum time associated with the process. These quantitative indices of formal regulatory barriers to entry indicate the complexity of starting business in different countries and regions. The findings are consistent with our main prediction: countries with high levels of government ownership of banks have high regulatory barriers to entry, but this association attenuates and even reverses in extremely opaque political systems. These results are robust to alternative model specifications, to different sub-samples and sample periods, and to alternative ways of operationalising political system transparency. Moreover, consistent with our signalling theory, we also show that FDI flows weaken the conditional effect of state ownership of banks.

This article is an important addition to the literature on state ownership of banks that we elaborate on in the concluding section but also to the broader scholarship on the political economy of reforms by exploring the motivation of governments to undertake regulatory reforms and the political feasibility of such reforms. Prior scholarship on regulatory reforms has focused on the ability of incumbents to protect their positional rents through regulatory capture (Stigler 1971; Djankov et al. 2002; Rajan and Zingales 2003; Morck et al. 2005) or on the ability of political elites to use regulatory barriers to extract bribes from economic actors (Shleifer and Vishny 1998). Instead, we suggest that the pursuit of credibility in the eyes of international markets may motivate non-democratic governments to undertake regulatory reforms while compensating losers through government control over lending via state-owned banks.

As such, our argument also departs from the literature arguing that the pressures from international institutions, such as the International Monetary Fund, trigger economic reforms of governments (e.g. Stone 2002; Pop-Eleches 2008; Mukherjee and Singer 2010). Instead, we suggest that international markets can motivate domestic regulatory changes along with more direct forms of pressures emanating from international organisations (see also Way and Levitsky 2007; Pop-Eleches 2007; Schweickert et al. 2011; Mahutga and Jorgenson 2016).

Second, this study has also important implications for our understanding of reputational concerns and strategic behaviour of governments in international relations. It has been shown that domestic political institutions are an important source of government credibility in international relations because free media and electoral control mechanisms increase audience costs for noncompliant behaviour of governments (e.g. North and Weingast 1989; Jensen 2006). Previous studies have also

identified other commitment mechanisms that countries lacking credible domestic institutions can use, which include granting independence to central banks, inviting prestigious foreign banks, signing a bilateral investment treaty, concluding an international agreement, or pursuing membership in prominent international institutions (e.g. Simmons and Elkins 2004; Büthe and Milner 2008; Gray 2013; Grittersová 2014, 2017). This study identifies an additional mechanism that opaque political regimes, driven by competitive forces, can use to signal their commitment to liberal economic reforms in order to attract foreign investments even in the absence of substantial, and potentially costly, changes in domestic political institutions. We explain how countries might be able to use deregulation of a firm entry to signal to foreign investors that they are good investment and business locations.

State-owned banks and regulation of entry

State ownership of banks is still quite prevalent in many countries and regions in spite of recent waves of extensive bank privatisations worldwide. Figure 1 displays the percentage of banking assets held by state-owned banks. State ownership of banks is particularly high in South Asia, followed by the Middle East, Latin America, and Eastern Europe.

According to political economy theories of financial development, control over banks allows governments to determine the allocation of credit and otherwise influence the business environment. Governments use state-owned banks to channel loans on non-commercial terms to their political constituencies and incumbent interests in return for political support (Shleifer and Vishny 1998; La Porta et al. 2002; Dinc 2005; Sapienza 2004).[2]

The bulk of empirical evidence suggests that state ownership of banks is associated with poor protection of property rights, underdeveloped and unstable financial systems, and slower economic growth (La Porta et al. 2002; Barth et al. 2004; Andrianova et al. 2008).[3] Politicised lending through state-owned banks tends to benefit only a few—the largest state-owned and/or politically connected firms—and produces an unequal allocation of capital in a society (Claessens and Perotti 2007).[4] However, governments in countries where the banking sector is dominated by state-owned banks can also *directly* influence equality of opportunity for entrepreneurs through regulatory barriers to new firm entry. Regulatory barriers to new firms,

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[2] By contrast, in Gerschenkron's (1962) classic development view, state-owned banks play a positive role by stimulating growth in contexts where economic institutions are insufficiently developed for private banks to play a development role. Stiglitz (1993) suggests that state-owned banks can maximise broader social objectives by allocating funds to (often unprofitable) projects with high social returns and to less privileged sectors (e.g. agriculture, education).

[3] Political interference in the banking sector results in bad lending decisions and high volumes of non-performing loans that make such a banking system financially fragile.

[4] In the absence of the profit motive, state-owned banks have little incentive to allocate their capital to its most productive use; hence, they confer economic opportunities only to their political allies rather than to the general population.

which include the number of procedures, amount of time, and costs required to start a legal business, make it difficult for entrepreneurs to establish a new a business.[5] We focus on this channel of influence, which has received much less attention.[6]

The existing literature on state ownership of banks suggests some plausible reasons why we should observe a heavy regulation of firm entry in countries with a substantial state ownership of banks. Stigler's (1971) theory of regulatory capture suggests that industry incumbents push for stricter regulatory barriers to keep out competitors and maintain positional rents for themselves.[7] Incumbent (predominantly large state-owned) firms oppose the removal of regulatory barriers to entry because new firms would erode their positional rents. These firms benefit from their close ties to state-owned banks and face lower information and organisation costs than do dispersed citizens. State-owned banks enjoy even more privileged access to governmental officials and thus greater political influence on legislation as compared to incumbent firms (Dinc 2005). Political power of state-owned banks is particularly strong in concentrated banking systems, in which these banks enjoy a monopolistic position in the market. As Morck et al. (2011, p. 269) argue, incumbent businesses use their connection to state-owned banks to lobby for 'entry barriers that protect them from upstart rivals'.

But state-owned banks themselves have also an interest in high barriers to new firm entry. State-owned banks are desirable instruments for the distribution of political rents by governments because their lending influences all economic sectors and firms. In turn, these banks are compensated by government in the form of guarantees and regulatory exceptions. However, the positional rents of state-owned banks could be diminished if the incumbent firms, on whom banks' intermediary role depends, will be driven out because of intensified competition. Moreover, the entry of new firms in the enterprise sector would force state-owned banks to provide higher quality of financial intermediation. Outsider firms may also advocate liberalisation of entry into the financial sector and bank privatisation, which would erode the incumbency rents of state-owned banks.

In general, countries with high levels of state ownership of banks tend to have interventionist governments. As Morck et al. (2011, p. 269) note, state ownership of banks may indicate a high degree of 'state activism and a heavier overall regulatory burden'. As argued above, financial systems dominated by state-owned banks are 'financially repressed'. In such systems, governments allocate loans at below market interest rates and provide state guarantees to external borrowing of incumbents, as well as restrict the entry of foreign banks to ensure credit for government officials

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[5] We acknowledge that by limiting access to, or increasing the cost of, credit for potential competitors to incumbent firms, state ownership of banks can be perceived as an *indirect* barrier to entry because potential entrepreneurs face a difficulty in raising funds required to operate a successful business (Pissarides 1999).

[6] Morck et al.'s (2011) study is among the few exceptions.

[7] See also Rajan and Zingales (2003) and Morck et al. (2005). For the influence of state-owned banks on government choices of exchange rate policies, see Grittersová (2019).
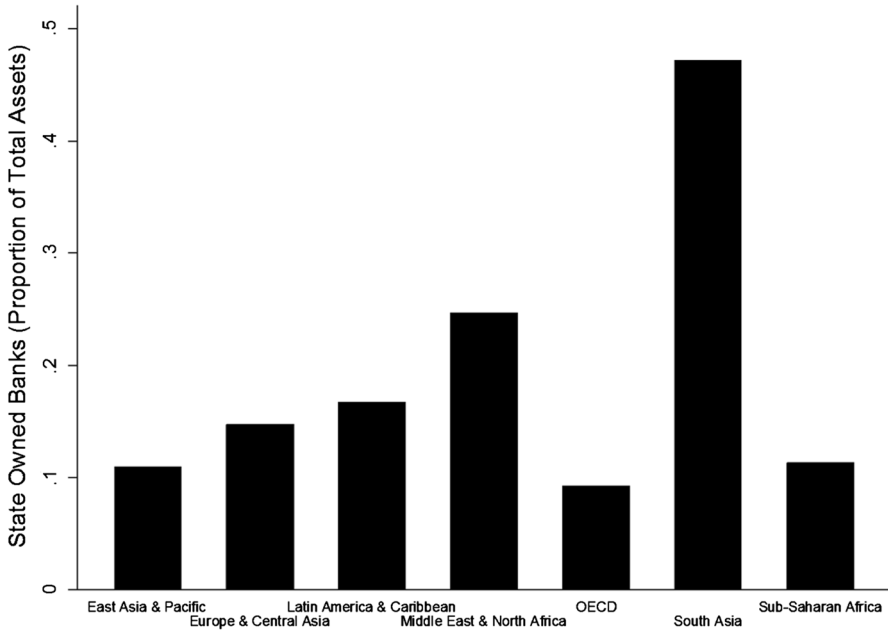
Fig. 1 Average regional proportion of banking assets held by state-owned banks. *Notes* The OECD category refers to the countries that were the OECD members during the entire period for which data on state-ownership of banks are available. It includes: Australia, Austria, Belgium, Canada, Switzerland, Germany, Denmark, Spain, Finland, France, United Kingdom, Greece, Hungary, Ireland, Iceland, Italy, South Korea, Luxembourg, Mexico, Netherlands, Norway, New Zealand, Poland, Portugal, Slovak Republic, Turkey, and United States. Countries that joined the OECD after 2001 appear in their regional category

and state-owned firms.[8] In addition, the red tape of excessive and complex regulations gives governments the power to collect bribes in return for permits to establish a business or deny it.

