

CORRUPT TRADE PROTECTION IN DEVELOPING COUNTRIES: FIRM LEVEL EVIDENCE ON POLITICAL CONNECTIONS AND IMPORT LICENSES IN INDONESIA

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Abstract

Empirical tests of the “Protection For Sale” hypothesis typically involve regressing industry-average tariff or non-tariff trade barriers on campaign contributions or organized industry lobbies. In developing countries, protection is typically firm-specific and based on personal relationships between firm owners and influential politicians, and is rarely aimed at industries as a whole. In addition, politicians rely on licensing more than trade barriers, since licensing requirements are easier to obfuscate from the public eye. This paper identifies “politically connected” firms from over 20,000 manufacturing firms in Indonesia, and studies the impact of a connection to Suharto on the probability that those firms are granted licenses to import raw-materials used in their production process. We find that connected firms are between 4 and 20 percentage points more likely to receive a license than their competitors, and this gives connected firms a competitive advantage in the market.

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I. Introduction

The discrepancy between the “free trade” policies prescribed by economic theory and the protectionist policies actually practiced around the world is generally attributed to the role of politics in trade policy formulation. For example, in a prominent paper, Grossman and Helpman (1994) develop a model in which politicians “sell” protection in exchange for campaign contributions by industry lobbies. Empirical tests of this model (Goldberg and Maggi 1999, Gawande and Bandyopadhyay 2000, Eicher and Osang 2002, and Mitra, Thomakos and Ulubaşoğlu 2002) use data from the United States and Turkey, and typically regress industry-level aggregates of tariff or non-tariff trade barriers on a measure of campaign contributions or an indicator for industries that are “organized lobbies.” While this approach yields interesting insights for developed countries where election campaign contributions and industry lobbies are important, it masks important details of the contributions-protection exchange for developing countries where such business-politics reciprocal relationships are more prevalent and arguably more costly. Protection typically involves more of a corrupt contract in most developing countries where politicians in power may hand out trade licenses (e.g. a license to import the raw materials used for production) to certain firms, either in exchange for bribes or because that politician is a kin relation to the businessman running the firm. These exchanges occur at the individual or firm level, and industry-level lobbies and tariffs is really not the right setting in which to study the politics of trade protection in these countries.

In contrast to the existing empirical literature in this area, this paper takes advantage of some unique features of the politics of trade protection in Indonesia to create firm-specific indicators of political connections for over 20,000 manufacturing firms, and then studies their impact on the likelihood that those firms receive licenses to

import raw materials used in their production process. This licensing requirement has been the major *firm-specific* trade protection measure employed by the Indonesian government.

We identify politically connected firms using a three-step process. We first examine the response of the share returns of firms traded on the Jakarta stock exchange to a string of adverse rumors about the state of President Suharto's health.¹ We then identify the major shareholders and Board of Management of each of the firms whose asset returns suffered abnormal negative shocks in response to the rumors. Finally, we identify all conglomerates run by these businessmen, and all other firms which belong to those conglomerates.

To measure firm-specific trade protection, we focus our attention on import licenses for raw materials. During Suharto's Presidency, the Indonesian government erected many licensing requirements, and handed out import licenses at its own discretion. This was a very effective method of protection, since this created either a monopoly or at least a competitive advantage for certain firms. For example, although there are twenty firms producing powdered, condensed and preserved milk, only eight of those firms are classified as 'approved importers' by the government. The firm PT Nestle Indonesia of Bimantara Citra Group, headed by Suharto's son Bambang Trihatmodjo, has been granted import licenses for 12 commodities necessary for milk production, whereas some of its competitors either cannot directly import any raw materials, or have been granted licenses for 3 or 4 commodities only. In such cases, competitors have to rely either on Bimantara, or on higher priced or poorer quality domestic substitutes for their need raw materials. To measure licensing protection for our empirical analysis, we

identify all firms which possess import licenses and the product categories in which they operate, and as their control group, other firms which are not licensed, but producing in those same product categories. We then model the probability that firms possess licenses as a function of various firm characteristics, including whether or not the firms are politically connected.

