

Kar, Sabyasachi; Pritchett, Lant; Roy, Spandan; Sen, Kunal

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## Doing business in a deals world: The doubly false premise of rules reform

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WIDER Working Paper 2019/81

## **Doing business in a deals world**

The doubly false premise of rules reform

Sabyasachi Kar,<sup>1</sup> Lant Pritchett,<sup>2</sup> Spandan Roy,<sup>1</sup> and Kunal Sen<sup>3</sup>

November 2019

**Abstract:** The World Bank’s Doing Business reports have evoked an intense policy debate about whether countries should simplify regulatory rules in order to stimulate investment and growth, or make them more stringent in order to achieve public policy objectives. Both sides of this debate, however, assume that the business environment in developing countries is defined and determined by the exact implementation of these rules by the state and by firms — an assumption demonstrated to be false by a number of studies. These studies seem to indicate that, rather than these rules, doing business in developing countries is based on deals struck between firms and the political or bureaucratic arms of the state. In this paper, we undertake a cross-country analysis of the relationship between the rules related to doing business and these deals, particularly in the context of the state’s capability in implementing them. Using data from the Doing Business reports, the World Bank’s Enterprise Survey and other sources, we show that (i) while there is a relationship between rules and deals, it is a weak one; and (ii) this relationship is itself dependent on the level of a country’s state capability, with the impact of rules on deals getting further weakened if the state capability is low; and (iii) with stringent rules and very low levels of state capability, the relationship becomes perverse, with more stringent rules leading to less compliance, rather than more. Based on these results, we provide a diagnostic approach to rules reform, where the appropriate reform depends on the level of stringency of the rules in a country, and the level of its state capability.

**Key words:** Doing Business, deals, rules, state capability, investment climate

**JEL classification:** E22, M1, O3, O4

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<sup>1</sup>Institute of Economic Growth, Delhi; <sup>2</sup>Kennedy School of Government, Harvard University; <sup>3</sup>UNU-WIDER, Helsinki. Corresponding author: [sen@wider.unu.edu](mailto:sen@wider.unu.edu)

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## 1 Introduction

Among the many, many ‘knowledge products’ generated by the World Bank, the Doing Business (DB) indicators almost certainly get the most media attention and exert the largest influence on developing country governments (World Bank 2016, 2017). Countries follow their performance on their DB ranking over time and improvements are met with delight, both among the politicians and the country’s national media and, conversely, falls in rankings are met with consternation, complaint and denial.<sup>1</sup> Underlying this attention is an assumption that improvements in DB ranking imply a reduction in the transaction costs of doing business and that these reductions will lead to higher investment, as well as an increase in the efficiency of investment, and hence higher growth (World Bank 2018). Further, the country’s ranking in the DB is taken as a reliable signal to foreign investors of the country’s attraction as a destination for foreign direct investment and, given the global competition for foreign direct investment, most Southern governments have a strong incentive to out-compete other developing country governments in signalling that their countries are a good place to do business.

The DB indicators have also generated the most controversy.<sup>2</sup> One recent critique of the DB has been on the sensitivity of aggregate country rankings to the small changes in the methodology.<sup>3</sup> But a more fundamental and influential critique has been against the underlying assumption: that improvement in DB is a desirable objective. This critique argues that laws and regulations are necessary for countries to meet their legitimate public policy objectives, such as collecting taxes, protecting workers’ rights, promoting health and safety standards in the workplace, and improving the natural environment. The laws and regulations that are needed for these public policy objectives may be seen as constraining the ability of firms to do business easily, but are nevertheless needed for overall societal welfare in the country in question (Altenburg and Drachenfels 2006; Berg and Cazes 2007; Lee et al. 2008).<sup>4</sup>

Unfortunately, both the DB and its critics have incorrect assumptions about the way business is actually done in the developing world. The DB indicators measure a country’s de jure processes for doing business: what *would* happen if existing regulations and policies were applied as written. *This view assumes that (i) firms get regulatory clearances according to a country’s rules, with few systematic deviations from these rules in actual practice; and (ii) states, via their agencies and organizations responsible for implementation, actually carry out due diligence before giving regulatory clearances to firms.* However, as Hallward-Driemeier and Pritchett (henceforth HP) (2015) have shown, the World Bank’s Doing Business (DB) reports do not provide an accurate picture of a country’s business environment. For three different

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<sup>1</sup> For example, there was widespread positive coverage of India’s jump up in the DB rankings in 2017 in the national media and by the Indian government (e.g., Mishra 2017).

<sup>2</sup> For example, see critical discussions in Gelb and Ramachandran (2017) and Sandefur and Wadhwa (2018).

<sup>3</sup> For example, India jumped up from 130th in 2016 to 100th in 2017 in the global ranking of the DB indicators, which the World Bank attributed to a sustained reform focus of the Indian government (see World Bank (2017)). However, when a consistent methodology is applied to the Doing Business data over time, India’s rise in the global ranking is much more modest (see Sandefur and Wadhwa (2018)). Similarly, the former chief economist of the World Bank, Paul Romer, criticised the Doing Business methodology in the case of Chile, where the addition of new components, such as the amount of time firms spend in dealing with taxes, led to the drop in Chile’s ranking in the DB indicator during the tenure of the socialist President, Michelle Bachelet (see Zumbun and Talley (2018)). This controversy led the World Bank to constitute an external audit of Chile’s ranking in the DB indicators in 2018.

<sup>4</sup> See Martin-Prével and Mousseau (2016) and Bretton Woods Project (2017).

indicators, HP compare the de jure times reported in the DB<sup>5</sup> with distribution of the times reported for those same three indicators from the World Bank's Enterprise Surveys (ES), which reflect the reported experiences of a sample of firms. HP show the DB and ES for the same questions produce completely different results about the business environment, both across countries (there is little to no correlation of DB and ES) and within countries (where there is massive discrepancy and large variance across firms). For example, according to the DB, de jure it *would* take about 180 days to get a construction permit in India in 2014. The ES data from firms that actually did get construction permits in that same year, showed huge variance across firms, as some firms reported needing only one day, while others needed up to 365 days. The average reported time was 33 days, *five months* less than the DB time of 180 days. HP argue that these massive discrepancies between DB and ES show that the DB de jure compliance times do not represent the actual *rules* of doing business, the reality is that firms do business in a *deals* environment.

A 'deal' implies that actual outcomes, what happens to any specific investor, depend in some, perhaps very small, part on the formal rules, but also on the ways in which my specific characteristics (e.g. relationship to those in power) and actions (e.g. bribes, lobbying, use of intermediary 'fixers') influence outcomes.

Deals can be based on relationships between businesses and political leaders and/or the bureaucracy. Fisman (2001) pioneered the use of stock market event studies to show that a substantial fraction of the market value of firms that were connected to the Indonesian president of that period, Suharto, was due precisely to that: their connection to Suharto. In 'Seize the state, seize the day' Hellmann, Jones and Kaufmann (2003) document the emergence in post-transition countries of a 'capture economy', in which favourable regulatory treatment was sold by public officials — which both advantaged the connected firms and disadvantaged their potential competitors. In the aftermath of the Arab Spring, Rijkers, Freund and Nucifora (2017) documented the enormous favouritism given to those connected to Ben Ali, which led to higher profits for connected firms, especially in highly regulated sectors. Mohamed Bouazizi, the street vendor who set himself on fire, and the Ben Ali clan, did not share of the same 'rules' for doing business. Similarly, Chekir and Diwan (2014) and Diwan, Keefer, and Schiffbauer (2015) show the many advantages enjoyed by the Egyptian firms connected to the president of Egypt, Hosni Mubarak, including regulatory favouritism to the connected and disadvantages to the unconnected firms in sectors that connected firms entered.

Connections or influence are not just at the national or provincial level, but can affect outcomes at the most local level. Local politicians or groups or parties can influence access to markets, the freedom to move goods regionally, and securing contracts; and local groups use illegal means to prevent local competition in basic services like taxis, security guards, etc. Moreover, in the absence of personal connections influencing outcomes, a 'deal' can be affected by actions of intermediaries. Interactions with government over routine matters like driver's licences or permits or legal documents are often mediated by 'brokers' or 'touts' or 'fixers', who collude with agencies to provide services for fees (Bertrand et al. 2007)

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<sup>5</sup> The DB reports assess 11 elements of a country's policies that relate to private firms, including starting a business, trading across borders, dealing with construction permits, enforcing a contract, and paying taxes. The measures for each element are created by experts (one to four lawyers or accountants) in each country, who are asked to estimate the 'typical' time and cost that it would take a hypothetical 'standard' firm (privately and domestically owned, limited liability company with 10-50 employees, operating in the country's largest city) to comply, based on their assessment of formal regulations as they exist on the books (see HP: 124).

The common definition that ‘institutions’ create the ‘rules of the game’, combined with the idea that ‘institutions’ can be “strong’ or ‘weak’, leads to confusion. With ‘weak’ institutions the ‘rules of the game’ are not *rules*, in the usual meaning of the word, but hyper-specific, personalised, and many times unpredictable (ex ante and ex post) and contested, *deals*. The predicted regulatory outcomes for specific firms, like how long it will take to receive a construction permit, or what taxes a firm will pay, or whether one is allowed to sell this product on this street, cannot be determined by examining the formal rules. The formal rules establish mappings between facts about states of the world and actions of publicly authorised agents, but these laws, regulations and policies are not the reality; reality is based on *deals*, which are based on characteristics and which influence actions.<sup>6</sup>

The weak capability for policy implementation of state organizations is a key feature that distinguishes countries by their level of national development (Andrews, Pritchett and Woolcock (APW) 2017). Across functions of the state, from taxation to regulation to law enforcement to provision of services, developing country governments have often taken on much more complex and demanding policies than they are able to implement. This mismatch of policies and capability for implementation creates a situation in which, across the board, the administrative ‘facts’ created by the state for purposes of regulatory implementation are often a complete fiction (Pritchett 2012). As just one example, Duflo et al. (2013) show that the pollution emissions reported by firms through environmental audits bore very little relationship to actual emissions, as firms clustered their reported emissions just below the allowed level and many firms reported their emissions as much *more* than their actual emissions. APW refer to this adoption of ‘best practice’ or ‘gold standard’ laws/regulations/policies from abroad that attempt to do ‘too much, too soon, with too little’ as ‘premature load bearing’. Premature load bearing is like attempting to drive a heavy truck across a half-built bridge — the attempt causes the bridge to collapse and the building process has to start from scratch. APW argue that the attempt to implement complex and onerous regulations puts organizational stress on the agents of the organization to deviate (as those being regulated create inducements for those agents and their organization) and that if this stress exceeds the countervailing motivation the organization is able to create, this can create a low-level equilibrium trap of organizational dysfunction with respect to purpose. This is a ‘trap’, because any incipient attempt to improve organizational capability, say through more ‘training’, is undermined by the existing pressures of premature load bearing and norms of non-compliance.

As HP (2015: 123) argue ‘when strict de jure regulations meet weak governmental capabilities for implementation and enforcement ... researchers and policy makers should stop thinking about regulations as creating “rules” to be followed, but rather as creating a space in which “deals” of various kinds are possible’. This suggests that any understanding of the business environment of developing economies makes it imperative to first empirically characterise the actually reported deals and try and understand what drives the observed patterns. This is the motivation of this paper.

In this paper, we contribute to the debate on Doing Business in developing countries in two important ways. First, we define a number of measures for the deals environment in developing countries, such that cross-country comparisons are made possible. Using data from the ES, we define these measures for all ES country-years that have a minimum of 30 firms in the ES sample

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<sup>6</sup> As Pritchett, Sen and Werker (2017) show, the type of the deals that are made offered by state actors to the business sector can explain economic growth episodes in developing countries, with ordered deals explaining accelerations in economic growth, where ordered deals are deals which the business sector can be confident will be delivered. Maintenance of rapid growth, on the other hand, requires deals which, while ordered, are open as well (that is, the deals are not confined to a few business actors, but are offered to a wide range of firms).

with data on the relevant indicators. The ES has conducted more than one survey corresponding to different years in some of these countries, so we have a sample of 136 country-years that satisfies the minimum number of 30 sampled firms. We find that the countries where firms report the highest proportion of *quick deals* (less than 15 days) are not a uniform group, but fall at opposite ends of a spectrum. *Both* failing states, such as Sudan, *and* high performing states, such as Malaysia, have predominately quick deals. This suggests that governance capabilities or regulatory stance alone may not be able to explain why we see such wide variation in deal-making across countries.

Our second contribution is an exploration of the correlates of deal-making across countries, focusing in particular on the interaction between the stringency of the de jure rules, as reported by Doing Business, and the level of state capability. We find that the association of the proportion of ‘quick deals’ (or, conversely, ‘slow deals’) and the DB depends on the level of state capability, as in states with low capability *increases* in regulatory stringency are associated with *increases* in the proportion of firms reporting *quick deals*, strongly suggesting that pre-mature load bearing from high levels of formal regulation *decreases* compliance. The potentially important implications for approaching ‘policy’ we discuss at the end of the paper.

To motivate the empirical analysis, we first present an illustrative example drawn from the DB indicators on taxation in Section 2. Section 3 empirically describes and classifies the nature and varieties of deals environments in developing countries. Section 4 defines some measures of the deals environment and carries out some preliminary investigation on their correlates. Section 5 carries out regression exercises to describe correlates of the deals environment. Section 6 discusses the implications of the results and their potential implications for policy choices. Section 7 concludes.

## **2 Is there a trade-off between easing rules and achieving public purpose? An illustrative example**

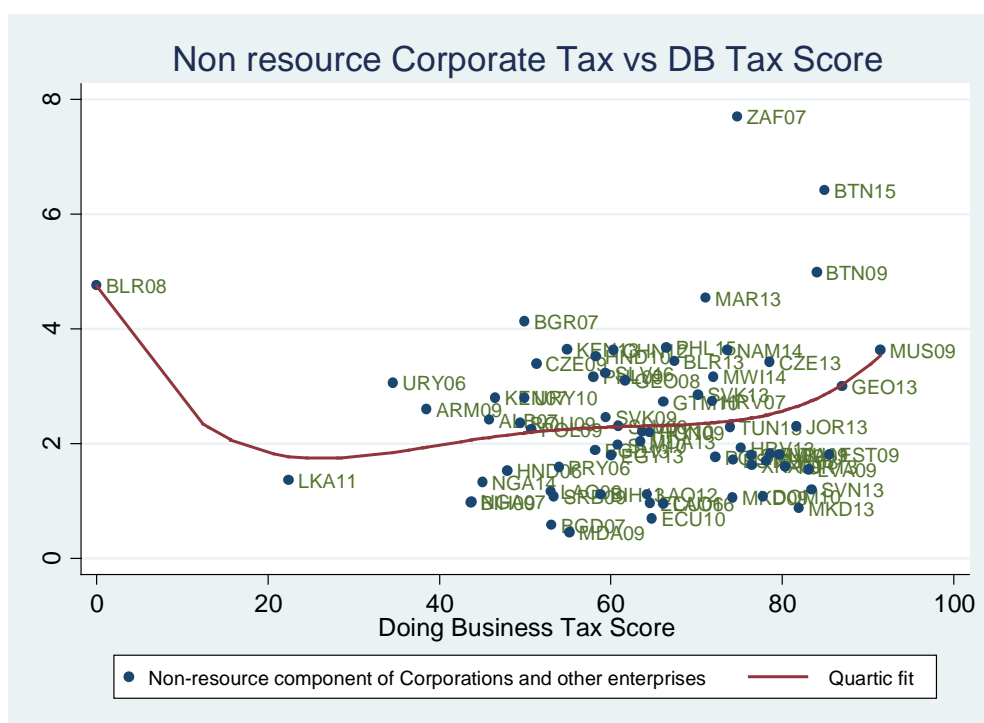
An important critique of the Doing Business indicators is that the relaxation of de jure rules which may be beneficial for investment and economic growth may come at the cost of compromising important public purpose objectives, such as achieving health and safety standards in the workplace or maintaining environmental quality or collecting taxes. If this is the case, we would expect a negative relationship between any given DB indicator and the corresponding public purpose outcome. Taxation is an important example. There is increasing emphasis — including from organizations like the IMF — that governments in developing countries need to raise levels of tax revenue in order to finance the critical public goods necessary for economic and social development (e.g. roads, schools, and health clinics). The DB indicators on taxation measure decrease in the ‘ease’ of doing business from the level and administrative burden of the tax system. Critics of DB would argue that making the taxation system less onerous to tax filers (corporations and individuals) may make it less possible for governments to increase their tax intake. But what is the empirical association of the DB measure of taxes and actual tax take?