In sum, governments, state-owned banks, and incumbent firms share a common interest in the preservation of the *status-quo* (Rajan and Zingales 2003). Governments benefit from the political support of incumbent firms. State-owned banks benefit from their role as intermediaries between governments and incumbent firms. Both public banks and incumbent firms benefit from heavy regulation of entry because it reduces competition and preserves incumbency rents. For these reasons, we expect higher regulatory barriers to new firm entry in countries with high levels of government ownership of banks.

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[8] For financial repression, see McKinnon (1973).

Regulation of entry in opaque political systems

We further propose that the effect of state ownership of banks on regulatory barriers should vary by the transparency of the political system in a manner that may seem counterintuitive. As Broz (2002) argues, in transparent political systems (i.e. democracies), government decisions are readily available to the public, political parties compete for votes in regular and free elections, and media are independent of the government. However, when the transparency of political system is low (as in autocracy), government politicians can more easily distribute funds to their preferred borrowers through state-owned banks, limit competition and grant regulatory exceptions, since there are fewer constraints on governmental behaviour and the costs of opportunism are low (Claessens and Perotti 2007, p. 759). Empirical studies show that access of households and firms to finance and competition is more limited in societies with restricted democratic rights (Benmelech and Moskowitz 2010) and limited access to information (Perotti and Volpin 2007).

More importantly, however, political system opacity also negatively affects perceptions of the business climate among international market participants. Foreign capital is important to long-term competitiveness, employment, and growth in many resource-strapped developing countries, including those where political decision making is non-transparent.[9] Although no consensus has emerged with respect to the relationship between democratic regimes and FDI inflows, Jensen (2006) shows that democracies provide foreign investors more information about the functioning of political system and allow them to make predictions on future policies.[10] In other words, democratic institutions facilitate information disclosure, and thereby positively influence perceptions of the business climate by international audiences.[11]

If political regime transparency signals good domestic business and investment climate, then opaque political regimes face a penalty for bad reputation in international markets, which is translated into lower levels of FDI. In this context, autocratic governments may search for alternative ways of signalling a predictable and safe business climate to attract investment. We suggest that one way to accomplish this would be to improve regulatory environments for business. Deregulation of firm entry can thus serve as a tool for governments to signal that their economies are hospitable to FDI. We further argue that the reduction of regulatory barriers to firm entry provides a *clear and verifiable signal to international audiences that is* both

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[9] It is plausible that not all governments seek out FDI. Pinto (2013) develops the 'partisan theory of FDI', according to which left or labour-based parties adopt policies aimed at attracting foreign investments that would be associated with higher demand for domestic workers, whereas right-wing governments impose restrictions on foreign investments to protect domestic businesses. We assess the effect of the partisan alignments of the executive in the host country on the regulation of entry in statistical analyses of this paper. However, we conceive reduction of regulatory barriers to firm entry as a 'signal' of preferences for foreign investments, rather than as a measure of restrictions and concessions aimed at increasing or reducing foreign investments.

[10] Jensen (2006, p. 73) finds that democracies attract 78% more FDI (as a percentage of GDP) than autocracies. For alternative views see, for example, Li and Resnick (2003), Yang (2007), and Asiedu and Lien (2011).

[11] See Fearon (1994) for how political institutions affect political leaders' ability to send signals.

easier to implement politically than alternative signals and is *valued by the international business and investment community*.

Reducing regulatory barriers to new firms provides a clear commitment to which the government can be held accountable because regulation of entry is regularly assessed by international institutions, such as the World Bank. The mere presence of standardised metrics concerning the regulation of new firm entry allows international institutions to compare governments on this aspect of the business and investment climate. Deregulation of firm entry is less costly than alternative signals, such as tax holidays or exclusive access to natural resources.

Reducing regulatory barriers is relatively easy in authoritarian regimes, where executives are insulated from societal group pressures and do not rely on citizens' support for their policies. Autocratic governments can pass regulations quickly through 'rubber-stamp' parliaments. Therefore, deregulation of entry is a key alternative to increasing transparency for opaque political regimes. It is easier to change business regulations than to cede power through costly reforms of domestic political institutions that would bring greater transparency. In fact, transparency in the political process would reduce the ability of autocratic governments to use state-owned banks for political purposes (Körner and Schnabel 2011). This is because market participants can monitor closely the relations between the government and state-owned banks and detect government manipulation of lending and regulatory policies when political regimes are transparent and the media is independent.[12] At the same time, governments can reduce opposition to the relaxation of regulatory barriers by using state-owned banks to funnel funds to incumbent firms, thus reducing the cost of greater competition. Put differently, state-owned banks can be used to compensate incumbent firms—the losers of deregulation of entry. The opacity of the political system should, in principle, allow governments to use state-owned banks easily to allocate credit to preserve their political power because these actions are rendered invisible to domestic constituents.

Finally, deregulation of firm entry serves as a valuable signal to foreign investors that a government is seeking to improve its business climate. According to the World Bank (2013a), regulations for starting business are verifiable and attractive signals to international investors about the overall quality of the business and investment environment in a country. Many senior government officials believe that if a country provides a good regulatory environment for domestic firms, it provides equally attractive regulations for foreign firms (World Bank 2013a, p. 47). There is evidence that lower regulatory barriers to new firm entry promote more FDI inflows (Busse and Groizard 2008; Jayasuriya 2011; World Bank 2013a).[13] Indeed, there exists an increasingly active set of international investors who weight favourable business regulations more heavily than political regime transparency, and countries

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[12] Fewer constraints on political power are associated with more extensive politically connected lending (Faccio 2006).

[13] Nearly 2000 articles in the international press report an association between FDI and the World Bank's *Doing Business* indicators assessing regulatory environment for business, including the regulation of entry (World Bank 2013a).

do tend to engage in signalling behaviour even when these signals are ineffective (Bandelj et al. 2015). For example, private Chinese companies have invested heavily in politically opaque African countries that provided a favourable business climate (French and Polgreen 2007).

Case study evidence supports our argument that politically non-transparent countries with a high concentration of state-owned banks reduce the regulatory barriers to entry to compensate for the opacity of their political regimes. Russia is among the least transparent regimes in the world and its banking system is dominated by large state-owned banks. Yet, the Russian government reduced its regulatory start-up burden by 23 percentage points between 2001 and 2004, and continues to reduce its regulatory barriers even in the context of an economic recession and international sanctions (Yakovlev and Zhuravskaya 2007). Therefore, on paper, formal regulatory barriers in Russia are low and regulatory structures aspire to Western standards. Similar processes have been documented in Belarus, which resides with Russia among the most extremely opaque political systems with the banking sector dominated by state-owned banks but low regulatory barriers to new firm entry (see Figs. 6, 7, 8).

In sum, we argue that the desire to attract FDI creates incentives for governments in politically opaque countries with a substantial state ownership of banks to reduce regulatory obstacles to firm entry.[14] Both, high levels of state ownership of banks and the lack of transparency of the political system damage the perceptions of a political risk and business climate country in the eyes of international investors. Deregulation of new firm entry thus serves as a compensatory mechanism aimed at attracting foreign investment flows. In opaque political systems, where information about business conditions is scarce and less readily available, foreign investors face uncertainty about how business friendly the host country is. Reducing regulatory barriers to entry thus plays an *informational* role in low-information environments, by signalling an improved business and investment environment to foreign investors. Based on these insights, we expect the positive relationship between state ownership of banks and regulatory barriers to be weaker in countries with non-transparent political regimes.

Empirical analysis

Dependent variables

Regulatory barriers to entry

To measure regulatory barriers, we follow Morck et al. (2011) in considering the difficulty that a potential entrepreneur would face in attempting to establish a new business. High barriers to new firm entry simultaneously restrict access to profit generating activities for non-incumbent economic actors and insulate incumbent

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[14] We thank an anonymous reviewer for this remark.

business owners from economic competition. Both processes limit entrepreneurial opportunities for non-incumbents.[15]

We focus on three types of barriers to business entry reported in the *Doing Business* database, provided by the World Bank, that capture the complexity of starting business in different countries. *Procedures* gauges the number of legal procedures required to register a business (e.g. procedures to obtain necessary permits and licenses). *Time* is the number of business days it takes to obtain legal status to operate a firm. *Cost* represents the amount of income required to obtain legal status to operate a firm as a percentage of GDP per capita. These variables are logged for skewness. The number of procedures required to start up a firm varies from 1 to 18, with a sample average of 8.3. The minimum official time for the establishment of a new business varies from half a day to 151 days, with a sample mean of 30.37 days. Finally, cost associated with the establishment of a new business varies from 0 to 444.8% of GDP per capita, with an average of 35.94%. While these variables are agnostic with respect to the treatment of domestic and foreign firms, they do correlate strongly with measures that focus on the ease of starting a business for foreigners (World Bank 2013a).