This paper focuses on import licenses because (a) it differentially protects certain firms within an industry, and (b) even in corrupt countries, a direct sale of higher tariff rates for campaign contributions is implausible. Tariff rates are easily verifiable, and voters would respond by punishing the incumbent party in the next election. This implausible prediction stems from the fact that Grossman and Helpman (1994) do not model political competition between parties, and voters thus have no punishment mechanism available. Tariff rates are also subject to conditionalities imposed by international trade agreements and IMF loans, and it is very easy for multi-lateral institutions to observe tariff protection. In reality, politicians are forced to rely on less visible forms of protection such as import licensing requirements rather than easily observable tariffs or non-tariff (e.g. quotas) import barriers. The import licensing requirement may simply mean that the firm has to apply for and receive a signature from a government agency. Such licensing protection is easier to obfuscate from the public eye, because on paper it is a simple requirement, but the government may hand out licenses at its own discretion. For instance, in Indonesia, a state-trading company named Bulog is the sole licensed importer of wheat, but the major beneficiary of this monopoly has been Bogasari Flour mills, owned by a long-time Suharto ally named Salim. Bogasari has special rights to mill Bulog's wheat into flour. Major newspapers have

¹ Fisman (2001) uses these same events coupled with consulting firm data on the strength of ties between

reported that Bulog sells the wheat to Bogasari for well below the world market price, which gives Salim monopolistic control over all of Indonesia's flour (Jakarta Post 1997, Aditjondro 1998b).

Apart from its low visibility properties, such licensing schemes have two added benefits from the perspective of the politician and the firm owner entering the corrupt contract. When the signature is obtained, a bribe is transferred that enters the politician's pocket directly rather than the government coffers. Furthermore, such a license protects the recipient firm from both domestic and foreign competition.

Our firm-level approach is likely to generate more credible insights than industry-level studies, because protection in developing countries is generally firm specific, and protection measures are rarely aimed at industries as a whole. Protection is handed out either on the basis of personal relationships between firm owners and politicians or in exchange for bribes. Furthermore, aggregate industry-level studies are likely to suffer from biases and large measurement error if there is significant dispersion in tariff rates within an industry. For example, in Indonesia in 1997, the average nominal tariff for the 3-digit industry "Transport Equipment" was 25%. However, if we look at tariffs at a more disaggregated (5-digit) level, manufacture of automobiles, two-wheelers and bicycles were protected by tariff rates greater than 50%, while ship-building carried a tariff of only 5%. The truth is that different sets of firms are involved in the production of bicycles versus ships, and the government is differentially protecting the former set.

Another advantage of the firm-level analysis is that in an industry-level regression of trade protection on campaign contributions, some unobserved characteristic of the industries correlated with the ability to lobby (such as the industries' efficiency,

the firms and Suharto to estimate the value of the firms' political connections.

productivity or profitability) may impact tariff or non-tariff barriers, and confound empirical inference. We can control for industry fixed effects in order to account for such impacts in our firm-level study of political connections and import licenses.

The discussion above suggests that better empirical tests of the “Protection for Sale” hypothesis for developing countries would require a firm-level study that involves:

- (a) Identifying firms that are “politically connected” to important politicians,
- (b) Creating measures of protection that are firm-specific, and
- (c) Creating separate measures of “less visible” protection (such as licensing), and other forms of trade protection (such as tariffs).

This paper accomplishes these tasks for over 20,000 Indonesian manufacturing firms for the mid-1990s (a period when Suharto was in power, and political connections therefore mattered a lot), and studies the impact of political connections on both firm-specific licensing protection and industry-level tariff protection. Even after controlling for industry fixed effects, location fixed effects, and a variety of firm characteristics such as size, profitability, ownership, age, and export orientation, we find strong evidence that politically connected firms are more likely to be granted import licenses by the government. Depending on the specification, a ‘connected’ firm is between 5 and 20 percentage points more likely to receive a license compared to other firms. In addition, we find no evidence that industry level tariffs bear any relationship to political connections.

The next section describes the corrupt setting in which the business-politics exchange takes place. Section III outlines the dataset we construct, and details our methodology for creating indicators for political connections, and for licensing and tariff protection. Section IV presents the regression results and section V concludes.

II. Business-Politics in Suharto's Indonesia

A few features of the nepotistic business-politics structure in Indonesia make it an ideal setting in which to empirically examine the politics of corrupt trade protection.

First, policy-making in Indonesia is highly centralized and directed by the President through his Cabinet. Trade policy is formulated through the Ministry of Industry and Trade and the Ministry of Finance. The Ministers are directly appointed by the President, and need not even be elected officials. The central role played by the President in policy formulation creates a direct mechanism through which a connection to the President can affect the protection a firm receives.