Figures 1 and 2 show the relationship between the Doing Business indicator of taxes and actual corporate and income tax collections as a percentage of gross domestic product (GDP), respectively. The Doing Business taxes score is a ranking from 0 (worst, least ease) to 100 (best, most ease in Doing Business) based on equal weights in the ranking of: (1) the per cent tax on profits; (2) the hours to comply; (3) the number of payments per year; and (4) a post-filing index of time to recover VAT refund. The debate about Doing Business and public purpose would assume that countries with higher ease of Doing Business would achieve this only at the expense

of the legitimate public purpose of collecting taxes, which, as the ‘price of civilization’, are needed to achieve important public goals.

But there is roughly zero correlation of actual collections of taxes on firms as a percentage of GDP (either corporate taxes, Figure 1, or income taxes, Figure 2) and the DB measure. Countries with near the best measures of Doing Business — like Georgia, which has the third best score of 87 — collect about 3 per cent of GDP and that is exactly what a country near the worst ranking — Uruguay with the third worst score of 35 — collects. And countries with nearly the same rating on DB for taxes collect widely varying tax revenues. Among countries with the best scores (highest ease of Doing Business), Bhutan collects over 6 per cent of GDP, whereas Slovenia and Macedonia, with roughly the same score, collect only 1 per cent.

Figure 1: There is *no* relationship between DB indicators on taxes and actual corporate tax collected as a percentage of GDP

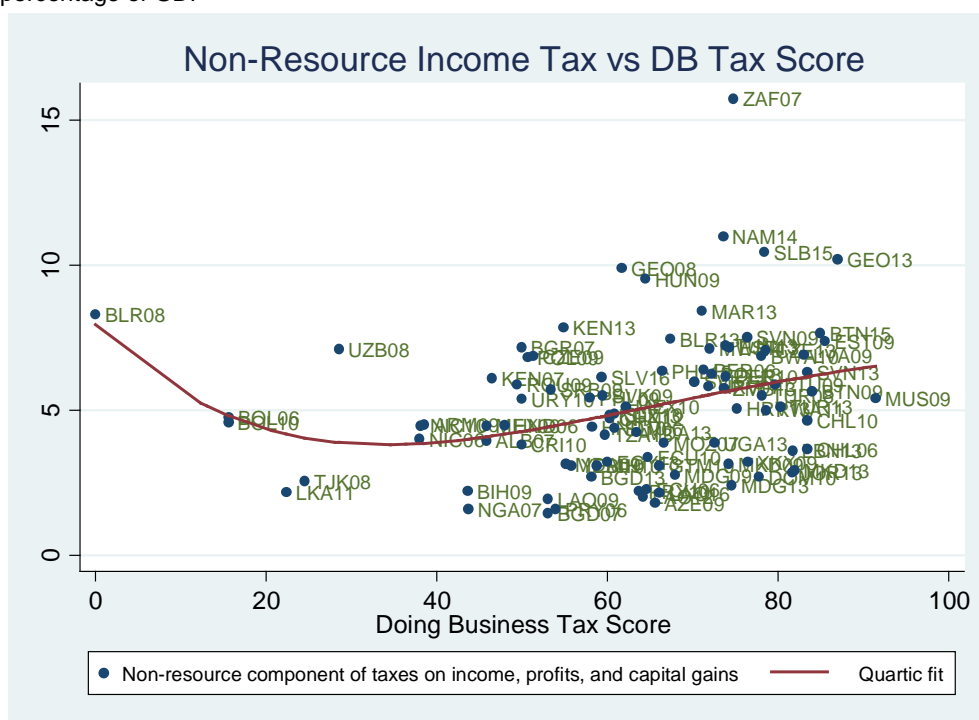


Source: Authors' calculations from DB and ES data.

As previous papers have demonstrated, there is little connection at the item and firm level between tax rates and tax collections. Pritchett and Sethi (1994) demonstrated in three countries the weak connection between the de jure *ad valorem* tariff rate on a given import item and the actual *ad valorem* collected rate (revenues divided by value). Particularly when tariffs were high, ‘deals’, in the form of exemptions and exclusions for specific importers or specific uses, proliferated (and this method could only measure formally recorded deals; informal accommodations and evasions would make these results even stronger). Gauthier and Gersowitz (1997) demonstrated the weak connection between firm sales tax rates, actual sales and actual taxes paid as firms engaged in a variety of tax aversion and evasion tactics. Our illustrative example provides further suggestive evidence that the relationship between de jure rules (as captured by the DB indicators on taxation) and de facto outcomes (as measured by the tax take) is weak at best, and probably non-existent, in a context where deals, not rules, characterise the economic environment. We next propose a simple and intuitive way to capture the deals environment in developing countries using available secondary data.



Figure 2: There is *no* relationship between DB indicators on taxes and actual income tax collected as a percentage of GDP



Source: Authors' calculations from DB and ES data.

### 3 Understanding the deals environment in developing countries

How does one characterise the actual ‘deals’ environment in a given country? We throw some light on this question by showing the difference between deals and rules in developing countries, as well as the differences between the various speeds of reported deals. Deals are different from rules (though, confusingly in our eyes, the ‘rules of the game’ may be deals, not rules). Rules are (predominately) impersonal interactions between the state and businesses, whereas deals are based on particular (person- or firm-specific) relationships between businesses and political leaders or the bureaucracy or other modes of influence. Rules are the same for all businesses with the same regulatory relevant characteristics (so a rule may treat firms differently by size or sector or purpose), whereas deals differ from case to case, even for the regulatory ‘same’ firm. Following HP, we characterise the de facto outcomes based on information from the Enterprise Survey as ‘deals’ between businesses and the state, as distinguished from the de jure ‘rules’ reported in the Doing Business indicators.

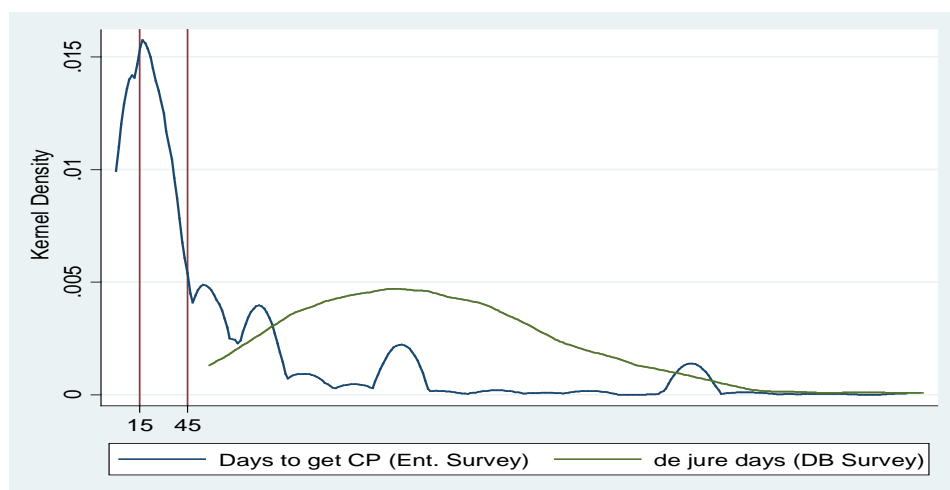
HP use three measures for deals, based on questions in the World Bank’s Enterprise Survey. One is about the time it takes to start a business or to obtain an operating licence. The enterprise survey asks, ‘Approximately how many days did it take to obtain this operating licence from the day of the application to the day it was granted?’ The second question involves construction permits. The manager or owner of the company is asked: ‘In reference to that application for a construction-related permit, approximately how many days did it take to obtain it from the day of the application to the day the permit was granted?’ The third is about the time taken to process imports.

We use data from 136 country-years that have a minimum of 30 sampled firms. Country-year-wise descriptive statistics of this variable are given in Table A1 in the Appendix. We use only the

construction permit, as the number of surveys with adequate numbers of firms on operating licences is much lower.

Figure 3 presents kernel density functions for de jure rules (DB) and de facto days (ES) needed for construction permits, pooled across all the developing countries. The rules related to getting construction permits are not a description of their actual behaviour, as in practice they get their permits much faster than the rules stipulate. The modal number of days for DB is 180, whereas the modal days for ES is 15. This is so fast that it indicates the prevalence of some type of deal.

Figure 3: There is a vast discrepancy between de jure ‘rules’ and the de facto ‘deals’ outcomes



Source: Authors' calculations from DB and ES data.

We characterise deals as quick, moderate, or slow. Quick deals are those that complete the regulatory process within 15 days. Moderate deals are those that complete the regulatory process in between 15 and 45 days. If it took more than 45 days for firms to obtain the licence or permit, we define it as a *slow* deal. It may be noted that this nomenclature has no normative implication, but only provides a way to classify deals according to the time needed by firms in order to get their regulatory requirements processed.

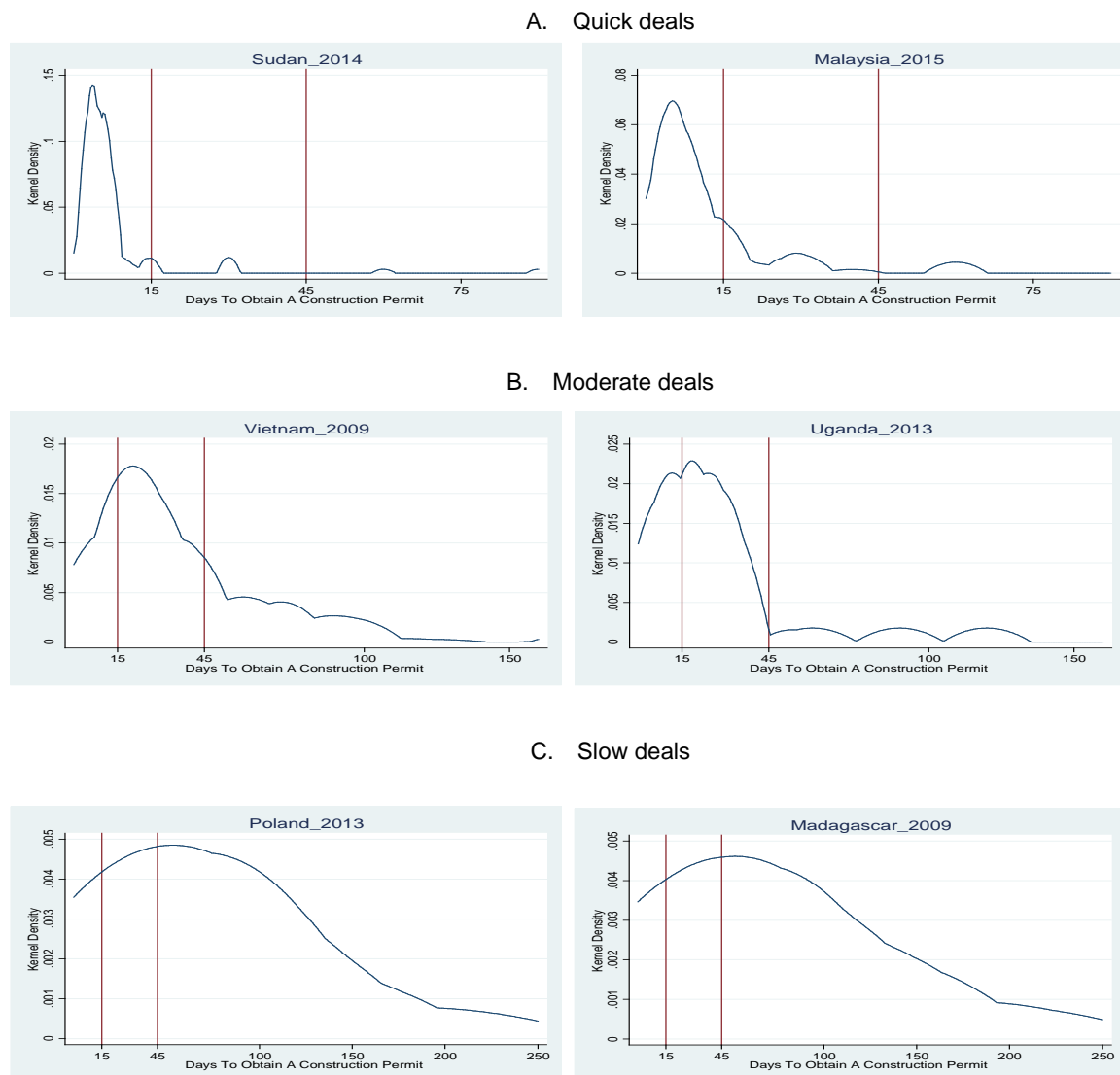
There are three important aspects of the ES days distribution. First, there is a significant portion of this distribution on the left tail, which involves regulatory clearances within very few days, which is likely too short a period to undertake any due diligence or substantive review. About a third of all firms in the ES report a ‘quick deal’.

Second, there is a significant portion on the right tail (a bump at 365 days) that takes ‘too many’ days to complete regulatory clearance — more than the de jure and order of magnitude larger than the typical de facto. These are either extraordinarily complex cases that legitimately take a long time to review, or, given the deals nature of the enforcement environment, it could, in effect, be inflicting harassment on the firms by delaying approvals. As seen in the distributions of DB and ES in Figure 3, two-thirds of all firm responses about construction permit compliance times are bunched below 45 days — below the *lowest* reported DB time and not anywhere near the middle of the de jure distribution of 180 days. Thus, a third of the distribution is firms with ‘slow’ deals.

Third, another third of the distribution are firms with ‘moderate’ deals, between 15 and 45 days. This distribution of ES reports contrasts with the distribution of rules, which is one observation per country/year. This is significantly flatter, indicating a larger variety of approaches to the policies towards ease of doing business across developing countries. The number and proportion

of firms under each of these types of deal for each ES country-year is given in Table A2 in the Appendix. Figure 4 represents the kernel distribution of deals for countries that have mostly *quick*, *moderate* and *slow* deals, respectively. While the horizontal axes of the graphs are not all to the same scale, there are (red) lines marking 15 days and 45 days in each graph, so that the distributions can be compared.

Figure 4: Countries are heterogeneous in deal making



Source: Authors' calculations from DB and ES data.

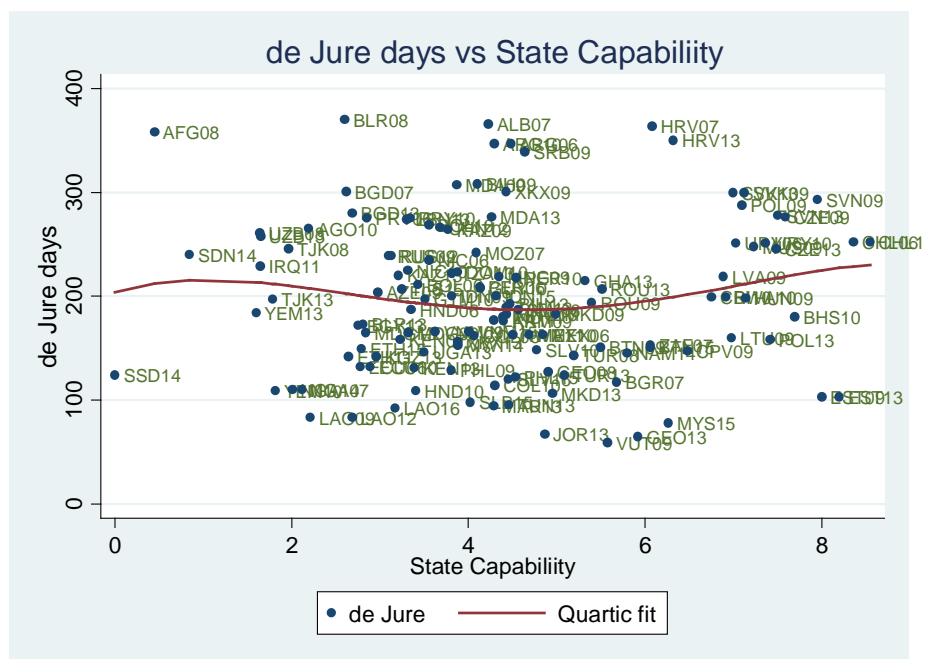
The quick deals environments are across very different income and governance levels. Countries with a predominantly quick deals environment include very high middle-income countries like Malaysia (83 per cent), but also much poorer countries without, shall we say, a strong reputation for governance, like Sudan (94 per cent). Countries with predominantly a *moderate* deals environment include high-income countries, such as Hungary (56 per cent moderate), as well as low-income countries like Uganda (44 per cent) and low-middle-income countries like Vietnam (38 per cent). Countries with a *slow* deals environment include high-income countries like Poland (68 per cent slow) as well as very low-income countries like Madagascar (60 per cent). Perhaps not surprisingly, the very high per cent 'slow' countries are dominated by Eastern Europe and Russia (nine of the 13 highest per cent slow countries).