Explanatory variables

State-owned banks

Government ownership of banks is usually measured by the share of assets held by state-owned banks (in which the government owns 50% or more equity) of the total banking system's assets. Our data comes from Barth et al. (2001) and the 2013 *Global Financial Development Report* of the World Bank. Unfortunately, the data on state ownership of banks are only available for the years 2001, 2005 and 2008–2010. Only the latter 4 years (2005, 2008–2010) overlap with availability of our dependent variables.[16] The *state-owned banks* variable is logged for skewness.

Transparency of political system

Our conditional hypothesis predicts that the effect of state ownership of banks is conditional on the degree of transparency in the political system. Our principal measure of political transparency is a country's freedom of the media.[17] *Freedom of the Press* is an index assessing the degree of freedom in print, broadcast and

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[15] Here it is useful to consider the literature on the 'grabbing hand of the state' showing that greater regulatory barriers to entry are associated with a greater size of the informal sector and higher levels of corruption (Djankov et al. 2002, p. 1).

[16] Our analysis extends Morck et al. (2011) that use only a cross-section (the 2001 sample) to estimate the impact of state-owned banks on equality.

[17] Hollyer et al. (2011) developed a measure of transparency that focuses on the collection and release of the accurate data on the state of the economy by governments. This measure is conceptually different from our definition of transparency of political regime that centres on the institutional characteristics of political regimes.

internet media around the world. The index varies from 0 to 100 and is 'reverse coded', where low values are 'free', middling values are 'partly free' and high values are 'not free' (Freedom House 2014). Worldwide, the press became less free over the period of observation, as the average index increased from ~ 42 to ~ 45. This variable is logged for skewness. In countries where the media are independent, public and market players can better monitor government behaviour. A greater freedom of expression should make it easier for voters to obtain information on government policies. Free press and media scrutinise the activities of government and expose abuses of power, which may be punished by the electorate through electoral competition.

Control variables

In order to isolate the association between state ownership of banks and the regulation of entry, we include several categories of control variables. To control for the level of economic development, we include both the *initial value of GDP per capita*, which is measured in constant international dollars, and *secondary education*. We include both GDP per capita and secondary education in recognition of the growing consensus that development is a multidimensional concept that should extend beyond national output (Vazquez and Sumner 2013). Furthermore, higher per capita incomes tend to be associated with better institutions that could provide checks on bank management and prevent misallocation of financial resources (North 1989). Both of these are drawn from the World Bank (2014). To control for the level of *financial development*, we include the ratio of private credit to GDP (World Bank 2013b), defined as the volume of loans of financial institutions to the private sector as a share of GDP. The numerator excludes central banks as lenders, and the denominator excludes government and state-owned firms as borrowers. The country's banking system development proxies for the ability of banks to fulfil their primary functions of identifying profitable projects, easing resource mobilisation, ameliorating the information problems between savers and borrowers by monitoring the latter and guaranteeing a proper use of the depositors' savings. A more developed banking system should be associated with fewer regulatory restrictions on the private sector activities, thus providing a more favourable regulatory environment for business.

The second category includes macro-economic factors that may affect entry barriers to new businesses. Entry barriers to new business formation are likely to be higher in countries with less exposure to international competition; hence we control for trade openness, operationalised as the *ratio of exports plus imports to GDP* (World Bank 2014). Because governments are more likely to intervene in the financial sector during periods of banking crisis, we include a banking crisis dummy variable that equals 1 in a country-year, in which that country experienced a banking crisis, and 0 otherwise (Valencia and Laeven 2012). We also control for the rate of *inflation*. High inflation makes it difficult for entrepreneurs to estimate the returns on long term investments, slowing business growth. High inflation may therefore provide an economic check on entry barriers to new business formation. Inflation data comes from the World Bank (2014).

Finally, we also consider additional political factors beyond political system transparency. Following Scheve and Stasavage (2009) we control for the association between left-wing politics and government interventionism by including a dummy variable that equals 1 in a country year if the executive is a member of a left-wing party. The intuition is that left-wing governments have traditionally been more interventionists than centre or right-wing governments; hence the latter may implement a heavier regulation of entry. Nonetheless, Pinto (2013) finds that left-wing coalitions are more motivated to attract FDI, and thus should provide a more favourable regulatory environment for business. Political orientation data is from the World Bank's *Database of Political Institutions* (Beck et al. 2001). All variables but the banking crisis and left executive variables are logged for skewness.

Empirical sample

The World Bank reports data on asset shares of state-owned banks for 140 countries, creating a maximum sample size of 600. However, as is typical with large country panels, there is a significant amount of missing data on the other variables that enter the model. Our main models include information on 96 countries. The panels are also unbalanced, where some countries yield more observations than others. In total, our main models include 297 country-years. The sample represents all regions of the world, with 8 countries from East Asia, 34 countries from Europe and Central Asia, 17 countries from Latin America and the Caribbean, six countries from the Middle East/North Africa, both North American countries, six countries from South Asia, and 23 countries from Sub-Saharan Africa.

Estimation method

The majority of the coefficients reported below are estimated with generalised least squares (GLS), where we estimate and adjust for a first-order autoregressive (AR1) process via Prais–Winsten and implement a variance/covariance matrix that is robust to heteroscedasticity.[18] While panel data such as these are typically modelled with the fixed-effects (FE) estimator to mitigate unobserved country specific heterogeneity, we do not estimate the fixed effects models for two reasons. Theoretically, between-case variation is central to our argument insofar as we are interested in whether or not countries with a greater state ownership of banks exhibit more barriers to new firm entry, and the FE estimator removes all of the between-case variation. Moreover, the large N, small T structure of our data means that the bulk of the overall variation is between rather than within cases, a characteristic exacerbated by the relatively short time frame under observation (2005–2009).

Monte Carlo evidence suggests that the reliability of the FE estimator decreases with the ratio of between to within case variation, where ratios of between to within

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[18] Tests for serial correlation and heteroscedasticity rejected the null hypotheses of zero serial correlation and homoscedastic disturbances.

standard deviations above 2.8 suggest the FE model is inappropriate (Plumper and Troeger 2007). The ratio of the between to within standard deviation on all of our key variables of interest except time surpasses this threshold.[19] Hausman tests indicate that the assumptions necessary to implement the alternative random effects estimator were not valid with these data. Thus, we address the problem of country- and period-specific heterogeneity below, when we include R-1 regional (see note to Fig. 5) and T-1 time dummy variables and thereby eliminate all of the country (period)-specific time (country) invariant variation that is correlated with region (time).

Empirical results

Figures 2, 3, and 4 display the relationship between state ownerships of banks and procedures, time and cost, respectively. We display these associations separately for countries with low-transparency and the rest of the world, where low transparency is defined as countries in the top 25 percentile of freedom of the press (i.e. countries with numerous restrictions on the press). Consistent with our argument, the association appears to vary across the two groups of countries, with a moderately negative association in countries with low political regime transparency and a moderately positive association in the rest of the world. In what follows, we assess the degree to which the impact of state ownership of banks varies significantly across levels of transparency when controlling for alternative determinants of regulatory barriers to firm entry.

Table 1 reports coefficients from our main analysis. Models 1, 3 and 5 assess whether or not barriers to firm entry are significantly higher in countries with high levels of state ownership in banking, net of controls. As expected, the coefficient on state ownership of banks is associated with a greater number of procedures and a longer time to start up a firm, but it does not appear to influence the cost of entry. Models 2, 4 and 6 include the interaction between state ownership of banks and freedom of the press. The two-way interaction is negative and significant across models. It should be noted that because freedom of the press is 'reverse coded', where low scores indicate high freedom, these interaction terms suggest that the impact of state ownership of banks on regulatory barriers to entry is weaker among non-transparent political regimes (i.e. countries that restrict freedom of the press). Put differently, the positive effect of state-ownership of banks on regulatory barriers to entry is weaker in countries with opaque political systems. This finding is strong and consistent across models.

Figures 5, 6 and 7 report the predicted marginal effect of state ownership of banks on each regulatory barrier as it varies by political system transparency from models 1, 3 and 5 of Table 1. In each case, the association between the state ownership of banks and regulatory barriers is positive and significant over about half the range of political system transparency. In moderately opaque regimes, the association is null.