Second, it is widely recognized that Indonesia under Suharto had an extremely corrupt business environment. Transparency International (TI) has consistently ranked Indonesia as one of the most corrupt countries in the world, in the same group as Kenya, Nigeria, Bangladesh and Azerbaijan (Transparency International, 2004). TI estimates Suharto's family fortune at around \$30 billion, built over three decades from the President's control over vast sectors of the Indonesian economy, including mining, timber and petroleum (Transparency International, 1998). Suharto's children have often played the role of middlemen for government purchases and sales, in products as diverse as oil derivatives, plastics, arms, airplane parts and petrochemicals (Ehrlich 1998). For example, the firm "Clove Support and Trading Board (BPPC)" of the Humpuss Group owned by Suharto's youngest son Hutomo Mandala Putra, was granted a clove trading monopoly by the Trade Ministry in 1992 despite fierce opposition from major clove cigarette manufacturers. By this decree, BPPC buys the country's clove production from rural cooperatives at a floor price set by the ministry, and all cigarette manufacturers are in turn obliged to buy from BPPC. (kompas.com, 2000). Many other businessmen have

had to embark in joint ventures with Suharto's family, or have made a family member either a major shareholder or a member of the company's board of directors in order to receive market access and preferential treatment from the government. (Tempo Interaktif, 2003). A few such businessmen, including Liem Sioe Liong (aka Salim) of Salim Group, Eka Tjipta Widjaja of Sinar Mas Group, and T. Kian Seng (aka Bob Hasan) of Nusamba Group have since been widely cited in the press as Suharto's close associates (Asiaweek 1996, Time 1999). These relationships between Suharto and his cronies were formed over many years. Liem's and Hasan's associations with Suharto began when they supplied foodstuff, uniforms and medicine for the Army's Diponegoro Division in Central Java in the 1950s, at a time when General Suharto was the division's commander (Aditjondro, 1998a). Once Suharto became President of the Republic of Indonesia, his fortunes began to soar along with those associates (Time 1999). Most importantly for our estimation, these relationships pre-date the introduction of import licensing regulation.

Third, the fact that Suharto suffered some adverse health shocks during his Presidency, and that news about these events was reported in the media, allow us to create measures of political connections for firms and conglomerates based on the response of their stock price to these news events. Our measures are therefore derived from information available to market participants aggregated in the Jakarta Stock Exchange, rather than surveys or consulting firm reports. Survey data or "expert reports" can be based on subjective judgments of certain individuals, and also do not provide a measure of the strength of political connections, which our quantitative approach yields. Two recent papers that study the impact of political connections on capital controls and credit access rely on either expert assessments of which companies are connected (Johnson and Mitton 2003, for Malaysia), or uses the identities of firms controlled by the

wealthiest families (Charumilind, Kali and Wiwattanakantang 2004, for Thailand). In a cross-country study, Faccio (2004) moves away from subjective judgments and defines companies to be politically connected if a controlling shareholder or director of the company holds political office.

III. Data and Methodology

Our empirical analysis of the relationship between political connections and licensing protection requires us to undertake five major tasks:

- a) Identify politically connected firms
- b) Identify industries and commodities that are governed by import licensing requirements from government regulation manuals.
- c) Identify firms which possess licenses, what raw material they are allowed to import with that license, and what outputs they produce using that raw material.
- d) To construct an appropriate “control group” (i.e. firms without licenses), we identify other firms competing in the same product categories as the firms who possess import licenses. To gauge how protective a particular license is, ascertain how many other firms doing business in that same output category have been granted licenses.
- e) Gather data on firm characteristics (location, size, profitability, ownership, trade orientation, age) and associated industry characteristics (including other protection measures such as tariffs) for all firms in the licensed and non-licensed groups.

We now describe these tasks and the data generated in turn:

A. Measuring Political Connections of Firms

How strong the connection is between particular firms and influential politicians is of course not directly observable. To identify politically connected firms in Indonesia and to get a sense of the strength of those connections, we first examine how the stock price of 285 firms traded on the Jakarta Stock Exchange responded to adverse news about Suharto's health between 1994 and 1997.² Suharto suffered some adverse health shocks during the final years of his reign, and news about these events was reported in the media. The stock prices of certain firms traded on the Jakarta stock exchange experienced sharp drops in response to such news events. For example, on July 4, 1996, it was announced that Suharto would leave for Germany for a medical check-up. The stock price of the firm Bimantara Citra, owned by Suharto's son Bambang Trihatmodjo, dropped by 3.6% that day, although the Jakarta Stock Exchange only fell by 0.9% in the aggregate. Between 1994 and 1997, there were 15 days in which a local Indonesian newspaper, *Bisnis Indonesia*, reported some adverse news regarding Suharto's health. Using daily stock price data for the 985 market trading days between 1994 and 1997, we run a set of firm-specific regressions of abnormal stock returns for each firm on aggregate movements in the Jakarta Stock Exchange, the average return for the sub-industry category in which that firm belongs, movements in the exchange rate and interest rate, and an indicator variable for days when the news about Suharto's health was reported by the press.³ A firm is defined to be "politically connected" if the Suharto health news

² Fisman (2001) combined similar data on stock price movements with consulting firm reports of politically connected business groups to arrive at measures of the value of connections. The consulting firm's subjective assessments are only available for 79 firms. Leuz and Oberholzer-Gee (2003) uses a method similar to the first step of our process (the firm stock price regressions) to create a political connections measure for 130 Indonesian firms.