#### 4 Deals environments, rules and state capability: a preliminary exercise

This section explores the cross-national relationship between the deals environment, de jure rules, and state capability. We use the proportion of *quick deals* ( $<15$ ), *moderate deals* ( $15 < ES < 45$ ) and *slow deals* ( $>45$ ) in line with the discussion in the previous section.<sup>7</sup>

There are two obvious factors that may influence deals. First, the de jure rules define the official approach to the state–business relationship. By legally fixing a process with few days required for compliance, governments could hope to provide better deals to firms. We use the DB report for the country-year of the ES to proxy for this factor. Second, state capability is sometimes defined as the ability to implement existing laws, regulations and policies. We create a state capability index based on principal components analysis of the six (strongly correlated) variables from the World Governance Index: (i) voice and accountability (ii) rule of law (iii) regulatory quality (iv) political stability (v) government effectiveness and (vi) corruption control. These two, official regulation and state capability, are conceptually independent and Figure 5 shows there is only a weak correlation (-0.11).

Figure 5: Relationship between Doing Business (construction permit) and state capability



Source: ? Authors' illustration based on [x] data??

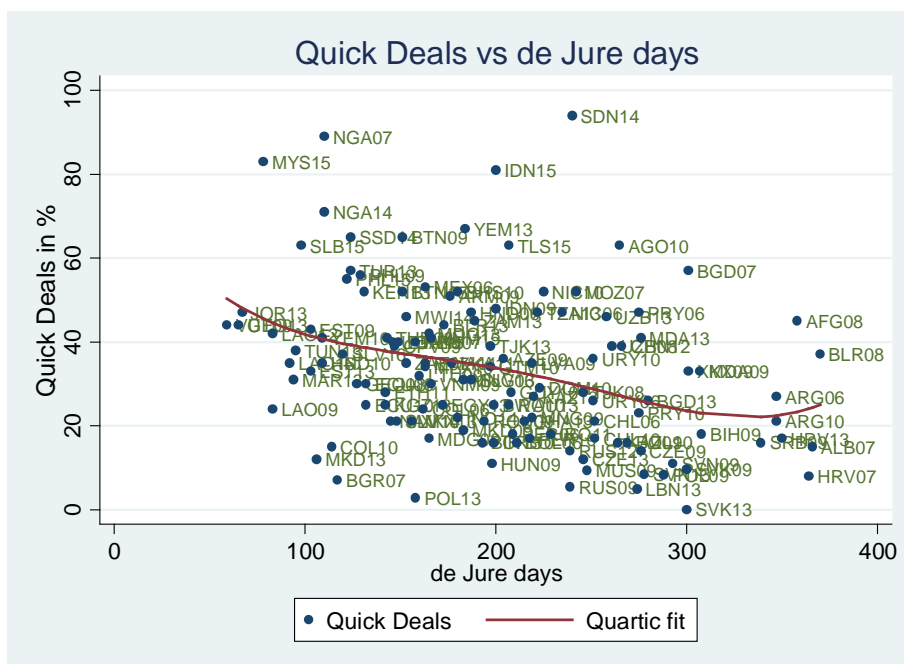
There is a fairly high correlation across countries of nearly all governance indicators and there is a literature on how many principal components these various indicators contain. The first principal component of six WGI variables captures close to 80 per cent of the joint variation. Many authors argue that there is really only one principal component in the standard governance indicators, while others argue that there are two or more, often with one representing the ‘democracy/human rights’

<sup>7</sup> While HP looked at variation in three measures of regulatory compliance in the Enterprise Surveys – days taken to obtain an operating licence, days taken to obtain a construction permit, and days taken to clear customs – we confine our analysis to construction permits, as there are enough firm-level observations of this variable to permit a robust measure of deals for a sufficient number of countries.

aspects of governance and another ‘state capability’ (Drumm 2015). For our present purposes, one rough-and-ready index based on the first principal component will do.<sup>8</sup>

The proportion of quick, moderate and slow deals is plotted against the Doing Business reported days in Figures 6 and Appendix Figures A1 and A2 (each of which shows an illustrative quartic fit). Figure 6 shows a lower proportion of quick deals, the higher the DB measure. There is some relationship between the deals environment and the DB, but it is weak, in two senses.

Figure 6: Relationship between quick deals and Doing Business (construction permit)



Source: Authors' calculations from DB and ES data.

First, the relationship is weak in the sense that *massive* increases in the DB are associated with modest decreases in the proportion of quick deals. Following the quartic fit, one can see that countries with a DB of 100 days have roughly 40 per cent quick deals, whereas countries with a DB of 300 days still have, on average, more than 20 per cent quick deals — firms who report taking *less than 15 days*. Obviously, if de jure regulations increased compliance times one for one — shifted the distribution of reported compliance times uniformly to the right — a 200-day increase in the de jure should completely eliminate quick deals. For that matter, even if each de jure regulatory day added uniformly *one-tenth of a day* to each firm’s reported compliance times, this should also drive the proportion of quick deals to zero (as even firms reporting zero days at DB of 100 would be at 20 if the uniform shift were even one ES day for each 10 DB days).

<sup>8</sup> There has been considerable debate on how best to measure state capability. While the World Governance Indicators (WGI) have come under some criticism for lack of consistency over time (see Apaza 2009), other measures such as ICRG’s Bureaucratic Quality, have been criticised for their subjective nature (see Savoia and Sen 2015). We use the WGI, as they cover all the countries in our sample. However, our results are robust to alternative measures of state capability, such as the ICRG measure of bureaucratic quality.

Figure 7A: Distribution of quick deals for Doing Business terciles

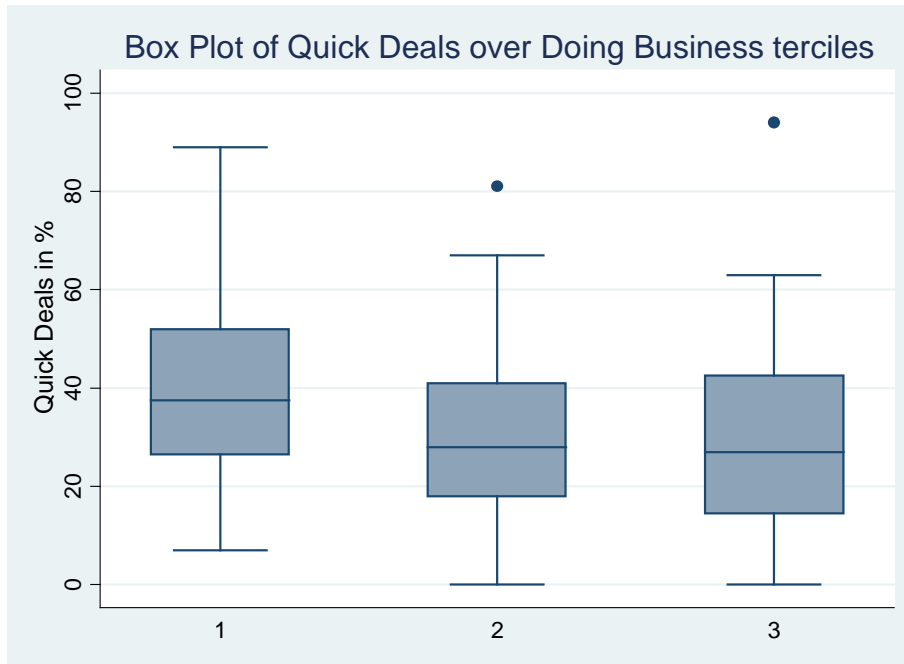
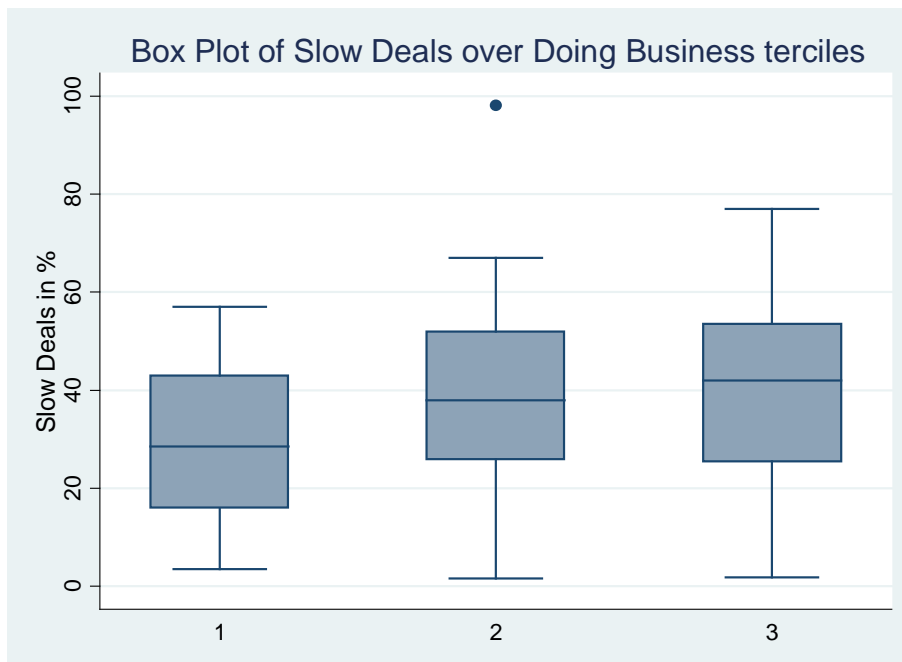


Figure 7B: Distribution of slow deals for Doing Business terciles

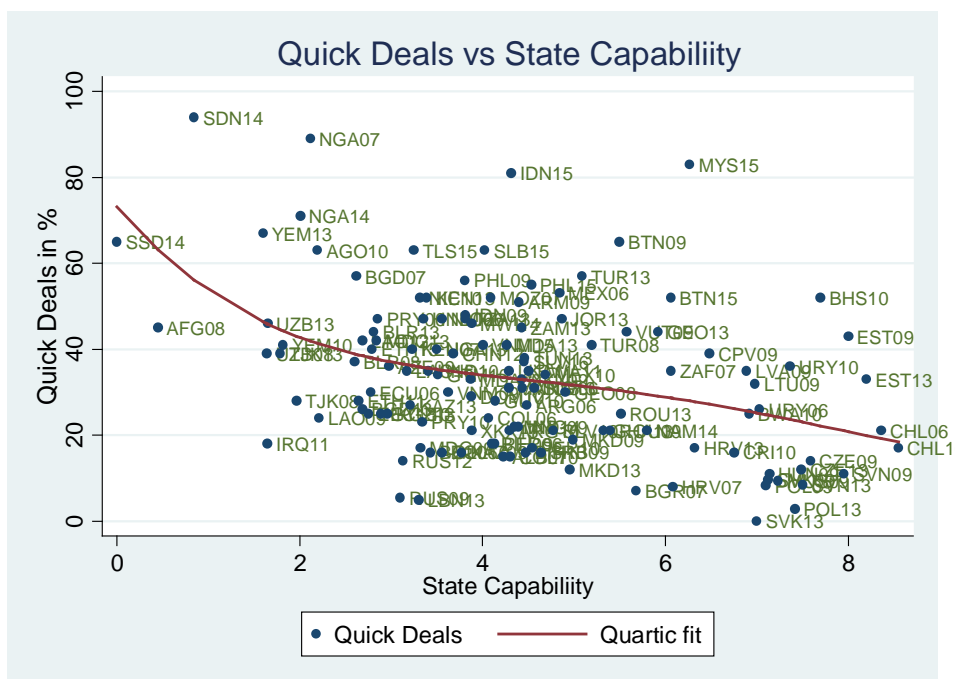


Source: Authors' calculations from DB and ES data.

Second, the relationship is weak in the more traditional sense that the ‘explanatory power’ of DB for reported times is weak. Figures 7a and 7b show the box plot of the distribution of ‘quick’ and ‘slow’ deals across the terciles of DB. The fraction of ‘quick deals’ does decline with the de jure DB measure of the rule — but only moderately from lowest tercile to middle tercile and not at all above that (so the median fraction of quick deals is roughly the same in the most restrictive tercile as the middle tercile). These 25<sup>th</sup>-75<sup>th</sup> boxes massively overlap. Even though the median DB days is 69 days higher for the middle tercile than the bottom tercile (least restrictive), the 75<sup>th</sup> percentile

of countries in the middle tercile is 44 per cent of firms reporting quick deals (under 15 days), compared to the median of 40 per cent of quick deals, even in the least restrictive countries.

Figure 8: Relationship between quick deals and state capability



Source: Authors' calculations from DB and ES data.

Figure 8 shows that countries with a higher state capability index (SCI) have *fewer* quick deals, the fitted ('predicted' in the very narrow and technical sense) value of the proportion of quick deals falls from over 60 per cent to under 20 per cent across the range of observed SCI (the corresponding figures for moderate and slow deals are in Appendix Figures A3 and A4). This strong association of reported times suggests that quick deals are often the result of weak implementation via regulatory capture and/or influence or evasion, rather than the result of better regulation or the more speedy completion of regulatory processes. In other words, firms are able to get permits and licences much faster, without due diligence being undertaken for their business activities, by influencing the regulatory bureaucracy and/or their political bosses. As a country's state capability increases, there is greater ability to counter the pressure for regulatory capture and hence the proportion of such quick deals falls (even at the constant levels of de jure regulation — on which more below).

## 5 Regression analysis of the deals environment

We explore the multi-variate correlates of the fraction of quick, moderate and slow deals, using simple OLS regressions. We also run regressions on median-days of reported compliance (defined in more detail below). Our interest is in the associations with DB days and the SCI. We allow for non-linearity with spline regressions that allow the association to differ above and below the median (so that, for instance, the DB could have less association with quick deals at higher than lower levels of DB). Crucially, we allow an interactive term, so that the association of the DB on quick or slow deals depends on the level of state capability.

As the deals environment is structured by informal institutions that work alongside (sometimes as a complement, sometimes undermining) formal contractual institutions, we also include measures of institutions from the literature: geography (temperate regions); history (of statehood); social factors (ethnic fractionalization); and economic structure (globalization, rents from different sources). We also control for per capita income, just as an omnibus control variable.

Tables 1 to 3 present the results for the measures quick deals, moderate deals and slow deals, respectively. The first equation (column 1) estimates the deals variable as a function of just the variables DB de jure days and state capability. Column 2 presents the spline regressions allowing for non-linearity. Column 3 includes the spline regressions and adds as controls per capita GDP and measures of institutions.<sup>9</sup> Column 4 drops the spline regressions, but includes interaction terms between de jure days and state capability and controls. Column 5 includes the spline regressions, a multiplicative interaction term between de jure days and state capability index and the control variables.