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[19] While the ratio of the between to within standard deviation of time is under the 2.8 threshold, 75% of the variation in time nevertheless resides between cases.
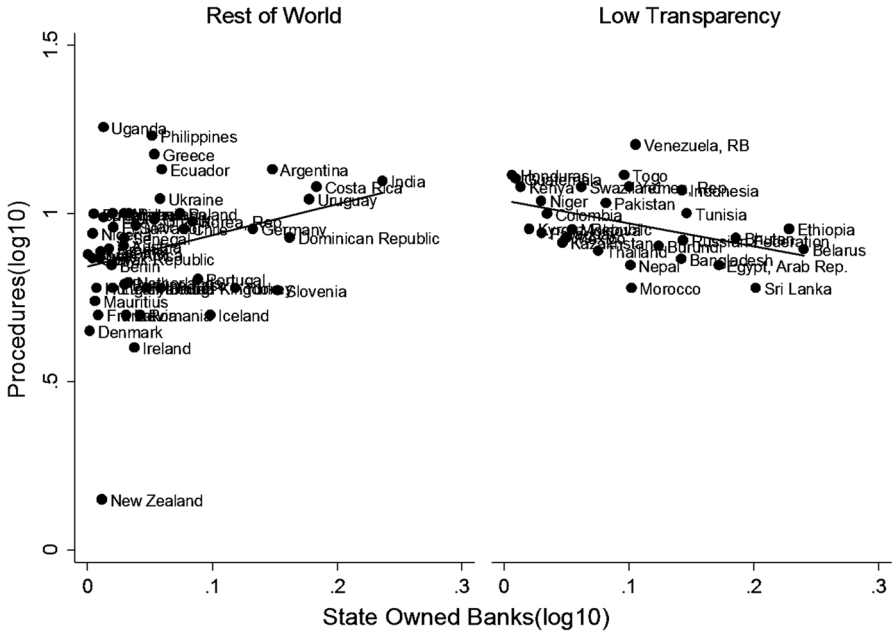
Fig. 2 State-owned banks and procedures. *Notes* Low transparency is defined as the 75th percentile of freedom of the press
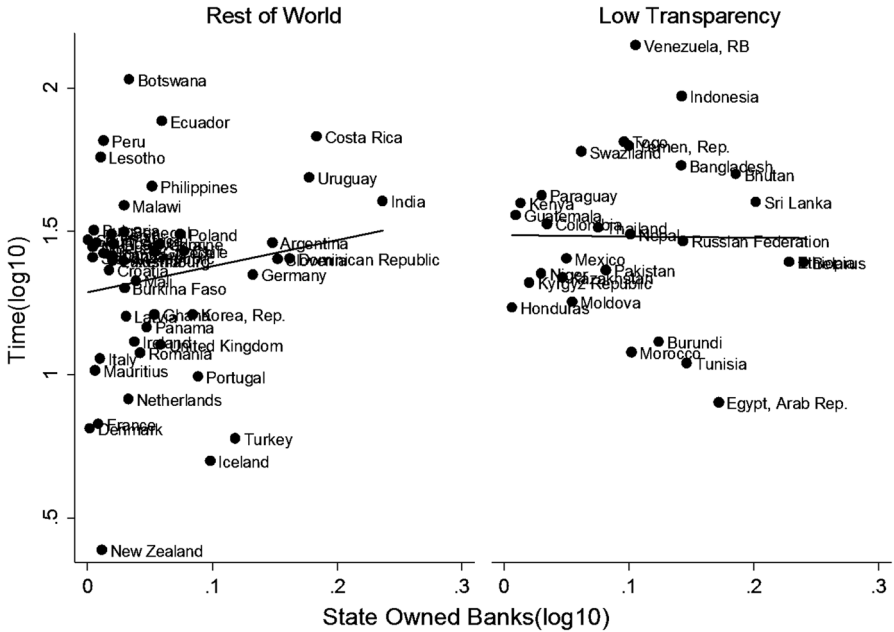

Fig. 3 State-owned banks and time. *Notes* Low transparency is defined as the 75th percentile of freedom of the press
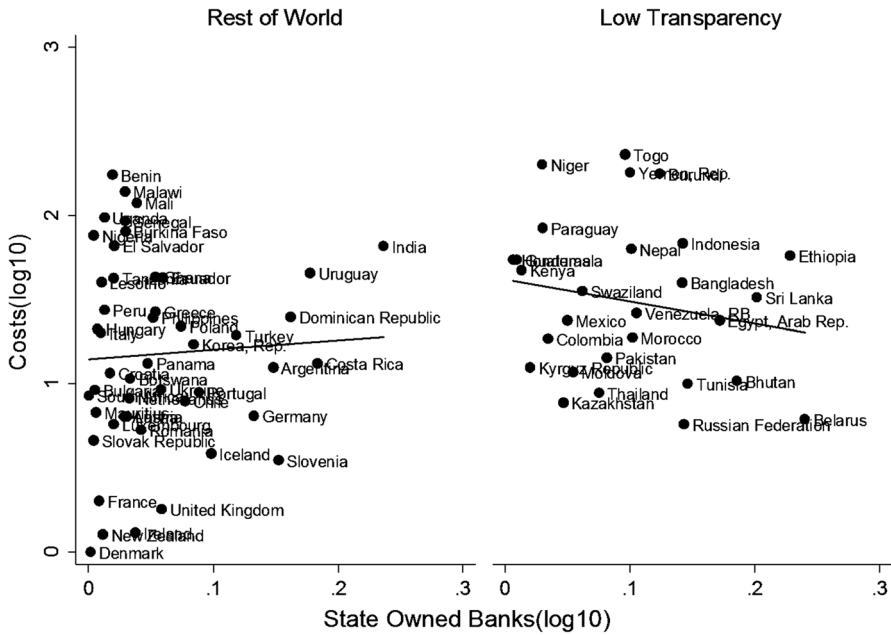
Fig. 4 State-owned banks and costs by high and low political system transparency. *Notes* Low transparency is defined as the 75th percentile of freedom of the press

In extremely opaque political regimes, the state ownership of banks is associated with lower procedures and costs. These results are consistent with the suggestive bivariate graphs in Figs. 2, 3, and 4.

Sensitivity analyses

The results in Table 1 are consistent with our argument that the lack of transparency in the political system attenuates the deleterious effect of government ownership of banks on regulatory entry barriers because some governments deregulate the entry to signal a hospitable business and investment environment. To see if these results hold under different specifications, we conducted a series of robustness checks.

The 2007−2009 financial crisis and government intervention

In response to the global financial crisis that began in 2007, governments embarked on the sweeping economic interventions through a series of banking sector bailouts. We test the potential implications of the 2007–2009 financial crisis and the post-crisis policy measures on our results. Table 2 reports a cross-sectional model in the year 2005, 2 years before the onset of the financial crisis. Clearly, the results we obtained in Table 1 are not driven by changes in government behaviour in response

Table 1 State-owned banks, transparency, and regulation of entry

	Procedures		Time		Costs	
	(1)	(2)	(3)	(4)	(5)	(6)
State-owned banks (SOB)	0.377** (0.134)	4.848*** (0.799)	0.546* (0.266)	3.393* (1.762)	0.248 (0.321)	6.849*** (1.886)
SOB × FREE		− 2.806*** (0.466)		− 1.791* (1.043)		− 4.145*** (1.149)
Freedom of the press (FREE)		0.430*** (0.061)		0.323** (0.124)		0.648*** (0.141)
Initial GDP pc	− 0.030 (0.040)	0.017 (0.039)	0.179* (0.091)	0.216* (0.093)	− 0.637*** (0.094)	− 0.563*** (0.095)
Inflation	0.245*** (0.079)	0.203** (0.077)	0.271 (0.179)	0.237 (0.178)	0.020 (0.190)	− 0.042 (0.193)
Secondary education	− 0.062 (0.073)	− 0.031 (0.070)	0.100 (0.142)	0.121 (0.141)	− 0.294 (0.184)	− 0.250 (0.180)
Financial development	− 0.117*** (0.035)	− 0.071* (0.033)	− 0.360*** (0.086)	− 0.321*** (0.086)	− 0.257*** (0.081)	− 0.187* (0.083)
Trade openness	0.034 (0.047)	0.065 (0.046)	0.332*** (0.098)	0.355*** (0.097)	0.155 (0.106)	0.203* (0.106)
Banking crisis	0.034 (0.035)	0.024 (0.032)	0.045 (0.072)	0.041 (0.071)	0.131* (0.077)	0.116 (0.074)
Left executive	0.043* (0.024)	0.032 (0.022)	0.137*** (0.043)	0.130** (0.043)	− 0.032 (0.046)	− 0.048 (0.044)
Fixed regional and period effects	Included	Included	Included	Included	Included	Included
Constant	1.031*** (0.164)	0.000 (0.000)	0.280 (0.395)	0.000 (0.000)	0.000 (0.000)	2.663*** (0.500)
N	297	297	297	297	297	297
R^2	0.627	0.675	0.643	0.636	0.762	0.780

Unstandardized GLS coefficients. Heteroscedasticity and serial correlation consistent standard errors in parentheses