³ The appendix provides more details on these regressions and the data used. We use three different definitions of firm stock returns, including the actual return, the deviation of the actual return from its

indicator has a negative coefficient which is significantly different from zero at the 95% confidence level. The size of this coefficient is used as an indicator of the strength of the political connection between this firm and Suharto.

The stock price regressions are run for 285 of the 293 firms traded on the Jakarta Stock Exchange with enough observations to justify a firm-specific regression. Of these, 29 firms (10.2%) are identified as “connected” to Suharto using the definition above. This set of connected firms lost 3.7% of their value on the median “bad health day” for Suharto⁴, which translates into a \$4.1 million (13.3 billion Rupiah) median loss per connected firm. Our estimates for the loss in firm value attributable to the adverse health news ranged from 0.5% to 19.6%, which yields significant variation in our measure of the strength of firms’ political connections to Suharto. Some of the largest losses accrued to Sinar Mas Multi Artha (a loss of 5.5%, or \$169 million per day on average) and Medco Energy Corporation (a loss of 3.1% or \$5.4 million per day). Eddy Kowara Adiwinata, who is related to Suharto by marriage, is one of the founders of Medco. A long-time Suharto ally, Eka Tjipta Widjaja is the principal founder of Sinar Mas Group, the second largest private business group in Indonesia (Institute for Economic and Financial Research 1998).⁵ The identities of the major players in the set of politically-connected firms we identify provide good external validity of our estimation procedure.

The identities of the key personnel of the 29 politically connected firms also allow us to identify, by proxy, other firms that are connected to Suharto, but not traded on the

average, and the abnormal return net of aggregate JSX market return. The identities of ‘politically connected’ firms are roughly invariant to the particular definition of returns used.

⁴ This is the effect attributable to the revelation of adverse news about Suharto’s health in our regressions, after controlling for other determinants of movements in the firms’ stock returns

⁵ Sinar Mas has various joint ventures with the Bimantara group, founded by Suharto’s second son Bambang Trihatmodjo and his son-in-law Indra Rukmana, including the prominent Plaza Indonesia shopping mall in Jakarta. The firm Bimantara Citra of Bimantara group also suffered significant negative losses (2%, or \$18 million per day) on Suharto’s bad health days.

Jakarta Stock Exchange. We do this by locating all other firms that share ownership and management with the 29 connected firms. We first identify each member of the Board of Directors and Board of Commissioners of each of the 29 firms using the *Indonesian Capital Market Directory 1998*. We then use the publication *400 Prominent Indonesian Businessmen* to find the names of all business groups (conglomerations) to which the individuals running the connected firms belong. Finally, we turn to *Conglomeration Indonesia* to identify all subsidiary firms of the ‘connected’ business groups.

We restrict attention to only manufacturing firms in our empirical analysis, since the annual comprehensive firm survey in Indonesia – an important source of data on firm characteristics - covers the manufacturing sector only. Only 16 (55.2%) of the 29 ‘connected’ firms we identify make this restricted sample, since only 152 (53.3%) of the 285 firms traded on the Jakarta stock exchange are in the manufacturing sector. Through the procedure described in the preceding paragraph, we identify 237 manufacturing firms which are subsidiaries of the politically connected business groups.⁶ These 237 firms form our sample of connected firms, out of a population of 22,386 total manufacturing firms for which we have data on firm name, location, size, ownership, industry in which they operate, and commodities they produce. These 22,386 firms operate in 308 different ISIC-5 digit industries.

⁶ The connected business groups actually have 2126 subsidiaries, of which 408 are manufacturing firms. However, we are able to identify the names, sizes, production commodity codes and locations for these 237 firms only.

B. Measuring Firm-Specific Trade Protection: Import Licensing

The two principal instruments of import protection used in Indonesia are tariffs and import licensing. Import licensing regulation is particularly common for certain agricultural products, processed food and beverages, paper products, metal products and chemicals. Most products can be imported freely by firms who possess an Importer Identification Number. However, a specified set of regulated commodities in 49 different industries can only be imported by firms who are designated as “Approved Importers” by the Ministry of Industry and Trade.⁷ The set of approved importers are split into two categories:

- (a) The government assigns some firms an *IT* status, which allows them to import commodities for sale in local markets;
- (b) Some producing firms can apply for and receive *IP* status, which allows them to import raw materials needed for their production process;

Using data from the General of Customs and Excise, we are able to identify the entire set of IP and IT importers, and the commodities for which each of these firms holds the import license. There are 253 license holders in our sample of 22,386 manufacturing firms, and these license-holders have production activities in 92 different ISIC-5 digit industries. We use only non-license holder firms in these 92 industries as the ‘control group’ in some of our regressions, while in others, we use only firms in the 49 industries regulated by the Ministry of Industry and Trade as the control group.