Table 1: Correlates of the percentage of quick deals (<15 days)

|                                 | 1                  | 2                  | 3                  | 4                  | 5                  |
|---------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| DB de jure                      | -0.08***<br>(0.00) |                    |                    | 0.07<br>(0.24)     |                    |
| State capability                | -3.73***<br>(0.00) |                    |                    | 2.70<br>(0.37)     |                    |
| DB (below median)               |                    | -0.09**<br>(0.04)  | -0.14**<br>(0.01)  |                    | -0.02<br>(0.81)    |
| DB (above median)               |                    | -0.08**<br>(0.03)  | -0.01<br>(0.95)    |                    | 0.09<br>(0.14)     |
| State capability (below median) |                    | -6.15***<br>(0.00) | -6.00**<br>(0.03)  |                    | -0.87<br>(0.81)    |
| State capability (above median) |                    | -2.05<br>(0.12)    | -1.05<br>(0.64)    |                    | 3.46<br>(0.28)     |
| DB de jure x State capability   |                    |                    |                    | -0.03**<br>(0.02)  | -0.02*<br>(0.06)   |
| State history                   |                    |                    | -0.61<br>(0.94)    | -0.03<br>(0.99)    | 0.23<br>(0.97)     |
| Geography                       |                    |                    | -25.71**<br>(0.04) | -29.62**<br>(0.02) | -32.92**<br>(0.01) |
| Per capita GDP                  |                    |                    | -3e-04<br>(0.63)   | 3e-04<br>(0.59)    | 3e-05<br>(0.96)    |
| Globalization                   |                    |                    | 0.12<br>(0.46)     | 0.11<br>(0.51)     | 0.13<br>(0.41)     |
| Oil rent                        |                    |                    | -0.21<br>(0.37)    | -0.10<br>(0.66)    | -0.19<br>(0.42)    |
| Gas rent                        |                    |                    | 1.59<br>(0.39)     | 0.41<br>(0.81)     | 1.44<br>(0.43)     |

<sup>9</sup> Adding the control variables causes the sample size to fall modestly (from 129 to 98 observations), but the results of columns 1 and 2 on the reduced sample are essentially the same.



|              |                    |                    |                    |                  |                   |
|--------------|--------------------|--------------------|--------------------|------------------|-------------------|
| Forest rent  |                    |                    | -0.08<br>(0.89)    | -0.02<br>(0.97)  | -0.02<br>(0.97)   |
|              | 4.88               |                    | (0.62)             | (0.53)           | (0.64)            |
| Constant     | 65.88***<br>(0.00) | 75.65***<br>(0.00) | 81.27***<br>(0.00) | 29.93*<br>(0.08) | 54.23**<br>(0.01) |
| Observations | 129                | 129                | 98                 | 98               | 98                |
| R — squared  | 0.2463             | 0.2621             | 0.3516             | 0.3497           | 0.3787            |

Note: p-value in parentheses. Level of significance: \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10

Source: Authors' tabulations from DB and ES data.

Amongst the control variables, whether the country was located in a 'temperate' region shows a consistent relationship — negative and significant with quick deals, and positive and significant with moderate deals. This likely reflects the EE/FSU countries, which, as we noted above, were typically moderate- and slow-deal countries. None of the other variables, including per capita income, has any significant relationship with the deals variables. Hence we will focus on the complicated relationship between the de facto deals environment, state capability index, and de jure regulation.

The regression results in Table 1, columns 1 to 3, confirm the negative relationship between the quick deals variable and the DB de jure days and state capability variables. Column 3 (that includes controls) shows that, at levels of DB days below the median, increases are associated with fewer quick deals, but this is not true above the median (controlling for the temperate region). Similarly, increases in state capability from low levels decrease quick deals; less so above the median. Columns 4 and 5 suggest an interactive effect between the formal regulation (DB days) and state capability. With a linear interaction term, the estimated impact of increased DB regulatory days on the percentage of quick deals depends on the level of state capability. In column 4 the equation is:

$$\text{Percent quick} = \alpha + \beta * \text{DB days} + \delta * \text{State capability} + \gamma * \text{SC} * \text{DB} + \theta * Z$$

So the predicted impact on the percentage of deals that are quick from increasing the DB days by 100 days is:

$$\frac{d \text{ Percent quick}}{d \text{ DB}} * 100 = (\beta + \gamma * \text{State capability}) * 100$$

Table 2: Correlates of the percentage of moderate deals (15–45 days)

|                        | 1               | 2               | 3                | 4               | 5                |
|------------------------|-----------------|-----------------|------------------|-----------------|------------------|
| De jure                | -0.01<br>(0.26) |                 |                  | -0.02<br>(0.53) |                  |
| State capability       | 0.05<br>(0.92)  |                 |                  | -0.08<br>(0.96) |                  |
| De jure (below median) |                 | -0.02<br>(0.60) | -0.002<br>(0.94) |                 | -0.004<br>(0.94) |
| De jure (above median) |                 | -0.01<br>(0.57) | -0.03<br>(0.27)  |                 | -0.03<br>(0.48)  |
|                        |                 | 0.19            | 0.63             |                 | 0.57             |

|                                 |          |          |          |          |          |
|---------------------------------|----------|----------|----------|----------|----------|
| State capability (below median) |          | (0.87)   | (0.69)   |          | (0.81)   |
| State capability (above median) |          | -0.04    | -0.13    |          | -0.18    |
|                                 |          | (0.96)   | (0.92)   |          | (0.93)   |
| De jure x state capability      |          |          |          | 0.001    | 0.001    |
|                                 |          |          |          | (0.86)   | (0.97)   |
| State history                   |          |          | -3.28    | -3.27    | -3.29    |
|                                 |          |          | (0.92)   | (0.51)   | (0.52)   |
| Geography                       |          |          | 27.17*** | 26.61*** | 27.25*** |
|                                 |          |          | (0.00)   | (0.00)   | (0.00)   |
| Per capita GDP                  |          |          | -4e-04   | -5e-04   | -4e-04   |
|                                 |          |          | (0.20)   | (0.15)   | (0.22)   |
| Globalization                   |          |          | 0.07     | 0.08     | 0.07     |
|                                 |          |          | (0.46)   | (0.42)   | (0.47)   |
| Oil rent                        |          |          | 0.11     | 0.09     | 0.11     |
|                                 |          |          | (0.44)   | (0.49)   | (0.45)   |
| Gas rent                        |          |          | -0.60    | -0.39    | -0.60    |
|                                 |          |          | (0.59)   | (0.71)   | (0.60)   |
| Forest rent                     |          |          | 0.12     | 0.13     | 0.12     |
|                                 |          |          | (0.71)   | (0.70)   | (0.71)   |
| Ethnic fractionalization        |          |          | 0.74     | 0.52     | 0.75     |
|                                 |          |          | (0.88)   | (0.91)   | (0.88)   |
| Constant                        | 33.34*** | 33.09*** | 20.08**  | 25.16**  | 20.41    |
|                                 | (0.00)   | (0.00)   | (0.04)   | (0.02)   | (0.13)   |
| Observations                    | 129      | 129      | 98       | 98       | 98       |
| R — squared                     | 0.0099   | 0.01     | 0.186    | 0.1823   | 0.186    |

Note: p-value in parentheses. Level of significance: \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10

Source: Authors' tabulations from DB and ES data.

Table 3: Correlates of the percentage of slow deals (>45 days)

|                                 | 1       | 2       | 3      | 4      | 5      |
|---------------------------------|---------|---------|--------|--------|--------|
| De jure                         | 0.09*** |         |        | -0.05  |        |
|                                 | (0.00)  |         |        | (0.39) |        |
| State capability                | 3.66*** |         |        | -2.78  |        |
|                                 | (0.00)  |         |        | (0.36) |        |
| De jure (below median)          |         | 0.11**  | 0.15** |        | 0.02   |
|                                 |         | (0.01)  | (0.01) |        | (0.81) |
| De jure (above median)          |         | 0.08**  | 0.03   |        | -0.07  |
|                                 |         | (0.01)  | (0.50) |        | (0.29) |
|                                 |         | 5.93*** | 5.31*  |        | 0.07   |
| State capability (below median) |         | (0.00)  | (0.05) |        | (0.98) |
|                                 |         | 2.08*   | 1.21   |        | -3.39  |
| State capability (above median) |         | (0.09)  | (0.60) |        | (0.31) |

|                            |        |        |        |         |        |
|----------------------------|--------|--------|--------|---------|--------|
| De jure x state capability |        |        |        | 0.02**  | 0.02*  |
|                            |        |        |        | (0.02)  | (0.06) |
| State history              |        | 4.63   |        | 3.98    | 3.76   |
|                            |        | (0.59) |        | (0.63)  | (0.66) |
| Geography                  |        | -1.79  |        | 2.92    | 5.56   |
|                            |        | (0.89) |        | (0.82)  | (0.68) |
| Per capita GDP             |        | -5e-04 |        | 3e-04   | 7e-04  |
|                            |        | (0.23) |        | (0.76)  | (0.51) |
| Globalization              |        | -0.19  |        | -0.18   | -0.21  |
|                            |        | (0.26) |        | (0.27)  | (0.22) |
| Oil rent                   |        | 0.09   |        | -0.002  | 0.07   |
|                            |        | (0.69) |        | (0.99)  | (0.77) |
| Gas rent                   |        | -0.96  |        | 0.01    | -0.80  |
|                            |        | (0.61) |        | (0.99)  | (0.67) |
| Forest rent                |        | -0.05  |        | -0.11   | -0.11  |
|                            |        | (0.93) |        | (0.84)  | (0.84) |
| Ethnic fractionalization   |        | -4.75  |        | -5.46   | -4.47  |
|                            |        | (0.56) |        | (0.50)  | (0.58) |
| Constant                   | 1.11   | -8.79  | -1.49  | 45.59** | 26.16  |
|                            | (0.82) | (0.31) | (0.93) | (0.01)  | (0.23) |
| Observations               | 129    | 129    | 98     | 98      | 98     |
| R — squared                | 0.2962 | 0.3116 | 0.3003 | 0.3102  | 0.329  |

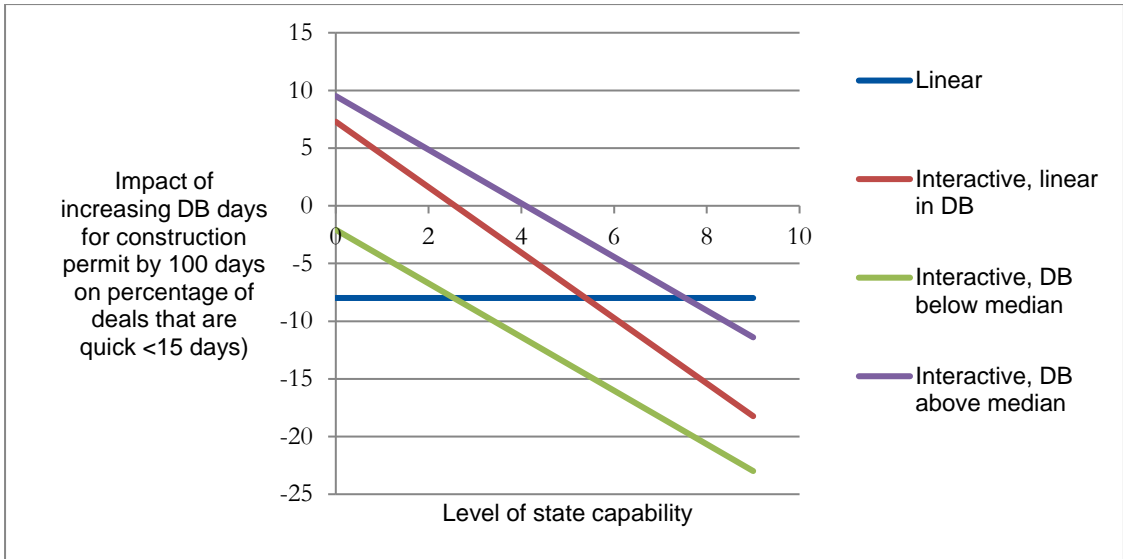
Note: p-value in parentheses. Level of significance: \*\*\* p <0.01, \*\* p <0.05, \* p <0.10

Source: Authors' tabulations from DB and ES data.

At the point estimates this is  $(.07-.03*SC)*100$  and is shown in Figure 9. Column 1 suggests that, on average, an increase by 100 days in the regulation is associated with 8 per cent fewer quick deals (the horizontal line). But the interactive effect suggests that, while this is true of the country with state capability of 5 (on a 0 to 10 scale), this is not true for countries with low capability. For a country of very low capability (an index of 1, roughly Sudan's level), the predicted effect of increasing the de jure regulatory days to get a construction permit by 100 days is to increase the percentage of firms which actually report completing the process in less than 15 days by 4 percentage points. That is, higher stringency of regulation is associated with less apparent compliance.

From column 5, we can also calculate the expected impact of increasing regulation on quick deals when the DB is either below or above the median (i.e., 193 days). What the estimates suggest is that the impact on the percentage of deals that are quick of an increase in the DB de jure rules, is the unexpected result of *increasing* the percentage of quick deals only for those countries which start from a higher than average DB regulation. This result therefore combines the non-linearity of the spline from column 3 with the interaction effect. This result is consistent with what we observe in the graphs above, where, for instance, Sudan and Afghanistan have very low state capability, above average DB de jure days, and yet also above average percentage of quick deals.

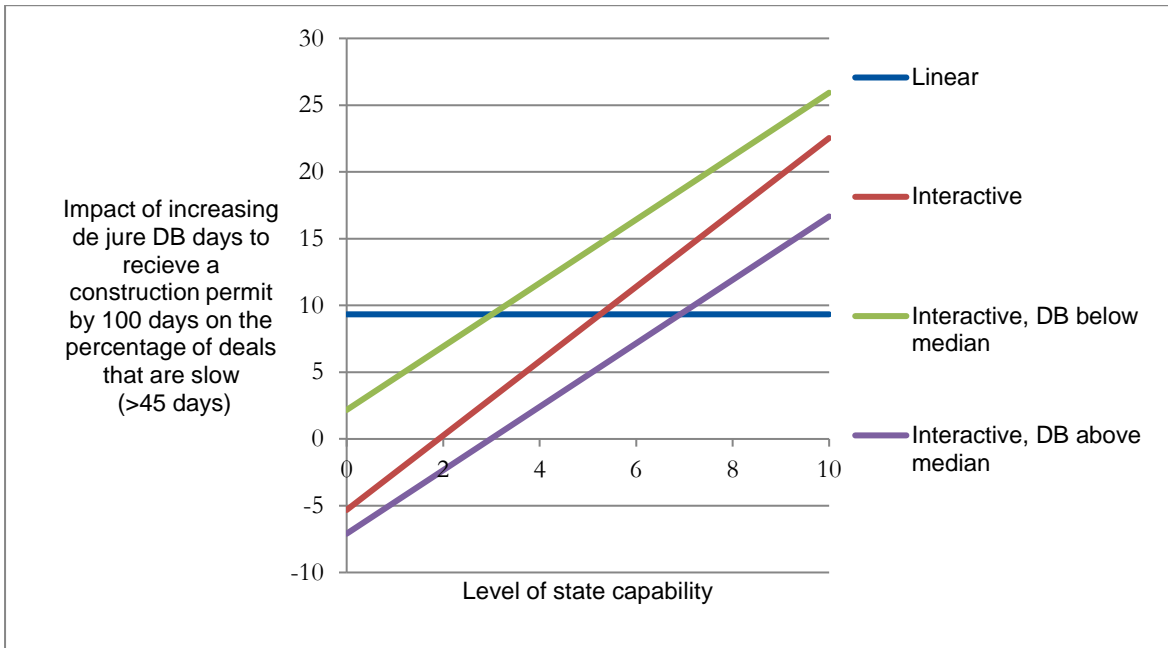
Figure 9: Increasing the de jure regulation reduces quick deals for higher-capability states, but not for weak capability states



Source: Calculations from regression coefficients in Table 1.

Figure 10 shows the same results for slow deals (>45 days), which are, reassuringly but not surprisingly, symmetric: increases in regulation *reduces* the fraction of deals that are slow for low-capability countries, particularly when regulation is above the median.

Figure 10: Increasing regulation increases the percentage of deals that are 'slow' in strong capability countries, not in weak capability countries



Source: Calculations from regression results in Table 3.