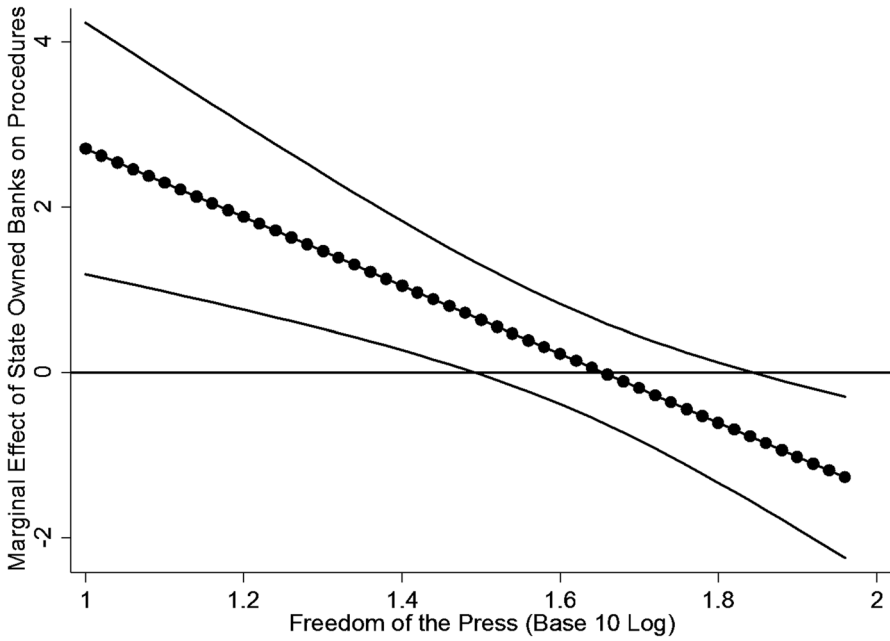*$p < .05$; **$p < .01$; ***$p < .001$ (one-tailed tests)

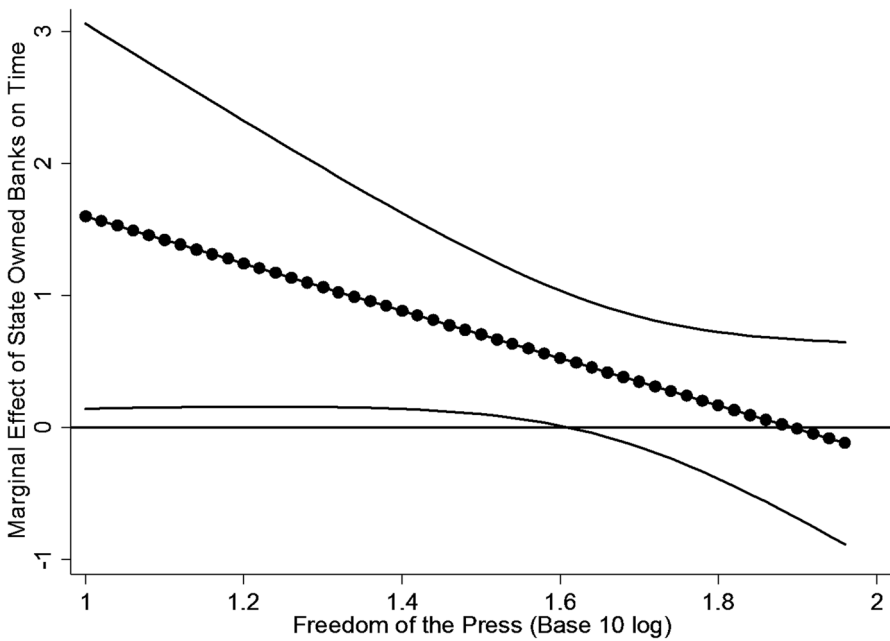**Fig. 5** Marginal effect of state ownership of banks on procedures by freedom of the press

Fig. 6 Marginal effect of state ownership of banks on time by freedom of the press
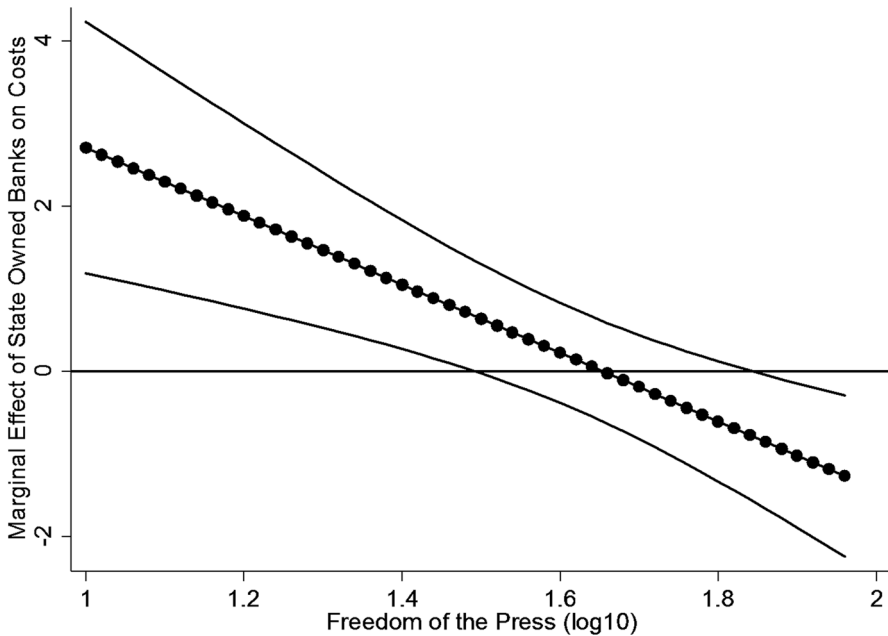
Fig. 7 Marginal effect of state ownership of banks on costs by freedom of the press

to the financial crisis because the coefficients are substantively identical to those in Table 1. In fact, they are generally larger than those reported above, which suggests that any change in state behaviour in response to the recent global financial crisis will have worked against our argument. These results are particularly impressive given the relatively small sample size (79).

Alternative measures of transparency

To ensure that our results are robust to alternative measures of political transparency, we utilise two alternative operationalisations. First, following Broz (2002), we operationalise transparency with Polity 2-scores from the Polity IV database that measures democracy (Marshall et al. 2014). Our second alternative measure of transparency is voice and accountability, drawn from Kaufmann et al. (2014), that captures freedom of expression, freedom of association and free media (in addition to the ability of voters to participate in choosing their government). Voice and accountability correlates strongly with the existence of constraints on government behaviour, such as free press and the degree of transparency in political decision-making, and correlates with freedom of the press at 0.931 in our data (Körner and Schnabel 2011). Unlike freedom of the press, these covariates are not reverse-coded. Thus, we expect regulation of firm entry to be heavier in countries with higher levels of state ownership of banks and higher scores on each of these alternative indicators

Table 2 State-owned banks, transparency, and regulation of entry in the 2007–2009 crisis

	Procedures		Time		Costs	
	(1)	(2)	(3)	(4)	(5)	(6)
State-owned banks (SOB)	0.395 (0.292)	7.117*** (1.286)	0.939* (0.478)	7.667* (3.449)	0.143 (0.613)	8.918* (3.951)
SOB × FREE		−4.218*** (0.757)		−4.211* (2.049)		−5.505** (2.354)
Freedom of the press (FREE)		0.481*** (0.107)		0.192 (0.204)		0.605* (0.263)
Initial GDP pc	−0.062 (0.069)	−0.023 (0.067)	0.214 (0.142)	0.191 (0.149)	−0.645*** (0.189)	−0.600*** (0.186)
Inflation	−0.004 (0.179)	−0.101 (0.176)	−0.432 (0.369)	−0.463 (0.394)	0.064 (0.472)	−0.057 (0.527)
Secondary education	−0.034 (0.127)	0.002 (0.132)	0.059 (0.250)	0.100 (0.258)	−0.599* (0.273)	−0.551* (0.280)
Financial development	−0.100 (0.061)	−0.032 (0.062)	−0.405** (0.153)	−0.381** (0.147)	−0.125 (0.154)	−0.040 (0.161)
Trade openness	0.032 (0.091)	0.080 (0.091)	0.475** (0.197)	0.470** (0.199)	0.282 (0.210)	0.340 (0.216)
Left executive	−0.018 (0.057)	−0.039 (0.052)	0.100 (0.107)	0.080 (0.107)	−0.038 (0.104)	−0.065 (0.099)
Period and region fixed effects	Included	Included	Included	Included	Included	Included
Constant	1.423*** (0.307)	0.326 (0.452)	1.029 (0.683)	0.746 (0.836)	4.483*** (0.904)	3.117** (1.122)
N	79	79	79	79	79	79
R^2	0.376	0.516	0.470	0.494	0.728	0.751

Unstandardized GLS coefficients. Heteroscedasticity and serial correlation consistent standard errors in parentheses. Banking crisis was perfectly correlated with the regional effects

$*p < .05$; $**p < .01$; $***p < .001$ (one-tailed tests)