Granting an import license to a firm is more protective if not many competitor firms are granted a license to import that same commodity. Similarly, granting a particular firm several IP licenses (so that the firm can import several different raw

materials used in their production process) is more protective than granting the firm only one or two licenses. To take into account the varying degrees of protection received by license-holders, we create more refined measures of licensing protection that take into account the number of licenses a firm has, as well as the number of competitor firms who are also awarded the same licenses. The three types of licensing protection measures we use in our empirical analysis are:

- a) Indicator variable for firms which have at least one license
- b) Count of the number of licenses each firm has
- c) Inverse of the number of “Approved Importers” (i.e. license holders) for that commodity. The maximum value of 1 for this measure would indicate that the firm is a monopoly importer of that commodity.⁸

There is quite a bit of variation in the numbers of IT and IP license holders for different commodities, which in turn generates variation in the extent of licensing protection within the set of protected firms. For some food and beverage products, licensing protection is particularly stringent (e.g. only the “Bimantara Citra” group subsidiary *Nestle Indonesia* was given Registered Importer status for dairy products), while over 30 firms are allowed to import polypropylene. Our measures therefore code *Nestle* as more protected than the importers of polypropylene.

The data indicate that among the license holders, import activities are carried out most frequently by Indah Kiat Pulp and Paper Company of the Sinar Mas business group. As indicated earlier, Sinar Mas was founded by a business partner of the Suharto family

⁷ A 1997 Ministerial decree places 186 manufacturing commodities in 52 ISIC-5 digit industries under import licensing regulation.

⁸ If a firm has more than one license, then we compute the inverse of the number of “approved importers” of each commodity it possesses an import license for, and then use the maximum value of these numbers across different commodities. As an alternative, we sum the inverses instead of taking the maximum value.

named Eka Tjipta Widjaja. These frequent import activities imply that the firm is granted the privilege to import large amounts of some regulated products. Only three of Indah Kiat's competitors are granted licenses for some of the commodities Indah Kiat imports. As a result, Indah Kiat's share of the domestic paper products market in Indonesia is very large. Not surprisingly, our daily stock price regressions found that a subsidiary firm of the Sinar Mas business group, Sinar Mas Multi Artha, incurred significant losses to firm value on Suharto's "bad health days."

C. Tariff Rates and Other Firm and Industry Data

To compute the tariff rates for each industry, we collect data on tariff rates in 1997 for 13,860 HS-9 commodities from the Tariffs Team of the Ministry of Finance in Jakarta. We then match each of these commodities to the 334 ISIC-5 digit industries that produce those commodities, and create an industry-average tariff variable.

Most of the control variables in our regressions are firm characteristics that we obtain from the *Survey of Manufacturing Firms* conducted by Statistics Indonesia (1997). This dataset reports the location of each firm, which allows us to control for province fixed effects in all regressions. Firms in our sample are located in all 27 provinces of Indonesia, spread out over six islands. Close to 80% of the firms are located in Semarang, Jakarta, and Surabaya, which are the three major cities with highly developed business and transportation infrastructure on the largest island, Java. The Firm Survey also reports the commodities each firm produces, which allows us to allocate firms to 308 different 5-digit industries, and control for a full set of industry fixed effects. The survey also contains information on the number of workers employed, wage payments, total

These measures ensure that all else equal, firms with multiple licenses will be more likely to have greater

value of production and value added, how much of production is exported, firm age, and ownership structure. For some specifications, we aggregate these data up to the industry level, and create additional indicators such as a concentration index for the industry. We supplement these with data on the total cost, insurance and freight value of imports for each industry from Statistics Indonesia (1996). From the same source, we obtain information on trade regulations such as the nine state-owned companies which are deemed “strategic producers” by the government, and therefore protected. We create a “strategic production” indicator for the fourteen industries in which these nine companies operate. Similarly, the government protects the production of eleven commodities (rice, sugar, margarine, beef, milk, kerosene and so forth) through a special provision for basic necessities. We create a “strategic consumption” indicator for the twelve industries in which these basic commodities are produced.

IV. Empirical Analysis

A. Summary Statistics

Table 1 presents variable summary statistics for the three different samples used in the regression analysis. The first sample consists of 22,386 manufacturing firms operating in 308 ISIC 5-digit industries. The third sample consists of only firms in the 49 industries that, according to government regulation manuals, contain the commodities that fall under import licensing regulation. The licensed firms in these 49 industries use their imported raw materials to produce multiple commodities which span a total of 92 industries. Since firms without licenses producing in all 92 industries compete with the

values for protection than firms with a single license.

set of licensed firms, the 8998 firms in these 92 industries form our second sample. Most of the results we report are based on this 8998-firm sample.