Table 4 reports the results of regressing the median of the reported days in the ES data on the DB de jure days.<sup>10</sup> The coefficient signs in Table 4 are expected to be opposite to those in Table 1, as higher median days is, all else equal, likely associated with fewer quick deals. Again reassuringly, but not surprisingly, the three key patterns from the quick and slow deals are produced with the interactive effects on the median days to compliance in Figure 11. The first finding is that the impact of de jure regulation on what firms report is non-linear, i.e., increasing the de jure regulation by 100 days increases the median reported days by only six days when the increase starts from above the median, but by 14 days when it is below the median. The second finding is the interactive effect that the impact of de jure on de facto is much weaker (and, for the weakest, in the opposite direction) in countries with weak state capability and stronger in states with strong capability. The third (in some sense a mechanical consequence of the above two) is that increasing regulation in very weak states actually *reduces* the median reported compliance times.<sup>11</sup>

Table 4: Correlates of firm reported median days

|                            | 1                | 2                |
|----------------------------|------------------|------------------|
|                            | Median-days      | Median-days      |
| DB de jure_low             | 0.14**<br>(0.04) | -0.01<br>(0.94)  |
| DB de jure_high            | 0.06<br>(0.24)   | -0.05<br>(0.51)  |
| State capability_low       | 6.53*<br>(0.05)  | 0.50<br>(0.91)   |
| State capability_high      | 2.43<br>(0.39)   | -2.87<br>(0.48)  |
| De jure x state capability |                  | 0.03*<br>(0.08)  |
| State history              | 10.51<br>(0.32)  | 9.51<br>(0.36)   |
| Geography                  | 13.15<br>(0.41)  | 21.62<br>(0.19)  |
| Per capita GDP             | 2e-04<br>(0.79)  | -2e-04<br>(0.82) |
| Globalization              | -0.16<br>(0.44)  | -0.17<br>(0.39)  |
| Oil rent                   | 0.15<br>(0.61)   | 0.12<br>(0.68)   |
| Gas rent                   | -1.29<br>(0.58)  | -1.11<br>(0.63)  |
| Forest rent                | -0.69<br>(0.33)  | -0.76<br>(0.28)  |
| Ethnic fractionalization   | 4.96             | 5.28             |

<sup>10</sup> Given the results from the descriptive graphs (e.g. Figure 6) showing that the distribution of firm reported days to compliance is massively right-skewed (most firms reporting a small number of days, a few reporting very large values), the arithmetic average days is not a very reliable measure of central tendency, so we focus on the median days.

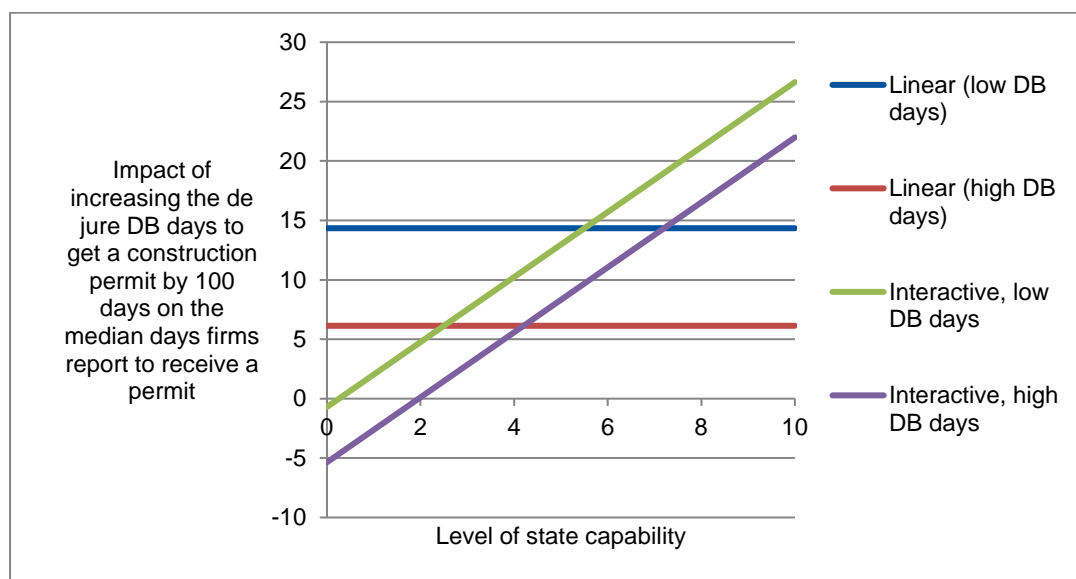
<sup>11</sup> Raj et al. (2019) also find a negative relationship between governance and deal making using Enterprise Survey data for Indian states.

|              |        |        |
|--------------|--------|--------|
|              | (0.62) | (0.59) |
| Constant     | -17.00 | 14.81  |
|              | (0.40) | (0.58) |
| Observations | 98     | 98     |
| R — squared  | 0.2651 | 0.2915 |

Note: p-value in parentheses. Level of significance: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.10$ .

Source: Authors' tabulations from DB and ES data.

Figure 11: Interaction of Enterprise Survey reported median days with level of state capability index



Source: Authors' calculations from DB and ES data.

We wish to emphasise that these regression results are *descriptive* and *illustrative* and we are under no illusions that these represent causal parameters. We are using regression techniques as a data descriptive device to generate facts about the data — just as means and standard deviations and bivariate correlations are facts, so too are regression coefficients. But there is no one-to-one mapping from regression facts into causal models. Moreover, while the interactive effects are striking, we want to be the first to acknowledge the many weaknesses. Both the simple spline term at the median and the multiplicative interactive term are very, very strong and essentially arbitrary functional form restrictions that may not be benign. The measurement error in our variables generally, and in particular the large differences in the number of firm observations from each survey (some countries have just barely over 30, whereas eight countries have over 200 firm observations), has not been incorporated. That said, these results are the first large-scale cross-national data describing patterns of associations amongst rules, deals and state capability that have been predicted from individual cases, but never seen across countries.

## 6 What should a policy maker do?

Before we turn to policy options based on our findings, we need to discuss three important implications from these results and their interpretation, one purely numerical and two about what they reveal.

First, the coefficients on the de jure DB variable in Tables 1–4, and shown in Figures 9–11, are consistently very small, so small that we have to rescale it to changes of 100 days to be visible. In Table 1, column 3, the coefficient on de jure low (DB when lower than the median) is  $-0.14$  where the dependent variable is expressed as a percentage, and the regression constant is 81.3. This implies that an increase in de jure rules in this range by 100 days (the cross-national standard deviation is 81 days) decreases the proportion of quick deals only by 14 per cent, starting from the regression constant of 81 per cent to 67 per cent. This point is made even more clearly in Table 4. Here, column 1 corresponds to column 3 in Table 1, except that the explained variable here is median ES reported days to get a permit. Here, the coefficient of de jure low (in column 1) is 0.14, implying that an increase in de jure rules in this range by 100 days would increase the median number days to get a permit only by 14 days; and for de jure high it is only six days. While the ‘rules’ do impact the available ‘deals’, the relationship is nowhere close to being one-to-one (as we pointed out in the bivariate relationship, this has to be small, as quick deals do not fall to zero).

In order to understand the empirical relationship across countries between the reported DB de jure rules and the reality of de facto rules, one has to free one’s mind from what can be ‘natural’ or ‘intuitive’ ideas that there is (a) roughly full compliance (that the distribution of ES is centred on the DB) or (b) the distribution of reported compliance times is symmetric, as opposed to right-skewed. The median DB days across countries is 191, while the median of the median ES reports is 30 (the median of the average days is 63, showing the massive right-skewness in the ES distributions), so there is nothing like full compliance. Moreover, with anything like symmetric distributions of reported ES compliance times, one would expect much larger shifts in the proportion of quick deals from a shift of 100 days in DB. That is, supposing a country were at a typical value of 180 days for DB de jure and 60 days for mean of ES reported de facto and the distribution of compliance as a symmetric Gaussian normal; then one could observe a fraction of quick deals of 40 per cent only if the standard deviation were 180 — but that would imply that 35 firms had values below zero, which takes us back to a highly skewed distribution, as zero is a lower bound. This is just reinforcing the point that ‘rules’ thinking does not help understand the ‘deals’ world — massive changes in the ‘rules’ (moving the country de jure by more than a cross-national standard deviation) have very modest impact (association) on reported distributions of compliance, as the reported days for compliance are massively below the ‘rule’ and are right-skewed (most firms report very short times; a few very long times).

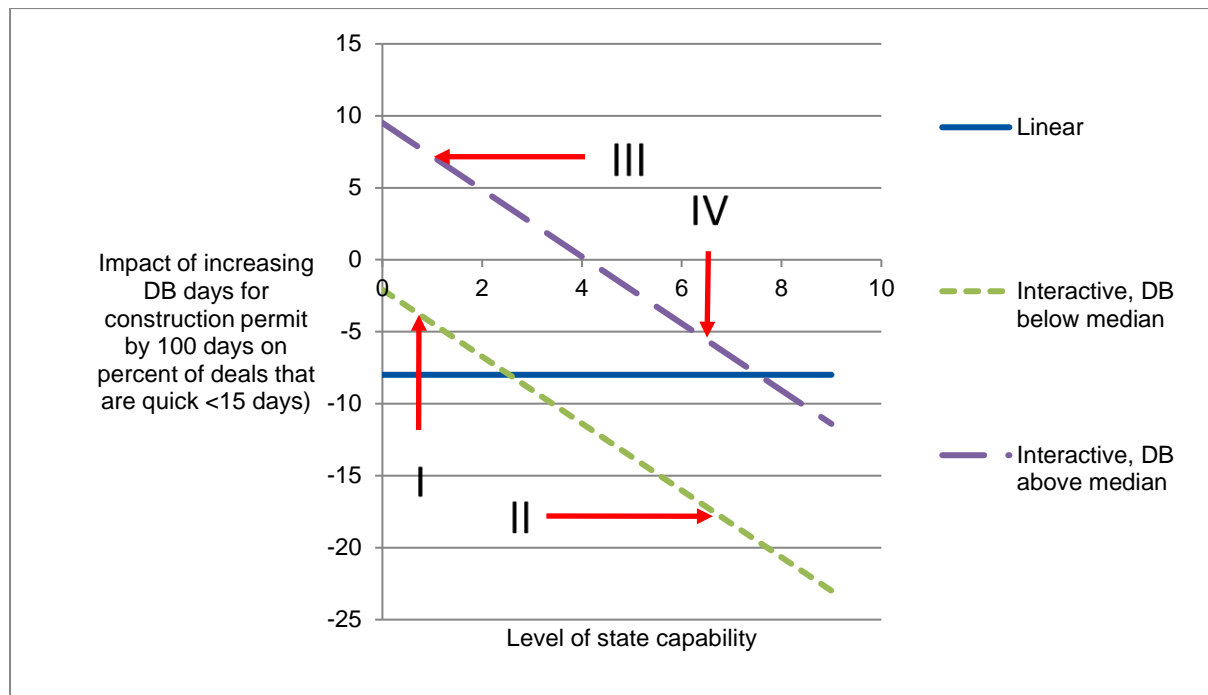
Second, the deep and important point is that these results are consistent with the notion from Andrews et al. (2017) of the negative effects on organizational capability of ‘premature load bearing’, which is that when regulations are much more stringent than can actually be enforced with existing organizations, this ‘excessive relative to capability’ regulation creates a downward spiral. The pressures for regulatory capture — either through high-level political connections or through direct influence on implementing agents — are too large for the organization to resist, the percentage of actual actions that are de facto ‘exempt’ from regulatory compliance grows, whatever incipient norms of purpose and performance in the organization are eroded, and the organization shifts to a low-level equilibrium trap, in which non-compliance is the (reinforced) norm of the organization as regulatory agencies become institutionalised as revenue sources from non-compliance. The danger is that ‘more is less’ — there appear to be thresholds in the degree of de jure regulation such that pushing regulation past that point actually reduces compliance.

Third, this returns us to the motivation of the paper. There is a critique of the Doing Business indicators that they are promoting one good thing, the Ease of Doing Business, that might promote investment, innovation and broadbased economic growth which leads to widespread improvements in wellbeing, at the expense of other good things — there are legitimate public

purposes in the regulation of business and its taxation that the market, left to its own devices, would not accomplish. Our results show that this debate assumes a trade-off between Ease of Doing Business and public purpose that is highly empirically contingent on the extent to which regulatory compliance is mediated by state capability. In weak-capability countries, those with low ability to implement regulations, we see that higher formal, de jure ‘rules’ lead to *less* compliance — more “‘quick deals’, deals which are likely to have undermined public purpose. With low state capability and high levels of de jure regulation, one is in the paradoxical situation that any attempts to achieve legitimate public purpose by *increasing* regulatory stringency can lead to even *less* compliance — and *less* likelihood of creating a positive dynamic in improving the regulatory agencies’ capability. And, it is not the case that increased regulation *decreases* the Ease of Doing Business; it just shifts the way business is done into non-compliance, which is associated with regulatory capture, either politically (for large, formal deals) or bureaucratically (for smaller deals) or both (in which the revenue flows from payments for non-compliance are shared between politicians and bureaucrats).

Now consider a policy maker in the ministry of industry in a hypothetical developing country or emerging economy. What do our results imply for his or her policy choices, when faced with the possibility of easing the Doing Business in some observable measure where the policy maker has the power to change the rules (say, simplifying the regulations to obtain a construction permit)? Our results suggest that the desired policy option for the official would depend on whether the country in question is a low- or high-capability state, and whether the DB rules in the country are higher or lower than the average, (that is, more stringent or less stringent). Therefore, what the official should do would depend on whether his or her country is placed in the -two-by-two quadrant below (we use median DB days to obtain a construction permit to categorise countries in the more stringent or less stringent de jure rules rows, and the median value of our state capability measure to categorise countries as being high or low state capability), as in Figure 12. We provide concrete country examples for each of the four cells to illustrate our argument.

Figure 12: Policy diagnostic map for doing business



Source: Authors’ calculations from DB and ES data.



Table 5: Doing Business diagnostics

| De jure rules         | State capability |              |
|-----------------------|------------------|--------------|
|                       | <i>Low</i>       | <i>High</i>  |
| <i>Less stringent</i> | Nigeria (I)      | Poland (II)  |
| <i>More stringent</i> | Sudan (III)      | Uruguay (IV) |

Source: see text.

First consider Uruguay (case IV), which has high state capability as well as more stringent *de jure* rules.<sup>12</sup> Uruguay is the archetypical country for the DB case for easing regulations — with high state capability, compliance is high in Uruguay, so deals mirror rules to a large extent. Though there may be a case for not relaxing de jure rules to maintain public purpose objectives, there may be a stronger case for the ministry of industry official in Uruguay to ease DB, if it were to lead to higher investment and growth.

Now consider Poland (case II), also a country with high state capability, but with below median (less stringent) DB indicators.<sup>13</sup> For the Polish ministry of industry official, there would have to be compelling evidence that this particular element is an important obstacle to business, as further reductions may actually compromise on some important public purpose goal. In this case, the ministry of industry official in Poland would need to balance public policy objectives against the DB policy prescription of further relaxing the ease of doing business, and may choose not to do anything with the de jure rule.

Next consider Nigeria (case I), a country with low state capability *and* low de jure rules.<sup>14</sup> As we have seen from the previous section, for a country like Nigeria, with low state capability, de facto deals, and not rules, dictate the economic environment, and there is very limited compliance with regulations in these contexts. With an already low DB, there is very little that the ministry of industry official in Nigeria needs to do, and the overall policy message for such a country example would be to strengthen state capability, such that compliance can increase in the future.

Finally, consider Sudan (case II), a country with low state capability and high de jure rules.<sup>15</sup> One may consider Sudan as the prime candidate for DB reform, as arguably simplifying regulations in the country would bring in more investment and possibly lead to higher economic growth — a desirable policy objective for one of the poorest countries in the world. However, our results have already shown that there is very limited compliance in a country such as Sudan, and the deviation of deals from rules is the highest in this context. The case for lowering the formal rules is not that it would lead to greater ease in doing business, but rather, counter-intuitively, it is more likely to lead to accomplishing public purposes. By maintaining stringent and complex formal regulation in an environment where state capability is low, this risks being a lose-lose-lose policy. It loses in forcing firms into illicit or semi-illicit non-compliance. It loses in being undermined in a way that almost certainly thwarts the averred public purpose of the regulation. And it loses in creating a

<sup>12</sup> The de jure number of days it takes to obtain a construction permit in Uruguay is 251, when the median is 193. Uruguay's state capacity measure is 7.03 when the median value is 4.26.

<sup>13</sup> Poland's DB value is 158 and the state capacity measure is 7.41.

<sup>14</sup> Nigeria's DB value is 110 and the state capacity measure is 2.11.

<sup>15</sup> Sudan's DB value is 240 and its state capacity measure is 0.84.

low-level capability trap in state capability, due to premature load bearing. Potentially, quite dramatic reduction in formal regulation could be win-win-win, rather than the difficult trade-off for Uruguay or possible losses for Poland.