Table 3 Robustness checks: alternative measures of transparency

	Procedures		Cost		Time	
	(1)	(2)	(3)	(4)	(5)	(6)
State-owned banks (SOB)	0.302** (0.118)	−1.073* (0.490)	0.135 (0.311)	−4.914** (1.805)	0.480* (0.258)	−1.624 (1.170)
SOB × VA	0.778*** (0.138)				0.644** (0.288)	
SOB × DEMOC		1.292** (0.445)		4.550** (1.510)		1.954* (1.013)
Voice and accountability (VA)	−0.133*** (0.021)		−0.199*** (0.048)		−0.111** (0.043)	
Democracy (DEMOC)		−0.192*** (0.054)		−0.449** (0.154)		−0.256** (0.103)
Initial GDP pc	0.042 (0.041)	−0.024 (0.040)	−0.538*** (0.094)	−0.618*** (0.093)	0.236** (0.096)	0.201* (0.091)
Inflation	0.197** (0.077)	0.304*** (0.079)	−0.027 (0.192)	0.133 (0.194)	0.237 (0.178)	0.416* (0.183)
Secondary education	−0.040 (0.072)	−0.070 (0.074)	−0.258 (0.182)	−0.305* (0.175)	0.119 (0.140)	0.079 (0.140)
Financial development	−0.068* (0.033)	−0.103** (0.036)	−0.190** (0.080)	−0.247** (0.081)	−0.317*** (0.086)	−0.341*** (0.086)
Trade openness	0.038 (0.044)	0.032 (0.048)	0.158 (0.104)	0.158 (0.106)	0.333*** (0.096)	0.329*** (0.100)
Banking crisis	0.015 (0.033)	0.026 (0.037)	0.103 (0.075)	0.110 (0.081)	0.033 (0.072)	0.041 (0.075)
Left executive	0.042* (0.023)	0.047* (0.024)	−0.039 (0.044)	−0.025 (0.046)	0.136** (0.044)	0.141*** (0.045)
Period and region fixed effects	Included	Included	Included	Included	Included	Included
Constant	0.748*** (0.171)	1.229*** (0.173)	3.925*** (0.382)	4.740*** (0.389)	0.251 (0.418)	0.594 (0.404)
N	297	288	297	288	297	288
R^2	0.693	0.611	0.780	0.768	0.635	0.617

Unstandardized GLS coefficients. Heteroscedasticity and serial correlation consistent standard errors in parentheses

*$p < .05$; **$p < .01$; ***$p < .001$ (one-tailed tests)

of the transparency. Table 3 shows that the results of the replications with these alternative measures are substantively identical to those in Table 1.

Additional controls

We conduct a battery of robustness checks in which we include additional control variables. Because regulatory barriers may be high in countries with ethnic cleavages, particularly when one group captures the main political and financial institutions, we controlled for *ethno-linguistic fractionalisation* (Levine et al. 2000). It is also worth noting that many transition countries of Central and Eastern Europe have a significant degree of state ownership. To eliminate alternative determinants of regulatory barriers that are correlated with post-socialism, we include a dummy variable that equals 1 if a country experienced a *post-socialist transition*. The coefficients on state-owned banks and the interaction with freedom of the press that obtain from these replications are substantively identical to those reported in Tables 1 and 2, with the exception of the interactive models of time when ethno-linguistic fractionalisation is included. We make these results available upon request.

Identification

We also consider a couple of issues with respect to identification. First, we address the possibility of simultaneity bias, where regulatory barriers may influence government ownership of banks. Unequal access to business opportunities and funds may allow large, incumbent firms to block the entry of new firms, and thereby preserve their privileged access to politicised lending from state-owned banks. To address this issue, we replace the contemporaneous measure of state ownership of banks with lagged values. These results are substantively identical and are available upon request. In addition, we estimate instrumental variables regressions with the Generalised Method of Moments using two alternative sets of instruments. Following earlier studies (for example, Morck et al. 2011), we include legal origins—French, German and Scandinavian—as excluded instruments for state-owned banks. Legal origin has been identified as an important factor explaining the cross-country differences in financial development. The degree of state ownership in the banking sectors varies across legal traditions (La Porta et al. 2002). The measures of *legal origin* come from Levine et al. (2000). Unfortunately, these are weak instruments for state-owned banks, thus the second stage results are unremarkable. We also use lagged levels of asset shares of state-owned banks as excluded instruments for the contemporaneous levels. Unlike our first approach, auxiliary analyses suggest that state ownership of banks is not under-identified and the instruments are not weak.[20] We

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[20] The null hypothesis that the contemporaneous measure of state ownership of banks is uncorrelated with the lagged measures was soundly rejected, and the Cragg–Donald *F* statistic for weak instruments exceeded the most stringent Stock and Yogo (2005) threshold (i.e. that the second stage estimates have at most 10% of the bias of the OLS coefficients when the potentially endogenous regressor is endogenous) in each model.

test the hypothesis that the contemporaneous state-owned bank covariate is exogenous (i.e. uncorrelated with the second stage error term). None of these tests suggest any degree of endogeneity. Thus, the balance of the evidence suggests that our results are not biased due to a simultaneous relationship between state ownership of banks and regulatory barriers. We fail to reject the null hypothesis of exogeneity when we instrument state ownership of banks with lagged values. In sum, the panoply of evidence suggests that our GLS results in Table 1 are valid.

Finally, OLS may not be appropriate if our outcomes of interest could be considered as counts. This is only true of procedures, which is measured as an integer and varies from 1 to 17. Neither cost nor time are measured as integers, and both have large range. Thus, we estimate models of (unlogged) procedures with Poisson and negative binomial regression. The results are substantively identical.[21]

Persistence and change

We motivate our OLS regression models with the high degree of persistence in the size of state-owned banking sectors and regulatory barriers to firm entry in our sample, due in large part to the short period of observation. We can also buttress the evidentiary basis of our argument by examining a subset of countries that experience a change in variables of interest. Thus, we identify countries in the 25th percentile of change in bank ownership, time, procedures and cost at two levels of transparency (freedom of the press): less than and equal to the 25th percentile (high transparency), and greater than and equal to the 75th percentile (low transparency). If our argument is correct, we would expect that, among the group of countries with the highest observed increases in state ownership of banks, changes in time, procedures and cost would be greatest among the subset of high-transparent countries.

Figure 8 displays the average change in procedures, time and cost among countries in the 25th percentile of changes in the size of the state-owned banking sector separately for the countries scoring low and high on the freedom of press index. Interestingly, the three outcomes decline over the period, on average, for both sets of countries. However, the reduction of regulatory barriers is markedly greater for the low-transparency group. The reductions in terms of procedures, time and cost are 63, 70 and 84% greater, respectively, among the low-transparency countries than among the high-transparency countries. We estimate seemingly unrelated regression to test the null hypothesis that these changes are equal across the two groups. We observe significant differences in each case, although the difference in change in the number of procedures is only marginally significant. In short, when we examine changes in regulatory barriers among countries with the highest observed changes in state-owned banking sector size, we observe significantly higher reductions in regulatory barriers to entry among the subset of these countries with low-transparency.

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[21] We make all of these results available upon request.

FDI and the moderating effect of political system transparency

Our argument suggests that non-transparent political systems and a substantial government ownership of banks harm the international reputation of governments, particularly among foreign investors. To compensate for the reduced inflows of FDI that follow, these governments lower regulatory barriers as a signal of their intent to improve the business climate. However, it is also true that FDI is driven by additional processes that are exogenous to international perceptions of the business climate (e.g. the presence of natural resources, geography, special economic zones, etc.). Thus, we would expect FDI to vary even among countries with opaque political regimes and substantial government ownership of banks, since some of these countries possess political, economic, social or natural endowments that offset the negative effect of the lack of transparency and state ownership of banks. Indeed, while our data suggest that FDI inflows are the lowest in states with high levels of state ownership of banks and low transparency of political system, they also suggest that FDI inflows are about equally *varied* in countries with one or both of these conditions present as they are in countries with neither.[22]

This natural variation in FDI inflows among countries with non-transparent political regimes and large state-owned banking sectors allows us to evaluate more closely the mechanism we propose. If reduced FDI flows weaken the incentives of governments in opaque political systems with state control over the banking system to maintain high regulatory barriers to firm entry, we would predict the negative relationship between state ownership of banks and regulation of firm entry among non-transparent political regimes to vary with inflows of FDI.[23] Put differently, we would expect the moderating effect of political system transparency to become weaker (i.e. more positive) as the flows of FDI increase among non-transparent countries. Higher exogenous flows of foreign capital represent a lower relative constraint. Thus, we assess the extent to which the association between regulatory barriers to new firm entry and state ownership among non-transparent countries varies with inflows of FDI.

Figures 9, 10, and 11 display the association between state ownership of banks and regulatory barriers to firm entry among opaque political regimes as it varies across those with low (below median) and high (median and above) inflows of FDI as a share of GDP. The FDI data are obtained from UNCTAD (2016). In each case, the association between state ownership of banks and entry barriers is much more positive among the subset of non-transparent countries with above-median levels of flows of FDI, which is more consistent with the association we observe in the rest of the world (Figs. 2, 3, 4).

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[22] While there is as of yet sparse literature on the relationship between transparency, state ownership of banks and FDI, we do find that both processes have a negative partial association with FDI inflows net of each other and common correlates of FDI (see also Jensen 2006 on political regime transparency and FDI). See Table 5 in the Appendix.