Only 1.1% of the firms in our large 308-industry sample are licensed. This ratio increases to 2.6% in the 92-industry sample, and further to 3.5% in the 49-industry sample. Similarly, only 1.1% of firms are ‘politically connected’ in the large sample, but larger fractions of the smaller samples (1.5% and 3.5% respectively) are connected. Firms in the 92-industry sample employ 246 workers each on average, and range in size from 20 employees to 39,000 employees. The annual production of the average firm is valued at 15.1 million Rupiah. These firms operate at 65% of capacity, and export about 9.4% of their output. The vast majority of these firms are largely privately owned. The firms were about 13 years old on average in 1997.

Table 1b compares summary statistics for the set of firms that are licensed against those that are not. Licensed firms are over fifteen times more likely to be politically connected. The average licensed firm is also much larger. It employs five times as many workers and its production is valued ten times as much as the average non-licensed firm. Licensed firms are over ten times as profitable, more export oriented, and has larger shares of foreign private ownership and local government ownership relative to non-licensed firms. There is no statistically significant difference in the efficiency (i.e. realized production capacity) with which licensed and non-licensed firms operate, or in the average ages of the two groups of firms. Licensed firms tend to be in larger and more concentrated or less competitive industries. Firms in industries that the government has declared to be producing “strategic consumption” commodities are more likely to be licensed than other firms.

Table 1c compares summary statistics for industries that have at least one licensed firm against those that do not. Industries that have at least one licensed firm are more likely to be larger, more profitable, located in Java, have larger foreign ownership shares, and be deemed a “strategic production” industry by the government. Not surprisingly, industries with a licensed firm are also more likely to have at least one firm that is politically connected.

B. Regression Results: The Impact of Political Connections on Licensing

In table 2 we examine the determinants of the likelihood that firms are given the “approved importer” status by the government for any commodity. We run linear probability models of an indicator for whether the firm has any import license in various firm-level samples.⁹ The coefficient of interest is on an indicator variable for whether the firm is politically connected to President Suharto.

In specification 1 we control for province fixed effects of the firm’s location in addition to various characteristics for the industry, including its size, market structure, value of imports and indicators for whether it is issued a “strategic production” or a “strategic consumption” status by the government. We find that firms that are politically connected are 15.6 percentage points more likely to possess an import license compared to other firms, and this effect is statistically significant at the 99% confidence level. We also find that firms in larger and more concentrated industries and in “strategic consumption” industries are more likely to be granted a license. “Strategic consumption” industry firms are 1.5 percentage points more likely to be granted an import license than

⁹ The linear probability model (LPM) is not necessarily the most appropriate, since our dependent variable has a relatively low mean. The LPM results are presented first for ease of interpretation of the coefficients. In table 3, we run a probit specification of our base model and examine marginal effects to compare results.

other firms. A one standard deviation increase in our industry concentration ratio (which corresponds to a large 24.7 percentage point increase in the four largest firms' share of the market) leads to 0.8 percentage point increase in the probability of a license for firms in that industry. A one standard deviation or 8% increase in the size of the industry increases the likelihood of firms in that industry receiving a license by 3.2 percentage points. The impact of being politically connected is clearly much larger than the effects of even large changes in these other control variables. Specification 2 controls for a full set of industry fixed effects instead of the industry characteristic variables. This improves the fit of the regression in terms of the R^2 . The coefficient on the 'politically connected' indicator remains almost identical and is still statistically significant.

Specification 3 adds controls for other firm characteristics in addition to the industry and province fixed effects. We find that larger firms – measured either in terms of number of employees or the value of production – are more likely to possess an import license. A 10% increase in firm size improves the probability of getting a license by about 5-6 percentage points. More profitable firms – measured by their value added net of wage payments – are also more likely to be given “approved importer status.” Every \$100,000 increase in profitability is associated with a 4.2 percentage increase in the probability of receiving a license. Leaving out the domestic private ownership share of firms as the omitted category, we find that the probability of being licensed increases with foreign ownership share, but decreases with both central and local government ownership share. A 10% increase in foreign ownership share increases the license probability by 0.44 percentage points, and the effects of changes in government ownership share are even smaller.