## 7 Conclusion

The annual Doing Business exercises encourages countries to provide a better business environment by quantifying the difficulty faced by firms in fulfilling existing formal legal regulatory processes. The quantification is based on expert opinion on a large number of relevant rules and regulations in these countries and this encourages countries to change their legal procedures and rules, such that these regulatory processes are, *by law*, simplified and completed within a shorter period of time. Thus, better rankings on the DB index require countries to achieve an ‘ease of doing business’ by providing regulatory rules that are as simple as possible, and the required processing according to these rules needs to be as fast as possible. There are two interpretations to this Doing Business approach.

One interpretation is that it is based on a complete misunderstanding of the reality of how firms actually do business in developing countries. It is both obvious to the typical person in the street and easy to document empirically that the way business is done is through striking deals with the political and bureaucratic elite, either via connections or through intermediaries. These deals make the legal rules largely ineffectual, *both* as obstacles to business (but do strongly affect *who* can do business successfully) *and* in their (purported) public purpose, such as collecting taxes or enforcing regulations. Our study shows that for most firms in most developing countries in the world, the regulatory process we can document takes *massively* less time than is stipulated by the corresponding rules. In many countries in which the DB indicators state that getting a construction permit takes six months or more, the majority of firms report compliance times of less than 15 days.

The other interpretation of the politics of the advocacy exercise of Doing Business is that it understands this pervasive de jure–de facto gap, but it is predominately concerned with creating the conditions for *foreign* investment — and foreign investors are significantly impeded in their deal making abilities relative to domestic investors. Perhaps the Doing Business indicators could be labelled the ‘Doing Business for that small subset of foreign investors from developed countries, who must, due to their own domestic regulations — which, given high state capability, are actually enforced — try and comply with the laws of the country as written’. Of course, it is an open empirical question whether the foreign investors do in fact operate in greater compliance with de jure regulations, or whether they themselves simply operate in another deal-making space, in which foreign investors ask for, and get, formal and legal regulatory forbearance (or tax exemptions).

Since deals, as opposed to de jure rules, are firm specific, each country has a mixture of quick, moderate and slow deals (corresponding to different firms). Thus the overall business environment in a country is determined by which type of deals is most prevalent. Using this idea, this paper creates a number of measures of the business environment in a country, defining them as quick deals, moderate deals and slow deals. Since quick deals seem to indicate a complete lack of due diligence, while slow deals indicate harassment of firms by the regulatory authorities, respectively, neither of them seems to be very conducive to a sustainable and healthy business environment. Thus moderate deals, while still distinguishable from rules-based institutions, seem to be the best option for these countries’ business environments.

Clearly, a better understanding of these various outcomes needs to focus on the correlates of these deals environments in developing countries. As discussed above, the DB implicitly assumes that the business environment in a country is better if the regulatory processes are as simple and as fast as possible. Do more simplified de jure rules affect the deals environment? Our study finds that simpler rules indeed have a relationship with quick deals as well as slow deals, but none with moderate deals. More specifically, a simplification of the rules is associated with a higher proportion of quick deals and a lower proportion of slow deals — but only in countries with quite strong state capability. In countries with weak capability, *increases* in regulation (especially from very high levels) actually increase the likelihood of quick deals (through even reduced regulatory compliance).

Given the pervasiveness of *deals* in defining the business environment in most developing countries, and where existing formal regulations are creating an implementation capability trap, then *both* sides of the debate about the Doing Business indicators are wrong. On the one hand, if the regulatory processes faced by firms in actually doing business are not actually the de jure policies measured by the Doing Business indicators, then changing these may have no effect on the way in which business is done and hence not be related to improved investment, innovation or growth. On the other hand, if deals are subverting the public purposes of the policies and clearances are not happening according to the existing de jure laws, and due diligence is not actually undertaken before such clearances, then ‘relaxing’ these regulations may also have no effect on actual enforcement or achievement of public purpose. Given the wide and pervasive discrepancy between the de jure and de facto, it is not obvious that *either* simplifying or reducing rules and regulations from their existing levels to make it easier for business to invest, *or* strengthening these rules and regulations to safeguard health, safety, environmental and other public policy concerns, will *necessarily* (or even likely) have a material effect on the actual goals either to increase investment and growth or meet societal goals around better labour or environmental standards, especially in weak state capability contexts. Thus, the premise of rules reforms — that relaxing strong ‘rules’ will *either* improve the true ease of Doing Business or weaken the accomplishment of public purpose — becomes *doubly* false. Changing ease of Doing Business could affect *neither*.

Though the focus of our paper is on the Doing Business indicators, our findings speak to the wider debate on how to build state capability in weak regulatory contexts (see Pritchett et al. 2013, and Andrews et al. 2017). The conventional approach to state building in countries with weak institutional settings is to try and spread ‘best practice’, irrespective of organizational capability — or a realistic plan to build such capability — and low- and middle-income countries, for a variety of reasons, are asked to adopt formal laws and regulations. However, this creates an impossible environment for the implementing organization, as the pressures on them not to enforce the ‘beautiful’ but unrealistic law become unbearable and the organizational norm quickly becomes one of accommodating non-compliance (in a variety of ways). And, once that norm is established, this low-level trap is very difficult to escape. Firms facing tough laws and weak compliance do not really lobby for strong capability and better laws, as it is easier for any given firm to accommodate for itself via a deal, rather than lobby for new rules. The advocates for the purpose of the regulation, having achieved the passing of a ‘beautiful’ law, do not want it relaxed. The politicians and heads of organizations often directly benefit from the de facto discretion that tough regulation combined with low capability for enforcement gives them (as one Latin American leader said ‘For my friends, anything, for my enemies, the law’). And often the law is so far from the reality (in Sudan the law says 270 days, and the median firm says five days, so that ‘minor’ reform — say reducing 270 days to the world average of 190 in the case of Sudan — seems pointless). All of this reinforces the point that building state capability in any endeavour needs to start from the political authorization to solve locally nominated problems, not from the vague idea that equates capability with rule compliance.

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## Appendix 1: Summary statistics from Enterprise Survey and Doing Business

Table A1: Country-year-wise descriptive statistics of 'days needed to get a construction permit'

| Sl. No. | Country Year          | Summary statistics of the distribution of firm responses on days for compliance from Enterprise Survey |      |        |        |        |      |     |       | DB Days |
|---------|-----------------------|--|------|--------|--------|--------|------|-----|-------|---------|
|         |                       | N  | MEAN | MEDIAN | 10th P | 90th P | MODE | MIN | MAX   |         |
|         | Median                | 59.5   | 63   | 30     | 7      | 145    | 30   | 1   | 435.5 | 191     |
|         | Standard deviation    | 78.4   | 71.2 | 37.2   | 8.4    | 177.6  | 42.1 | 2.2 | 515.0 | 198.4   |
| 1       | Afghanistan2008       | 33   | 107  | 20     | 7      | 180    | 30   | 6   | 1080  | 356     |
| 2       | Albania2007           | 41   | 167  | 90     | 7      | 540    | 30   | 1   | 730   | 352     |
| 3       | Angola2010            | 52   | 25   | 15     | 5      | 22     | 15   | 1   | 600   | 265     |
| 4       | Argentina2006         | 106  | 68   | 30     | 7      | 150    | 30   | 1   | 728   | 341     |
| 5       | Argentina2010         | 214  | 69   | 45     | 7      | 180    | 30   | 1   | 720   | 341     |
| 6       | Armenia2009           | 47   | 31   | 15     | 3      | 60     | 30   | 1   | 365   | 179     |
| 7       | Azerbaijan2009        | 44   | 45   | 30     | 10     | 90     | 60   | 7   | 180   | 234     |
| 8       | Bahamas2010           | 31   | 59   | 14     | 4      | 180    | 90   | 1   | 365   | 180     |
| 9       | Bangladesh2007        | 79   | 45   | 15     | 6      | 105    | 6    | 3   | 700   | 269     |
| 10      | Bangladesh2013        | 39   | 71   | 30     | 7      | 180    | 30   | 1   | 365   | 269     |
| 11      | Belarus2008           | 41   | 51   | 30     | 3      | 100    | 30   | 1   | 360   | 129     |
| 12      | Belarus2013           | 54   | 38   | 30     | 5      | 90     | 30   | 1   | 300   | 326     |
| 13      | Bhutan2009            | 49   | 38   | 10     | 3      | 150    | 7    | 1   | 365   | 151     |
| 14      | Bhutan2015            | 58   | 45   | 15     | 2      | 120    | 30   | 1   | 365   | 151     |
| 15      | Bolivia2006           | 58   | 85   | 60     | 7      | 180    | 60   | 2   | 400   | 269     |
| 16      | Bolivia2010           | 93   | 94   | 60     | 15     | 180    | 60   | 5   | 720   | 211     |
| 17      | BosniaHerzegovina2009 | 98   | 103  | 50     | 15     | 300    | 30   | 1   | 730   | 308     |
| 18      | BosniaHerzegovina2013 | 58   | 138  | 60     | 15     | 365    | 30   | 2   | 730   | 193     |
| 19      | Botswana2010          | 32   | 115  | 90     | 5      | 360    | 180  | 1   | 365   | 199     |
| 20      | Brazil2009            | 263  | 85   | 60     | 12     | 180    | 30   | 1   | 730   | 436     |
| 21      | Bulgaria2007          | 114  | 100  | 60     | 20     | 240    | 30   | 3   | 715   | 97      |
| 22      | CapeVerde2009         | 38   | 48   | 30     | 3      | 180    | 30   | 1   | 180   | 146     |
| 23      | Chile2006             | 111  | 127  | 60     | 7      | 360    | 30   | 1   | 2190  | 219     |
| 24      | Chile2010             | 234  | 113  | 60     | 10     | 360    | 30   | 1   | 730   | 219     |
| 25      | China2012             | 143  | 33   | 25     | 7      | 60     | 30   | 1   | 180   | 244     |
| 26      | Colombia2006          | 34   | 64   | 30     | 8      | 120    | 30   | 2   | 360   | 162     |
| 27      | Colombia2010          | 116  | 80   | 45     | 15     | 180    | 30   | 2   | 365   | 114     |
| 28      | CostaRica2010         | 122  | 96   | 60     | 15     | 180    | 30   | 4   | 730   | 199     |
| 29      | Croatia2007           | 137  | 179  | 90     | 30     | 365    | 90   | 1   | 1825  | 344     |
| 30      | Croatia2013           | 42   | 159  | 90     | 7      | 450    | 90   | 2   | 730   | 330     |
| 31      | CzechRepublic2009     | 65   | 53   | 30     | 14     | 90     | 30   | 1   | 364   | 276     |
| 32      | CzechRepublic2013     | 59   | 89   | 60     | 14     | 180    | 60   | 1   | 700   | 247     |
| 33      | DominicanRepublic2010 | 42   | 88   | 52.5   | 7      | 200    | 60   | 2   | 600   | 223     |
| 34      | Ecuador2006           | 57   | 57   | 30     | 7      | 120    | 90   | 2   | 365   | 132     |
| 35      | Ecuador2010           | 63   | 70   | 30     | 8      | 180    | 30   | 2   | 365   | 132     |
| 36      | Egypt2013             | 88   | 78   | 45     | 5      | 180    | 90   | 1   | 730   | 172     |
| 37      | ElSalvador2006        | 84   | 72   | 30     | 6      | 180    | 30   | 1   | 730   | 190     |
| 38      | ElSalvador2010        | 72   | 98   | 60     | 10     | 210    | 30   | 1   | 455   | 151     |
| 39      | ElSalvador2016        | 76   | 112  | 30     | 6      | 365    | 90   | 1   | 730   | 151     |
| 40      | Estonia2009           | 63   | 46   | 30     | 4      | 90     | 30   | 1   | 730   | 102     |
| 41      | Estonia2013           | 45   | 58   | 30     | 7      | 180    | 30   | 2   | 465   | 102     |
| 42      | Ethiopia2011          | 43   | 78   | 30     | 7      | 120    | 90   | 2   | 700   | 130     |
| 43      | Ethiopia2015          | 113  | 78   | 30     | 2      | 180    | 30   | 1   | 365   | 130     |
| 44      | FYRMacedonia2009      | 62   | 72   | 30     | 10     | 180    | 30   | 1   | 365   | 184     |
| 45      | FYRMacedonia2013      | 41   | 130  | 40     | 10     | 365    | 30   | 1   | 730   | 111     |
| 46      | Georgia2008           | 40   | 45   | 30     | 7      | 90     | 30   | 1   | 365   | 127     |

|     |                    |     |     |      |      |     |     |    |      |     |
|-----|--------------------|-----|-----|------|------|-----|-----|----|------|-----|
| 47  | Georgia2013        | 34  | 34  | 20.5 | 4    | 60  | 30  | 1  | 180  | 65  |
| 48  | Ghana2013          | 70  | 74  | 45   | 7    | 180 | 90  | 2  | 365  | 215 |
| 49  | Guatemala2006      | 86  | 56  | 30   | 3    | 180 | 30  | 1  | 547  | 388 |
| 50  | Guatemala2010      | 121 | 56  | 30   | 8    | 120 | 30  | 1  | 730  | 226 |
| 51  | Guyana2010         | 43  | 56  | 30   | 10   | 90  | 60  | 5  | 548  | 208 |
| 52  | Honduras2006       | 59  | 46  | 20   | 2    | 90  | 90  | 1  | 730  | 189 |
| 53  | Honduras2010       | 60  | 62  | 30   | 3.5  | 140 | 30  | 1  | 730  | 109 |
| 54  | Hungary2009        | 36  | 46  | 30   | 15   | 90  | 30  | 1  | 180  | 192 |
| 55  | India2014          | 478 | 33  | 28   | 7    | 60  | 30  | 1  | 365  | 180 |
| 56  | Indonesia2009      | 65  | 50  | 21   | 3    | 90  | 30  | 1  | 670  | 200 |
| 57  | Indonesia2015      | 63  | 11  | 7    | 1    | 29  | 7   | 1  | 120  | 200 |
| 58  | Iraq2011           | 78  | 36  | 35   | 10   | 60  | 40  | 1  | 140  | 229 |
| 59  | Israel2013         | 41  | 329 | 320  | 90   | 730 | 730 | 30 | 730  | 209 |
| 60  | Jordan2013         | 34  | 23  | 20   | 3    | 30  | 30  | 1  | 90   | 63  |
| 61  | Kazakhstan2009     | 80  | 89  | 52.5 | 12   | 180 | 30  | 2  | 730  | 293 |
| 62  | Kazakhstan2013     | 62  | 72  | 30   | 9    | 180 | 30  | 1  | 366  | 229 |
| 63  | Kenya2007          | 40  | 34  | 25   | 7    | 60  | 30  | 3  | 180  | 160 |
| 64  | Kenya2013          | 112 | 41  | 15   | 3    | 90  | 30  | 1  | 365  | 131 |
| 65  | Kosovo2009         | 33  | 43  | 30   | 7    | 90  | 60  | 4  | 90   | 301 |
| 66  | Kosovo2013         | 39  | 162 | 30   | 12   | 720 | 30  | 1  | 730  | 152 |
| 67  | KyrgyzRepublic2013 | 53  | 66  | 30   | 7    | 120 | 30  | 1  | 730  | 142 |
| 68  | LaoPDR2009         | 42  | 72  | 30   | 7    | 180 | 30  | 1  | 730  | 83  |
| 69  | LaoPDR2012         | 53  | 67  | 30   | 7    | 120 | 7   | 5  | 365  | 83  |
| 70  | LaoPDR2016         | 31  | 33  | 18   | 7    | 45  | 30  | 3  | 300  | 83  |
| 71  | Latvia2009         | 74  | 59  | 30   | 7    | 180 | 30  | 1  | 730  | 219 |
| 72  | Lebanon2013        | 61  | 134 | 90   | 30   | 270 | 60  | 1  | 730  | 244 |
| 73  | Lithuania2009      | 34  | 64  | 30   | 6    | 90  | 30  | 2  | 730  | 160 |
| 74  | Madagascar2009     | 48  | 149 | 90   | 10   | 540 | 90  | 4  | 730  | 165 |
| 75  | Madagascar2013     | 31  | 42  | 30   | 5    | 60  | 30  | 1  | 365  | 165 |
| 76  | Malawi2014         | 69  | 41  | 21   | 1    | 120 | 1   | 1  | 200  | 153 |
| 77  | Malaysia2015       | 82  | 12  | 7    | 2    | 30  | 7   | 1  | 100  | 79  |
| 78  | Mauritius2009      | 32  | 77  | 52.5 | 21   | 180 | 30  | 4  | 446  | 156 |
| 79  | Mexico2006         | 34  | 23  | 15   | 3    | 60  | 30  | 2  | 120  | 86  |
| 80  | Mexico2010         | 208 | 55  | 30   | 3    | 120 | 30  | 1  | 365  | 86  |
| 81  | Moldova2009        | 69  | 61  | 30   | 5    | 180 | 30  | 3  | 420  | 307 |
| 82  | Moldova2013        | 68  | 34  | 20.5 | 3    | 90  | 30  | 1  | 368  | 276 |
| 83  | Mongolia2009       | 72  | 68  | 30   | 10   | 150 | 30  | 1  | 730  | 219 |
| 84  | Mongolia2013       | 58  | 64  | 30   | 5    | 120 | 30  | 1  | 365  | 183 |
| 85  | Morocco2013        | 54  | 137 | 30   | 6    | 435 | 30  | 1  | 730  | 94  |
| 86  | Mozambique2007     | 33  | 35  | 15   | 7    | 60  | 30  | 1  | 365  | 242 |
| 87  | Namibia2014        | 68  | 106 | 60   | 4    | 361 | 91  | 1  | 730  | 145 |
| 88  | Nicaragua2006      | 57  | 55  | 21   | 2    | 90  | 60  | 1  | 547  | 235 |
| 89  | Nicaragua2010      | 58  | 33  | 15   | 1    | 90  | 30  | 1  | 180  | 225 |
| 90  | Nigeria2007        | 115 | 13  | 7    | 2    | 21  | 7   | 1  | 180  | 106 |
| 91  | Nigeria2014        | 143 | 15  | 7    | 1    | 30  | 1   | 1  | 90   | 106 |
| 92  | Paraguay2006       | 68  | 60  | 20   | 1    | 150 | 30  | 1  | 770  | 275 |
| 93  | Paraguay2010       | 99  | 121 | 60   | 7    | 365 | 30  | 1  | 730  | 120 |
| 94  | Peru2006           | 73  | 142 | 60   | 14   | 365 | 90  | 4  | 1460 | 218 |
| 95  | Peru2010           | 235 | 87  | 60   | 14   | 180 | 30  | 2  | 425  | 209 |
| 96  | Philippines2009    | 178 | 25  | 14   | 5    | 60  | 7   | 1  | 180  | 129 |
| 97  | Philippines2015    | 146 | 28  | 14.5 | 5    | 60  | 7   | 1  | 365  | 122 |
| 98  | Poland2009         | 60  | 118 | 55   | 25.5 | 300 | 30  | 5  | 730  | 288 |
| 99  | Poland2013         | 36  | 139 | 60   | 30   | 400 | 90  | 14 | 730  | 158 |
| 100 | Romania2009        | 115 | 76  | 30   | 7    | 180 | 30  | 1  | 730  | 207 |
| 101 | Romania2013        | 93  | 94  | 40   | 6    | 200 | 30  | 1  | 730  | 194 |
| 102 | Russia2009         | 129 | 126 | 90   | 30   | 360 | 30  | 1  | 720  | 239 |
| 103 | Russia2012         | 277 | 167 | 60   | 14   | 500 | 30  | 1  | 730  | 239 |
| 104 | Rwanda2011         | 31  | 60  | 30   | 5    | 120 | 30  | 1  | 490  | 163 |
| 105 | Serbia2009         | 73  | 153 | 70   | 10   | 365 | 30  | 1  | 730  | 339 |
| 106 | SlovakRepublic2009 | 52  | 66  | 38   | 20   | 120 | 30  | 10 | 365  | 286 |