[23] Observed levels of FDI vary across opaque political regimes for exogenous reasons, too.
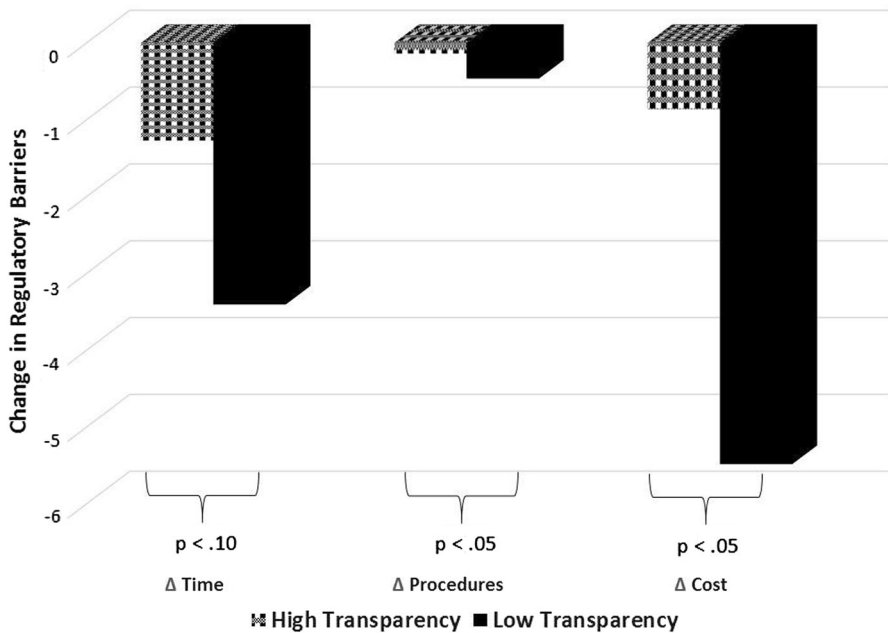
Fig. 8 Mean change in procedures, time, and costs in countries with above median change in state ownership of banks by high and low transparency. *Notes* All of the countries summarized in Fig. 8 reside in the 25th percentile of *changes* in state-owned banks. High transparency is defined as the 25th percentile of Freedom of the Press; Low Transparency is defined as the 75th percentile. A global (χ^2) test of the null hypothesis that the difference in means are jointly zero is 5.25 ($p < .05$). p values indicate the probability that the difference in mean is zero (one-tailed). High political transparency (freedom of the press): Austria, Switzerland, Costa Rica, UK, Ireland, Iceland, Kosovo, Latvia, Netherlands, Poland, Portugal, Trinidad and Tobago, Vanuatu. Low Political Transparency (Freedom of the Press): Myanmar, Zimbabwe, China, Tajikistan, Yemen, Kazakhstan, Russia, Oman, Kyrgyzstan, Venezuela, Lebanon, Ukraine, Qatar, Moldova, Sri Lanka

Does this apparent difference hold net of controls? To address this question, Table 4 reports the results of three new regression models in which we include a three-way interaction between state ownership of banks, political system transparency and FDI. To facilitate comparison, columns 1, 3 and 5 reproduce the two-way interaction models in Table 1 above. Columns 2, 4 and 6 report models with three-way interactions, as well as the requisite constituent terms. The coefficients on the three-way interactions in columns 2, 4 and 6 are consistent with our intuition, insofar as they are positively signed, suggesting that the negative slope of state-owned banks among non-transparent countries attenuates as FDI increases. However, they are only significantly positive in the case of procedures and cost, which is consistent with the relatively weaker two-way interaction observed in the case of time above. Still, the results are largely consistent with our argument, and provide an extra degree of confidence in our theoretical framework.
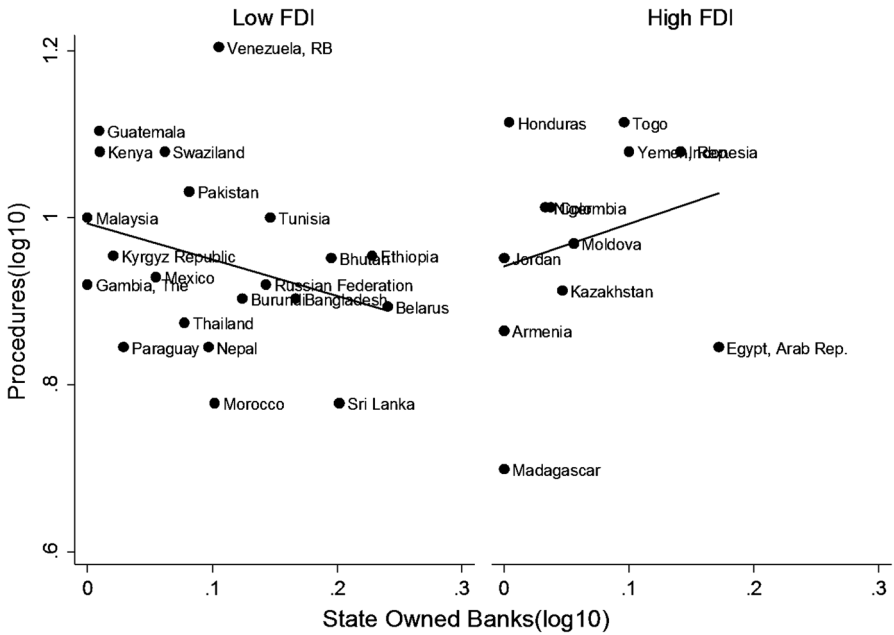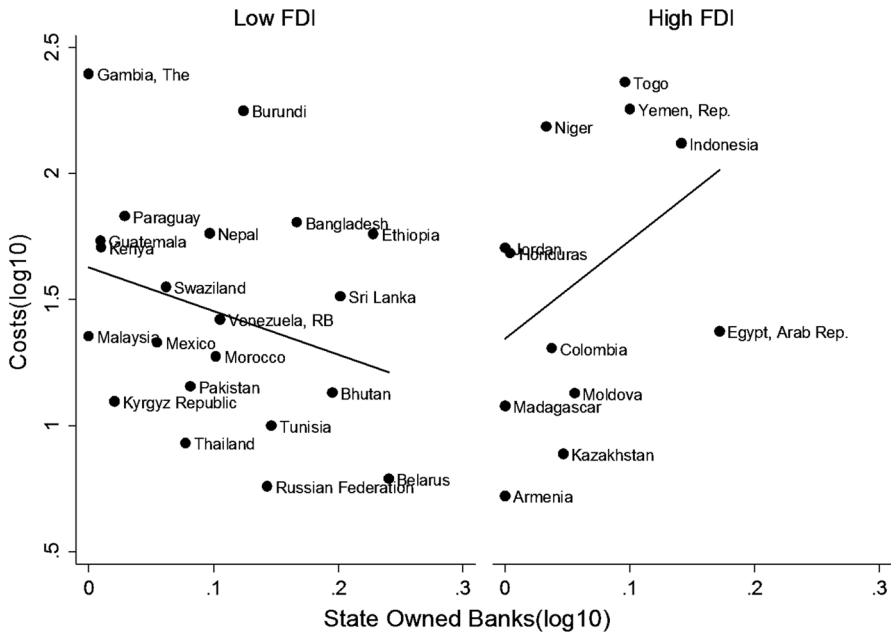
Fig. 9 Procedures by state ownership of banks by high and low foreign direct investments in opaque political systems. *Notes* Low transparency defined as the 75th percentile of freedom of the press; high and low FDI are demarcated by the median flow of FDI among low transparency countries
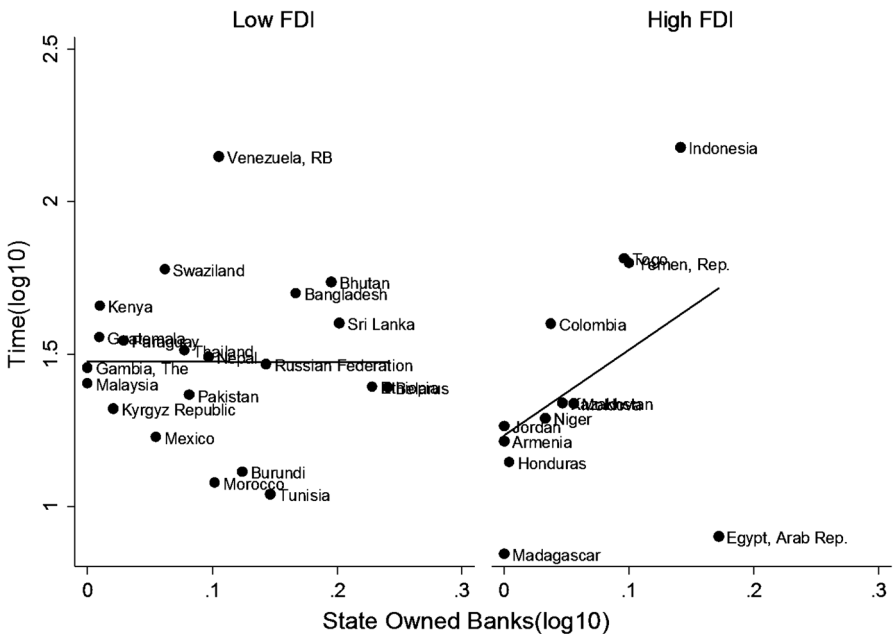
Fig. 10 Time by state ownership of banks by high and low foreign direct investments in opaque political systems. *Notes* Low transparency defined as the 75th percentile of freedom of the press; high and low FDI are demarcated by the median flow of FDI among low transparency countries

Fig. 11 Cost by state ownership of banks by high and low foreign direct investments in opaque political systems. *Notes* Low transparency defined as the 75th percentile of freedom of the press; high and low FDI are demarcated by the median flow of FDI among low transparency countries

Conclusion

This article has important implications for our understanding of the relationship between politics and banking as well as of the international influences on domestic economic reforms. To the best of our knowledge, this is the first study that examines the heterogeneous impact of government ownership of banks on regulatory barriers to new firm entry across countries by allowing this effect to be conditional on political transparency.