It is important to note that some of these firm characteristics are potentially endogenous, and it would be imprudent to infer that there are causal effects of firm size and profitability on the probability that an import license is granted. The licensing protection may have itself allowed these firms to become larger or more profitable. We run these regressions to merely examine whether the impact of political connections on licensing protection is invariant to the inclusion of these firm characteristics. We want to guard against the possibility that, say, the ‘political connections’ indicator merely picks up the effect of firm size. As it turns out, the impact of political connections on licensing is robust to the addition of these firm characteristics. Connected firms are 14.5 percentage points more likely to receive a license compared to other firms. Again, this impact is large relative to the effects of plausible changes in other firm characteristics. As mentioned in section II, our ‘political connections’ indicator identifies relationships between Suharto and his associates’ business groups that were formed years before import licensing regulations were enacted – in some cases dating back to the 1950s. We are therefore reasonably confident that unlike the other firm characteristics, our political connections indicator is an exogenous determinant of licensing protection.

Specifications 4 and 5 truncate the sample to include only medium and large firms, with at least 100 workers and 250 workers respectively. Small firms are probably less likely to have a strong demand for an import license. In addition, Suharto and his family have less use for forming relationships with small firms with limited bribing or profit-sharing capacity. These two facts together could bias the impact of political connections on licensing protection upward in a regression where small firms with no demand for an import license are included in the sample. Excluding small firms in specifications 4 and 5 reduces the coefficient of political connections somewhat. In the

sample of firms that employ more than 100 workers, politically connected firms are 11.6 percentage points more likely to receive a license than other firms. When we restrict our sample to firms with 250 workers or more, this impact further reduces to 9.6 percentage points.

In specification 6 we restrict our sample to 8998 firms operating in the 92 industries which have at least one licensed firm. Only firms competing in the market with some licensed firm is included in this regression. This is another attempt on our part to exclude firms that may not have a strong demand for a license. The impact of political connections is even larger in this sample of firms. Connected firms are over 20 percentage points more likely to receive a license than other firms. We also find that older, more established firms in these 92 industries are more likely to receive a license.

In specification 7 we further restrict our sample to only firms in the 49 industries that contain commodities directly governed by import licensing. This is an overly restrictive definition of the non-licensed control group, since firms competing with the set of licensed firms in the output market, but not necessarily producing in the industry where the particular raw material being imported through the license, are being excluded from this sample. Even in this sample we find that connected firms are 9.9 percentage points more likely to be licensed, and this effect is statistically significant.

C. Alternative Definitions of Licensing and Political Connections

We perform additional robustness checks in table 3 by changing the estimation method and measures of licensing and connections used. Specification 8 is a probit regression of the indicator for whether firms are licensed. The second and third columns report an average marginal effect for the politically connected firms indicator, and

elasticities for the continuous variables. The magnitude of the impact of being politically connected is smaller in the probit regression than it is in the linear probability models. Politically connected firms are 4.3 percentage points more likely to be licensed according to specification 8, and the effect is significant at the 99% level of confidence. The elasticities of licensing probability with respect to the other firm characteristics are relatively small. Of these control variables, firm size has the largest impact. A 10% increase in firm size raises the probability of being licensed by about 3-4%.

In specification 9 we replace the political connections indicator with a measure of how close the relationship between Suharto and the connected firms are. This measure is based on the percentage loss in firm value in the Jakarta stock exchange on the average “bad health news” day for Suharto. The effect of political connections continue to be statistically significant, but it is difficult to meaningfully interpret the coefficient on this variable. The elasticity of the licensing probability with respect to the measure of the ‘strength of political connections’ appears to be small.

In specifications 10, 11 and 12, we replace our licensing indicator with measures of the stringency of licensing protection. By these measures, a firm is more protected if there are fewer other license-holders for the same commodity, and if the firm has a larger number of licenses for different commodities. Being politically connected reduces the number of other (competitor) license holders by a factor of two in specification 10. In a Poisson model of the count of licenses for each firm (specification 12), being politically connected raises the expected number of licenses by 0.03. This is a large effect, since the average number of licenses held by this sample of firms is about 0.04.

D. Political Connections and Firm Size

Table 4 investigates whether the impact of political connections on licensing varies across different types of firms by adding interaction terms between the connections indicator and measures of firm size, profitability and efficiency. We would expect political connections to have more of a positive impact on licensing for larger and more profitable firms, since the gains to the corrupt relationship between Suharto and business-owners are larger when the stakes are higher. This is simply a scale effect: the value of a license is probably greater for larger firms, and size of the kickback the Suharto family can expect to receive from a larger firm is correspondingly bigger.

There does appear to be some non-linear impacts of political connections on the probability of receiving an import license. In specifications 13 and 14, being politically connected has more of a positive effect on licensing probability in larger firms. The top two panels of figure 1 plot the marginal effects of the political connection indicator corresponding to these two regressions against the measures of firm size. The impact of political connections on licensing probability is positive for the largest 65% of firms. In the largest 20% of firms, being politically connected increases the probability of a license by over 20 percentage points! There is weaker evidence that more efficient firms benefit more from being politically connected, but no evidence that the effect of political connections is non-linear with respect to firm profitability.