|     |                    |     |     |      |    |     |    |    |     |     |
|-----|--------------------|-----|-----|------|----|-----|----|----|-----|-----|
| 107 | SlovakRepublic2013 | 32  | 68  | 35   | 30 | 100 | 30 | 30 | 650 | 286 |
| 108 | Slovenia2009       | 79  | 132 | 60   | 15 | 365 | 60 | 1  | 720 | 270 |
| 109 | Slovenia2013       | 47  | 166 | 90   | 20 | 400 | 60 | 7  | 730 | 254 |
| 110 | SolomonIslands2015 | 32  | 21  | 14   | 7  | 30  | 14 | 3  | 90  | 98  |
| 111 | SouthAfrica2007    | 31  | 96  | 28   | 5  | 360 | 10 | 1  | 902 | 141 |
| 112 | Southsudan2014     | 107 | 16  | 12   | 2  | 36  | 30 | 1  | 90  | 124 |
| 113 | SriLanka2011       | 43  | 72  | 30   | 1  | 180 | 90 | 1  | 400 | 177 |
| 114 | Sudan2014          | 108 | 8   | 5    | 2  | 14  | 3  | 1  | 120 | 270 |
| 115 | Sweden2014         | 130 | 75  | 45   | 10 | 180 | 60 | 1  | 730 | 116 |
| 116 | Tajikistan2008     | 47  | 47  | 30   | 7  | 90  | 30 | 1  | 360 | 242 |
| 117 | Tajikistan2013     | 54  | 39  | 25   | 3  | 90  | 30 | 1  | 180 | 197 |
| 118 | Tanzania2013       | 32  | 40  | 20   | 1  | 90  | 7  | 1  | 180 | 222 |
| 119 | TimorLeste2015     | 35  | 21  | 7    | 2  | 60  | 30 | 1  | 90  | 207 |
| 120 | Tonga2009          | 31  | 13  | 12   | 4  | 21  | 14 | 3  | 40  | 63  |
| 121 | Tunisia2013        | 56  | 47  | 30   | 5  | 120 | 30 | 1  | 360 | 93  |
| 122 | Turkey2008         | 160 | 44  | 30   | 3  | 90  | 30 | 1  | 730 | 143 |
| 123 | Turkey2013         | 116 | 37  | 15   | 1  | 90  | 30 | 1  | 365 | 143 |
| 124 | Uganda2013         | 55  | 38  | 21   | 7  | 90  | 30 | 1  | 270 | 146 |
| 125 | Ukraine2008        | 66  | 105 | 39.5 | 10 | 365 | 30 | 1  | 730 | 510 |
| 126 | Ukraine2013        | 81  | 3   | 1    | 1  | 1   | 1  | 1  | 90  | 351 |
| 127 | Uruguay2006        | 42  | 88  | 42.5 | 7  | 180 | 30 | 1  | 730 | 251 |
| 128 | Uruguay2010        | 111 | 101 | 30   | 3  | 365 | 30 | 1  | 730 | 251 |
| 129 | Uzbekistan2008     | 38  | 64  | 30   | 2  | 200 | 30 | 1  | 730 | 261 |
| 130 | Uzbekistan2013     | 59  | 33  | 30   | 1  | 90  | 30 | 1  | 365 | 258 |
| 131 | Vanuatu2009        | 36  | 46  | 21   | 7  | 120 | 21 | 1  | 365 | 59  |
| 132 | Vietnam2009        | 224 | 65  | 30   | 7  | 175 | 30 | 1  | 730 | 166 |
| 133 | Vietnam2015        | 111 | 32  | 30   | 7  | 90  | 30 | 2  | 180 | 166 |
| 134 | Yemen2010          | 44  | 48  | 25.5 | 4  | 120 | 30 | 1  | 360 | 184 |
| 135 | Yemen2013          | 30  | 23  | 10   | 3  | 60  | 7  | 1  | 180 | 184 |
| 136 | Zambia2013         | 85  | 57  | 30   | 3  | 124 | 30 | 1  | 365 | 189 |

Source: see text.

Table A2: Number and proportion of firms under different types of deals environment

| Country-year    | Total firms | Deals                   |            |                             |            |                                |            |
|-----------------|-------------|-------------------------|------------|-----------------------------|------------|--------------------------------|------------|
|                 |             | Quick deals (1–15 days) |            | Moderate deals (16–45 days) |            | Slow deals (more than 45 days) |            |
|                 |             | No. of firms            | Percentage | No. of firms                | Percentage | No. of firms                   | Percentage |
| Afghanistan2008 | 33          | 15                      | 45.5       | 10                          | 30.3       | 8                              | 24.2       |
| Albania2007     | 41          | 6                       | 14.6       | 9                           | 22.0       | 26                             | 63.4       |
| Angola2010      | 52          | 33                      | 63.5       | 18                          | 34.6       | 1                              | 1.9        |
| Argentina2006   | 106         | 29                      | 27.4       | 32                          | 30.2       | 45                             | 42.5       |
| Argentina2010   | 214         | 45                      | 21.0       | 65                          | 30.4       | 104                            | 48.6       |
| Armenia2009     | 47          | 24                      | 51.1       | 18                          | 38.3       | 5                              | 10.6       |
| Azerbaijan2009  | 44          | 16                      | 36.4       | 11                          | 25.0       | 17                             | 38.6       |
| Bahamas2010     | 31          | 16                      | 51.6       | 3                           | 9.7        | 12                             | 38.7       |
| Bangladesh2007  | 79          | 45                      | 57.0       | 14                          | 17.7       | 20                             | 25.3       |
| Bangladesh2013  | 39          | 10                      | 25.6       | 12                          | 30.8       | 17                             | 43.6       |
| Belarus2008     | 41          | 15                      | 36.6       | 16                          | 39.0       | 10                             | 24.4       |

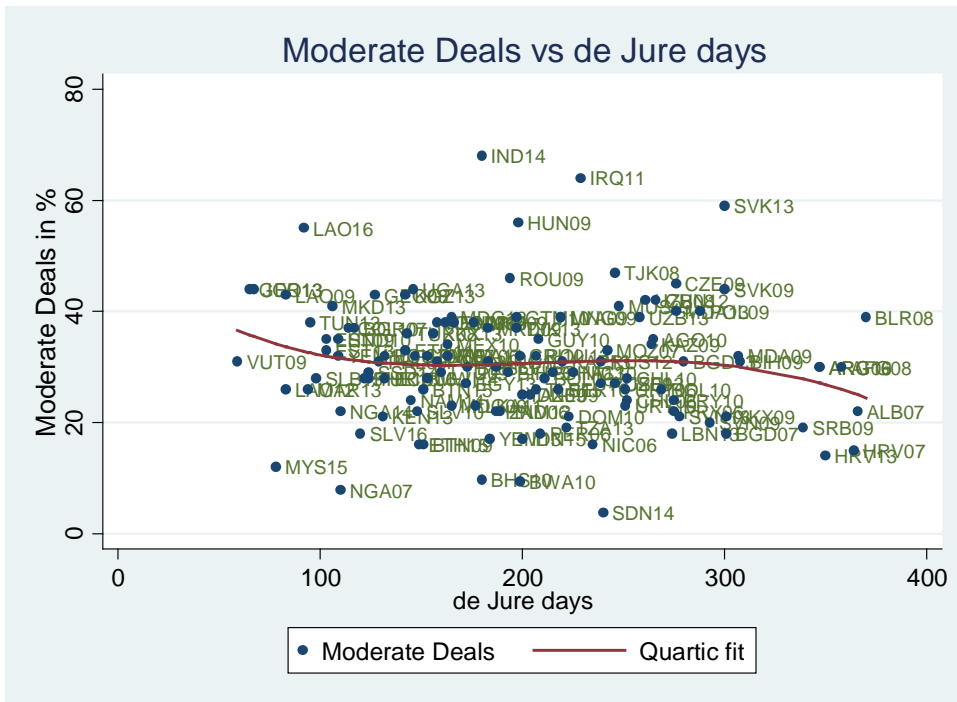


|                       |     |     |      |     |      |     |      |
|-----------------------|-----|-----|------|-----|------|-----|------|
| Belarus2013           | 54  | 24  | 44.4 | 16  | 29.6 | 14  | 25.9 |
| Bhutan2009            | 49  | 32  | 65.3 | 8   | 16.3 | 9   | 18.4 |
| Bhutan2015            | 58  | 30  | 51.7 | 15  | 25.9 | 13  | 22.4 |
| Bolivia2006           | 58  | 9   | 15.5 | 16  | 27.6 | 33  | 56.9 |
| Bolivia2010           | 93  | 15  | 16.1 | 24  | 25.8 | 54  | 58.1 |
| BosniaHerzegovina2009 | 98  | 18  | 18.4 | 30  | 30.6 | 50  | 51.0 |
| BosniaHerzegovina2013 | 58  | 9   | 15.5 | 17  | 29.3 | 32  | 55.2 |
| Botswana2010          | 32  | 8   | 25.0 | 3   | 9.4  | 21  | 65.6 |
| Brazil2009            | 262 | 51  | 19.5 | 77  | 29.4 | 134 | 51.1 |
| Bulgaria2007          | 114 | 8   | 7.0  | 42  | 36.8 | 64  | 56.1 |
| CapeVerde2009         | 38  | 15  | 39.5 | 12  | 31.6 | 11  | 28.9 |
| Chile2006             | 111 | 23  | 20.7 | 27  | 24.3 | 61  | 55.0 |
| Chile2010             | 234 | 40  | 17.1 | 66  | 28.2 | 128 | 54.7 |
| China2012             | 143 | 56  | 39.2 | 60  | 42.0 | 27  | 18.9 |
| Colombia2006          | 34  | 8   | 23.5 | 13  | 38.2 | 13  | 38.2 |
| Colombia2010          | 116 | 17  | 14.7 | 43  | 37.1 | 56  | 48.3 |
| CostaRica2010         | 122 | 19  | 15.6 | 39  | 32.0 | 64  | 52.5 |
| Croatia2007           | 137 | 11  | 8.0  | 21  | 15.3 | 105 | 76.6 |
| Croatia2013           | 42  | 7   | 16.7 | 6   | 14.3 | 29  | 69.0 |
| CzechRepublic2009     | 65  | 9   | 13.8 | 29  | 44.6 | 27  | 41.5 |
| CzechRepublic2013     | 59  | 7   | 11.9 | 16  | 27.1 | 36  | 61.0 |
| DominicanRepublic2010 | 42  | 12  | 28.6 | 9   | 21.4 | 21  | 50.0 |
| Ecuador2006           | 57  | 17  | 29.8 | 16  | 28.1 | 24  | 42.1 |
| Ecuador2010           | 63  | 16  | 25.4 | 20  | 31.7 | 27  | 42.9 |
| Egypt2013             | 88  | 22  | 25.0 | 24  | 27.3 | 42  | 47.7 |
| ElSalvador2006        | 84  | 26  | 31.0 | 25  | 29.8 | 33  | 39.3 |
| ElSalvador2010        | 72  | 15  | 20.8 | 16  | 22.2 | 41  | 56.9 |
| ElSalvador2016        | 76  | 28  | 36.8 | 14  | 18.4 | 34  | 44.7 |
| Estonia2009           | 63  | 27  | 42.9 | 22  | 34.9 | 14  | 22.2 |
| Estonia2013           | 45  | 15  | 33.3 | 15  | 33.3 | 15  | 33.3 |
| Ethiopia2011          | 43  | 12  | 27.9 | 14  | 32.6 | 17  | 39.5 |
| Ethiopia2015          | 113 | 45  | 39.8 | 18  | 15.9 | 50  | 44.2 |
| FYRMacedonia2009      | 62  | 12  | 19.4 | 23  | 37.1 | 27  | 43.5 |
| FYRMacedonia2013      | 41  | 5   | 12.2 | 17  | 41.5 | 19  | 46.3 |
| Georgia2008           | 40  | 12  | 30.0 | 17  | 42.5 | 11  | 27.5 |
| Georgia2013           | 34  | 15  | 44.1 | 15  | 44.1 | 4   | 11.8 |
| Ghana2013             | 70  | 15  | 21.4 | 20  | 28.6 | 35  | 50.0 |
| Guatemala2006         | 86  | 23  | 26.7 | 39  | 45.3 | 24  | 27.9 |
| Guatemala2010         | 121 | 41  | 33.9 | 47  | 38.8 | 33  | 27.3 |
| Guyana2010            | 43  | 12  | 27.9 | 15  | 34.9 | 16  | 37.2 |
| Honduras2006          | 59  | 28  | 47.5 | 13  | 22.0 | 18  | 30.5 |
| Honduras2010          | 60  | 21  | 35.0 | 21  | 35.0 | 18  | 30.0 |
| Hungary2009           | 36  | 4   | 11.1 | 20  | 55.6 | 12  | 33.3 |
| India2014             | 478 | 104 | 21.8 | 323 | 67.6 | 51  | 10.7 |
| Indonesia2009         | 65  | 31  | 47.7 | 16  | 24.6 | 18  | 27.7 |
| Indonesia2015         | 63  | 51  | 81.0 | 11  | 17.5 | 1   | 1.6  |
| Iraq2011              | 78  | 14  | 17.9 | 50  | 64.1 | 14  | 17.9 |
| Israel2013            | 41  | 0   | 0.0  | 1   | 2.4  | 40  | 97.6 |
| Jordan2013            | 34  | 16  | 47.1 | 15  | 44.1 | 3   | 8.8  |
| Kazakhstan2009        | 80  | 13  | 16.3 | 27  | 33.8 | 40  | 50.0 |
| Kazakhstan2013        | 62  | 17  | 27.4 | 19  | 30.6 | 26  | 41.9 |
| Kenya2007             | 40  | 16  | 40.0 | 15  | 37.5 | 9   | 22.5 |
| Kenya2013             | 112 | 58  | 51.8 | 24  | 21.4 | 30  | 26.8 |
| Kosovo2009            | 33  | 11  | 33.3 | 7   | 21.2 | 15  | 45.5 |
| Kosovo2013            | 39  | 8   | 20.5 | 14  | 35.9 | 17  | 43.6 |
| KyrgyzRepublic2013    | 53  | 13  | 24.5 | 23  | 43.4 | 17  | 32.1 |
| LaoPDR2009            | 42  | 10  | 23.8 | 18  | 42.9 | 14  | 33.3 |
| LaoPDR2012            | 53  | 22  | 41.5 | 14  | 26.4 | 17  | 32.1 |
| LaoPDR2016            | 31  | 11  | 35.5 | 17  | 54.8 | 3   | 9.7  |
| Latvia2009            | 74  | 26  | 35.1 | 29  | 39.2 | 19  | 25.7 |
| Lebanon2013           | 61  | 3   | 4.9  | 11  | 18.0 | 47  | 77.0 |
| Lithuania2009         | 34  | 11  | 32.4 | 10  | 29.4 | 13  | 38.2 |
| Madagascar2009        | 48  | 8   | 16.7 | 11  | 22.9 | 29  | 60.4 |
| Madagascar2013        | 31  | 13  | 41.9 | 12  | 38.7 | 6   | 19.4 |