Our point of departure is to recognise that international markets provide an important constraint on the behaviour of opaque political regimes. In a global business and investment environment, countries lacking transparent domestic political institutions face challenges to signal credibly their investment appeal to foreign investors. Consequently, they employ various signals with which to improve international perceptions of their business and investment climate. We show that opaque political systems with below average inflows of FDI and a high levels of state ownership of banks, have on average lower regulatory barriers to new firm entry.

This work may also parallel the recent literature that re-examines stated-owned banks and reaches less pessimistic conclusions regarding their effects. For example, Morck et al. (2011) argue that state-owned banks can distribute funds and opportunity more evenly than private banks if political elites place social goals ahead of other goals but also acknowledge that the capture of national banking systems is more likely to concentrate wealth in the hands of political elites and vested industrial

Table 4 State-owned banks, transparency, and foreign direct investments

	Procedures		Time		Cost	
	(1)	(2)	(3)	(4)	(5)	(6)
State-owned banks (SOB)	4.848*** (0.799)	6.569*** (1.137)	3.393* (1.762)	4.253 (2.595)	6.849*** (1.886)	13.006*** (2.516)
SOB × FREE	− 2.806*** (0.466)	− 3.918*** (0.657)	− 1.791* (1.043)	− 2.290 (1.534)	− 4.145*** (1.149)	− 7.907*** (1.528)
SOB × FREE × FDI		70.667** (29.110)		1.441 (78.490)		233.660** (86.116)
Freedom of the press (FREE)	0.430*** (0.061)	0.503*** (0.068)	0.323** (0.124)	0.439*** (0.135)	0.648*** (0.141)	0.922*** (0.154)
Initial GDP pc	0.017 (0.039)	0.010 (0.040)	0.216** (0.093)	0.203* (0.095)	− 0.563*** (0.095)	− 0.633*** (0.097)
Inflation	0.203** (0.077)	0.202** (0.077)	0.237 (0.178)	0.203 (0.177)	− 0.042 (0.193)	− 0.045 (0.187)
Secondary education	− 0.031 (0.070)	− 0.007 (0.071)	0.121 (0.141)	0.163 (0.140)	− 0.250 (0.180)	− 0.162 (0.185)
Financial development	− 0.071* (0.033)	− 0.078** (0.033)	− 0.321*** (0.086)	− 0.328*** (0.087)	− 0.187* (0.083)	− 0.176* (0.081)
Trade openness	0.065 (0.046)	0.029 (0.045)	0.355*** (0.097)	0.295** (0.098)	0.203* (0.106)	0.186* (0.105)
Banking Crisis	0.024 (0.032)	0.035 (0.032)	0.041 (0.071)	0.052 (0.072)	0.116 (0.074)	0.146* (0.075)
Left executive	0.032 (0.022)	0.032 (0.022)	0.130** (0.043)	0.133** (0.043)	− 0.048 (0.044)	− 0.049 (0.043)
FDI		5.862** (2.010)		7.610* (4.555)		22.014*** (6.018)
SOB × FDI		− 108.426** (46.211)		− 9.199 (124.971)		− 390.335** (134.839)
FREE × FDI		− 3.802** (1.497)		− 4.804 (3.168)		− 15.557*** (4.497)
Period and region fixed effects	Included	Included	Included	Included	Included	Included
Constant	− 0.026 (0.231)	− 0.073 (0.233)	− 0.522 (0.513)	− 0.289 (0.510)	2.876*** (0.498)	2.362*** (0.494)
N	297	293	297	293	297	293
R^2	0.675	0.689	0.636	0.650	0.780	0.788

Unstandardized GLS coefficients. Heteroscedasticity and serial correlation consistent standard errors in parentheses

*$p < .05$; **$p < .01$; ***$p < .001$ (one-tailed tests)

interests. While some recent studies show that state-owned banks provided counter-cyclical support during the 2007–2009 global financial crisis and limited the destabilising impact of global financial flows (e.g. Cull and Martinez Peria 2013; De Haas et al. 2015), others (Coleman and Feler 2015) argue that this lending was often politically targeted and misallocated.

We nevertheless caution readers against treating the conditional effect of state ownership of banks on regulatory barriers to firm entry observed here as evidence for the positive influence of state-owned banks in general. Above and beyond the political theories showing that government ownership of banks is frequently associated with political capture and resource allocation, slow economic growth, limited the availability of capital, and inequality (Shleifer and Vishny 1998; La Porta et al. 2002; Dinc 2005; Sapienza 2004; Caprio et al. 2004), our analysis suggests that higher levels of state ownership of banks are associated with more extensive regulatory barriers to new firm entry for a large number of the countries under examination. The association between state ownership of banks and the number of procedures it takes to start a business is positive among countries with freedom of the press index scores less than or equal to 45.7 on the 100-point scale. The relationship between government ownership of banks and the cost of starting a new business is positive among countries with freedom of the press index scores less than or equal to 33.9. The association between state ownership of banks and the amount of time it takes to start a new business is positive among countries with freedom of the press index scores less than or equal to 52.5 (see Figs. 5, 6, 7, 8). Country-years with freedom of the press scores at or below these thresholds account for 58, 42 and 62% of the country-years for which we observed procedures, cost and time, respectively.

Our analysis also provides a cautionary tale with regards to the political effects of the World-Banks' *Doing Business* indicators because better performance on the ease of doing business rankings (i.e. lower regulatory barriers to firm entry) seems to imply that a country's investment and business climate is more favourable to foreign investments. Our analysis suggests that opaque political regimes can enhance their legitimacy with international audiences by deregulating firm entry without a meaningful political regime change or financial reforms that would reduce political risks for foreign investors. The reduction of regulatory barriers to firm entry is a cheap signal sent by autocratic governments trying to attract FDI, which does not require costly political or economic reforms.[24] This signal is credible, valued by international investors and easy to implement simply by a stroke of a pen. While more research into the political implications of the *Doing Business* project is needed, our analysis suggests a degree of decoupling of intention from outcome.

Nevertheless, the conditional effect of the government ownership of banks observed here coupled with the recent literature suggests the need for renewed interest in the role and consequences of state-owned banks. Future research may explore the implications of the post-crisis view on the bank ownership for policy credibility of countries with a large present of government-owned financial institutions. Future research may also extend our analysis fruitfully to investigate whether or not

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[24] We thank an anonymous reviewer for this comment.

regulatory reforms in the enterprise sector can trigger financial reforms that would develop a competitive domestic financial market and allow new entrants to the financial sector.

Appendix

See Table 5.

Table 5 Generalized least squares regression of inflows of foreign direct investments

	(1)
Freedom of the press	− 0.012** (0.005)
State-owned banks	− 0.032** (0.010)
Initial GDPpc	− 0.011*** (0.003)
Inflation	0.001 (0.006)
Financial development	0.007* (0.003)
Trade openness	0.021*** (0.004)
Banking crisis	− 0.012** (0.004)
Left executive	0.001 (0.001)
Capital account openness	− 0.000 (0.001)
Period and region fixed effects	Yes
Constant	0.018 (0.015)
N	433
R^2	0.236

Unstandardized GLS coefficients. FDI inflows are measured with log10(FDI/GDP). Heteroscedasticity and serial correlation consistent standard errors in parentheses

*$p < .05$; **$p < .01$; ***$p < .001$ (one-tailed tests)

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Jana Grittersová is an Associate Professor of political science and a cooperating faculty in the Department of Economics at the University of California, Riverside. She received her Ph.D. in Government from the Cornell University and a Ph.D. in Economics from the University of Economics in Bratislava, Slovakia. She has previously taught at the University of California, Berkeley and the Stanford University, and has worked at the European Commission in Brussels and the National Bank of Slovakia. Her published and ongoing research focuses on the sources of government reputation in international markets, global banking, political perceptions of monetary policy, the effects of interest groups on the credibility of international monetary and financial commitments, the role of non-market coordination in financial-system development, and political economy of reform. Her book *Borrowing Credibility* explores how countries with new histories and weak institutions establish monetary credibility in international financial markets.

Matthew C. Mahutga is an Associate Professor of sociology and a cooperating faculty in the Department of Political Science at the University of California, Riverside. His research examines the causes and consequences of economic globalisation, the political economy of inequality and stratification, labour markets, the post-socialist transition, and macro-comparative social networks. Current projects examine the determinants of income polarisation in rich democracies and the contributions of race and class to US income inequality. His research has been funded by the National Science Foundation and published in numerous academic journals.

Affiliations

Jana Grittersová[1] · Matthew C. Mahutga[2]

Matthew C. Mahutga
matthew.mahutga@ucr.edu

[1] Department of Political Science, University of California, Riverside, 2230 Watkins Hall, Riverside, CA 92521, USA

[2] Department of Sociology, University of California, Riverside, 1225 Watkins Hall, Riverside, CA 92521, USA