|                    |     |     |      |    |      |     |      |
|--------------------|-----|-----|------|----|------|-----|------|
| Malawi2014         | 69  | 32  | 46.4 | 19 | 27.5 | 18  | 26.1 |
| Malaysia2015       | 82  | 68  | 82.9 | 10 | 12.2 | 4   | 4.9  |
| Mauritius2009      | 32  | 3   | 9.4  | 13 | 40.6 | 16  | 50.0 |
| Mexico2006         | 34  | 18  | 52.9 | 11 | 32.4 | 5   | 14.7 |
| Mexico2010         | 208 | 71  | 34.1 | 70 | 33.7 | 67  | 32.2 |
| Moldova2009        | 69  | 23  | 33.3 | 22 | 31.9 | 24  | 34.8 |
| Moldova2013        | 68  | 28  | 41.2 | 27 | 39.7 | 13  | 19.1 |
| Mongolia2009       | 72  | 16  | 22.2 | 28 | 38.9 | 28  | 38.9 |
| Mongolia2013       | 58  | 18  | 31.0 | 18 | 31.0 | 22  | 37.9 |
| Morocco2013        | 54  | 17  | 31.5 | 14 | 25.9 | 23  | 42.6 |
| Mozambique2007     | 33  | 17  | 51.5 | 11 | 33.3 | 5   | 15.2 |
| Namibia2014        | 68  | 14  | 20.6 | 16 | 23.5 | 38  | 55.9 |
| Nicaragua2006      | 57  | 27  | 47.4 | 9  | 15.8 | 21  | 36.8 |
| Nicaragua2010      | 58  | 30  | 51.7 | 17 | 29.3 | 11  | 19.0 |
| Nigeria2007        | 115 | 102 | 88.7 | 9  | 7.8  | 4   | 3.5  |
| Nigeria2014        | 143 | 101 | 70.6 | 31 | 21.7 | 11  | 7.7  |
| Paraguay2006       | 68  | 32  | 47.1 | 15 | 22.1 | 21  | 30.9 |
| Paraguay2010       | 99  | 23  | 23.2 | 24 | 24.2 | 52  | 52.5 |
| Peru2006           | 73  | 13  | 17.8 | 13 | 17.8 | 47  | 64.4 |
| Peru2010           | 235 | 40  | 17.0 | 60 | 25.5 | 135 | 57.4 |
| Philippines2009    | 178 | 99  | 55.6 | 55 | 30.9 | 24  | 13.5 |
| Philippines2015    | 146 | 81  | 55.5 | 41 | 28.1 | 24  | 16.4 |
| Poland2009         | 60  | 5   | 8.3  | 24 | 40.0 | 31  | 51.7 |
| Poland2013         | 36  | 1   | 2.8  | 11 | 30.6 | 24  | 66.7 |
| Romania2009        | 115 | 24  | 20.9 | 53 | 46.1 | 38  | 33.0 |
| Romania2013        | 93  | 23  | 24.7 | 30 | 32.3 | 40  | 43.0 |
| Russia2009         | 129 | 7   | 5.4  | 35 | 27.1 | 87  | 67.4 |
| Russia2012         | 277 | 39  | 14.1 | 86 | 31.0 | 152 | 54.9 |
| Rwanda2011         | 31  | 11  | 35.5 | 10 | 32.3 | 10  | 32.3 |
| Serbia2009         | 73  | 12  | 16.4 | 14 | 19.2 | 47  | 64.4 |
| SlovakRepublic2009 | 52  | 5   | 9.6  | 23 | 44.2 | 24  | 46.2 |
| SlovakRepublic2013 | 32  | 0   | 0.0  | 19 | 59.4 | 13  | 40.6 |
| Slovenia2009       | 79  | 9   | 11.4 | 16 | 20.3 | 54  | 68.4 |
| Slovenia2013       | 47  | 4   | 8.5  | 10 | 21.3 | 33  | 70.2 |
| SolomonIslands2015 | 32  | 20  | 62.5 | 9  | 28.1 | 3   | 9.4  |
| SouthAfrica2007    | 31  | 11  | 35.5 | 10 | 32.3 | 10  | 32.3 |
| Southsudan2014     | 107 | 70  | 65.4 | 31 | 29.0 | 6   | 5.6  |
| SriLanka2011       | 43  | 15  | 34.9 | 10 | 23.3 | 18  | 41.9 |
| Sudan2014          | 108 | 101 | 93.5 | 4  | 3.7  | 3   | 2.8  |
| Sweden2014         | 130 | 24  | 18.5 | 47 | 36.2 | 59  | 45.4 |
| Tajikistan2008     | 47  | 13  | 27.7 | 22 | 46.8 | 12  | 25.5 |
| Tajikistan2013     | 54  | 21  | 38.9 | 20 | 37.0 | 13  | 24.1 |
| Tanzania2013       | 32  | 15  | 46.9 | 6  | 18.8 | 11  | 34.4 |
| TimorLeste2015     | 35  | 22  | 62.9 | 9  | 25.7 | 4   | 11.4 |
| Tonga2009          | 31  | 23  | 74.2 | 8  | 25.8 | 0   | 0.0  |
| Tunisia2013        | 56  | 21  | 37.5 | 21 | 37.5 | 14  | 25.0 |
| Turkey2008         | 160 | 65  | 40.6 | 57 | 35.6 | 38  | 23.8 |
| Turkey2013         | 116 | 66  | 56.9 | 32 | 27.6 | 18  | 15.5 |
| Uganda2013         | 55  | 22  | 40.0 | 24 | 43.6 | 9   | 16.4 |
| Ukraine2008        | 66  | 11  | 16.7 | 25 | 37.9 | 30  | 45.5 |
| Ukraine2013        | 81  | 79  | 97.5 | 1  | 1.2  | 1   | 1.2  |
| Uruguay2006        | 42  | 11  | 26.2 | 11 | 26.2 | 20  | 47.6 |
| Uruguay2010        | 111 | 40  | 36.0 | 26 | 23.4 | 45  | 40.5 |
| Uzbekistan2008     | 38  | 15  | 39.5 | 16 | 42.1 | 7   | 18.4 |
| Uzbekistan2013     | 59  | 27  | 45.8 | 23 | 39.0 | 9   | 15.3 |
| Vanuatu2009        | 36  | 16  | 44.4 | 11 | 30.6 | 9   | 25.0 |
| Vietnam2009        | 224 | 68  | 30.4 | 84 | 37.5 | 72  | 32.1 |
| Vietnam2015        | 111 | 45  | 40.5 | 42 | 37.8 | 24  | 21.6 |
| Yemen2010          | 44  | 18  | 40.9 | 14 | 31.8 | 12  | 27.3 |
| Yemen2013          | 30  | 20  | 66.7 | 5  | 16.7 | 5   | 16.7 |
| Zambia2013         | 85  | 38  | 44.7 | 19 | 22.4 | 28  | 32.9 |

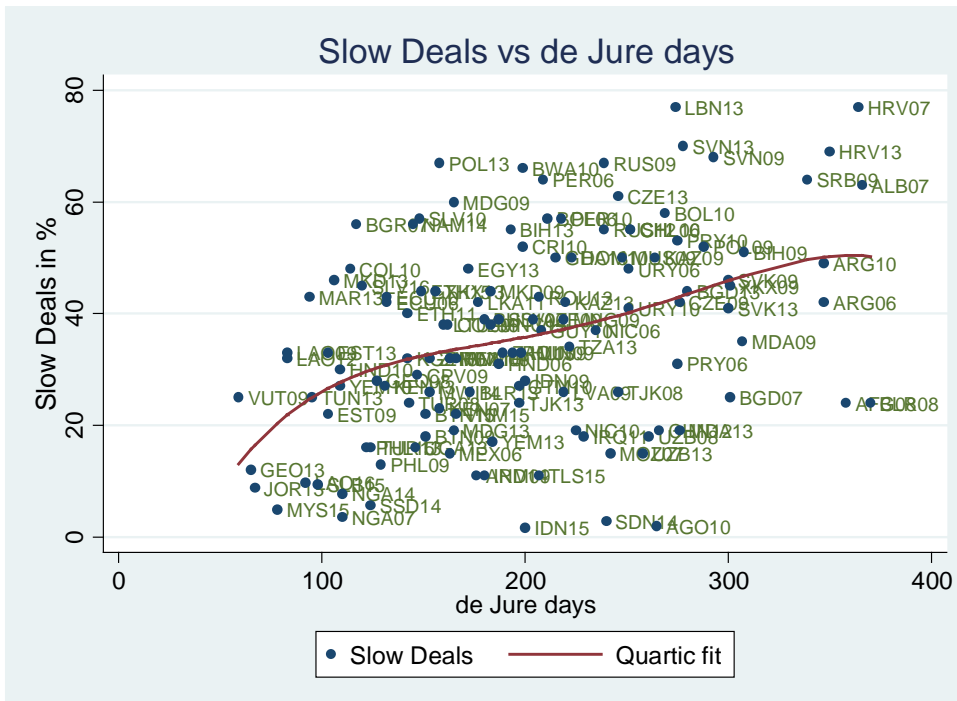
Source: see text.

Figure A1: Relationship between moderate deals and doing business (construction permit)



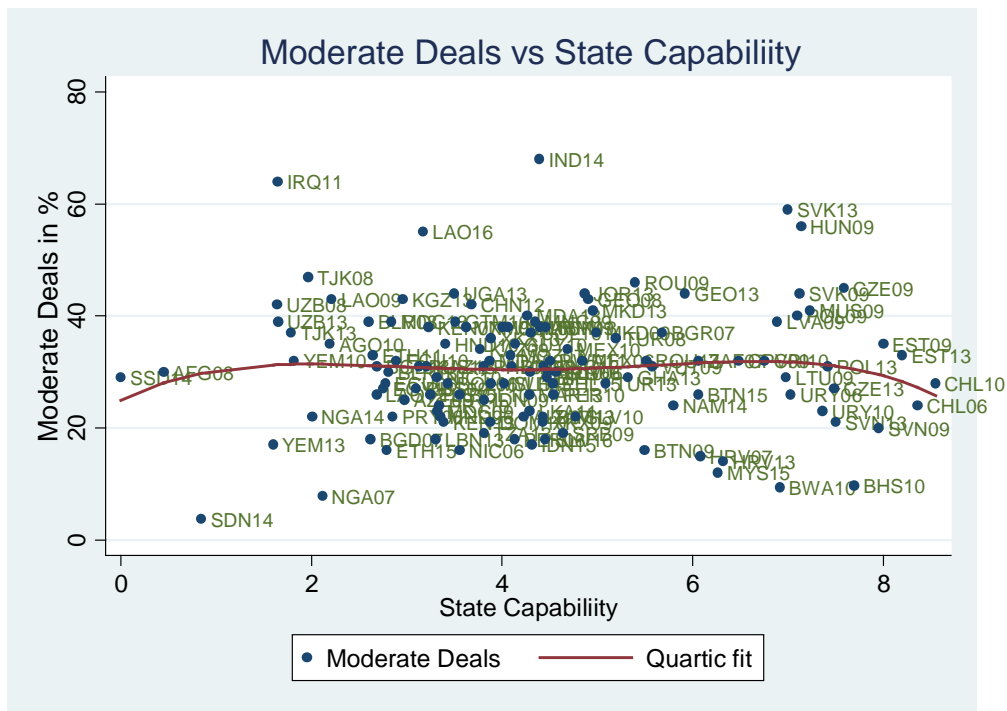
Source: Authors' calculations from DB and ES data.

Figure A2: Relationship between slow deals and doing business (construction permit)



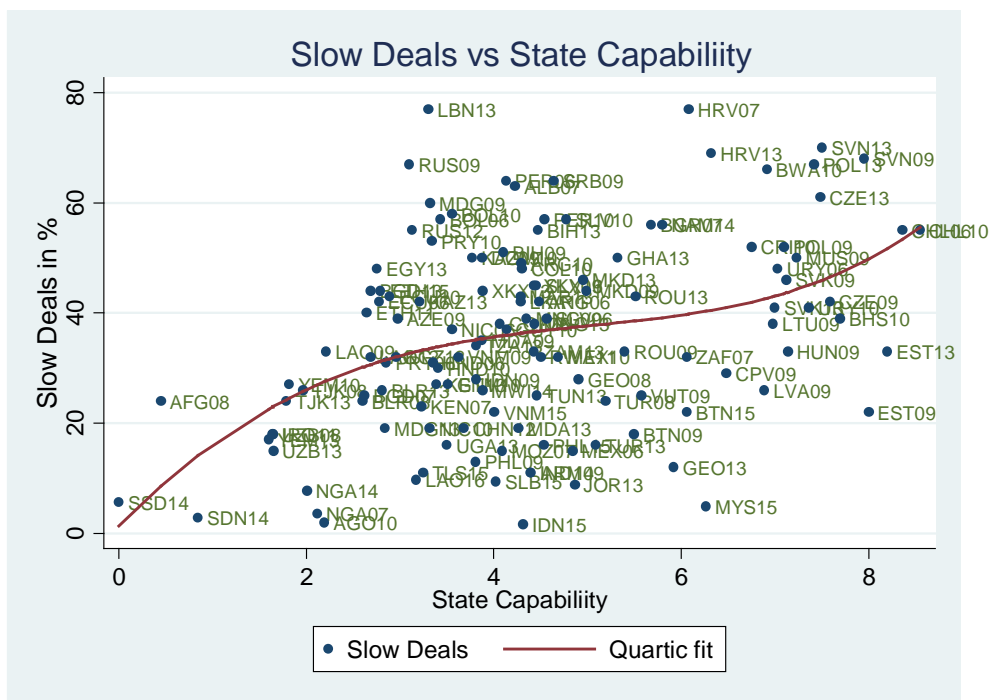
Source: Authors' calculations from DB and ES data.

Figure A3: Relationship between moderate deals and state capability



Source: Authors' calculations from DB and ES data.

Figure A4: Relationship between slow deals and state capability



Source: Authors' calculations from DB and ES data.