E. Industry-Level Regressions of Tariffs and Licenses

Table 5 aggregates our data up to the ISIC 5-digit industry level and examines the impact of political connections on the nominal tariff rate for the industry, and on license holders in the industry. In this setting, our measures of connections and licensing are

necessarily crude, since these really are firm-level variables. We define an industry to be politically connected if it has at least one connected firm. The alternative measures of licensing protection for the industry being used are an indicator for industries with at least one licensed firm, the share of protected firms in the industry, and industry averages of the ‘degree of licensing protection’ variables we had constructed. Under all measures, politically connected industries are significantly more likely to have greater licensing protection. For example, specification 19 shows that having a connected firm in the industry increases the share of licensed firms in that industry by 3.6 percentage points. This is a large effect, since only 3% of firms in the average industry are licensed. There appears to be no relationship between politically connected industries and the average nominal tariff rates for the industry. This result is not surprising, since protection is typically not aimed at industries as a whole in Indonesia (and in most developing countries). Protection is firm-specific, which is what our firm-level analysis uncovers.

V. Conclusion

All previous empirical papers on the business-politics nexus have used average tariffs and non-tariff barrier coverage ratios at a high level of aggregation (usually the 3-digit industry aggregate) to proxy for trade protection. Since protection in developing countries occurs on the basis of personal relationships between politicians and firm owners, this paper computes a measure of licensing protection that is specific to each firm. Licensing requirements as a method of protection is easier to obfuscate from the public eye than tariffs, and is used extensively in developing countries. Even though the requirements are simple on paper, the data analysis uncovers that it is actually a very special set of firms that are ultimately awarded licenses to import raw materials.

On the politics side, previous research has used either reported campaign contributions or union-membership based measures of how organized industries are. As far as political corruption is concerned, campaign contributions or organized industries are at best second-order concerns in developing countries. Bribery and nepotism are of first-order importance, and even though these are not directly observed, we use adverse health shocks to Suharto as an instrument to identify the strength of political connections between individual firms and a key trade and industrial policy maker.

The form of business-politics exchange studied here has important welfare consequences, since it provides incentives for politicians to erect licensing barriers, which arguably result in greater efficiency losses than other forms of trade barriers. Welfare losses are arguably also larger when protection is based on the “political connections” a firm has (e.g. based on kin or personal relationships between firms and politicians) rather than on contributions or bribery. This is because a firm’s productivity is probably more correlated with its ability to bribe than whether that firm’s manager is related to an influential politician, and welfare losses are larger when unproductive firms receive the license to operate. It would be interesting to examine in future research whether relationship-based licensing protection is in fact more costly to society than other forms of trade protection.

References

- Aditjondro, George (1998a). "Autumn of the Patriarch. The Suharto Grip on Indonesia's Wealth," *Multinational Monitor*, Essential Information, Inc, January/February, Vol. 19, 1998. <http://multinationalmonitor.org/mm1998/mm9801.06.html>
- Aditjondro, George (1998b). "Soeharto Inc," *The Sydney Morning Herald*, Sydney, April 6, 1998.
- Asiaweek (1996). "The Suharto Inc. Network. All the President's Men -- and Women," August 9, 1996. <http://www.asiaweek.com/asiaweek/96/0809/cs3.html>
- Bisnis Indonesia, Jakarta, 1994-1997.
- Charumilind, Chutatong, Raja Kali and Yupana Wiwattanakantang (2004). "Connected Lending: Thailand Before the Financial Crisis," *Journal of Business*, forthcoming.
- Colmey, John and David Liebholt, (1999). "The Family Firm," *Time.com*, May 24. <http://www.time.com/time/asia/asia/magazine/1999/990524/cover2.html>
- Ehrlich, Richard (1998). "Suharto Family's Holdings Pervade Indonesia. Many Activities in Everyday Life Line Clan Pockets," *The Washington Times*, Washington D.C., May 29, 1998.
- Eicher, Theo and Thomas Osang (2002). "Protection for Sale: An Empirical Investigation: Comment," *American Economic Review* , 92(5), 2002: 1702-1710
- Faccio, Mara (2004). "Politically Connected Firms: Can They Squeeze the State?" unpublished paper, University of Notre Dame.
- Fisman, Raymond (2001). "Estimating the Value of Political Connections." *American Economic Review*, 91: 1095-1102.
- Gawande, Kishore and Usree Bandyopadhyay (2000). "Is Protection for Sale? Evidence on the Grossman-Helpman Theory of Endogenous Protection." *The Review of Economics and Statistics* 82: 139-152.
- Goldberg, Pinelopi K. and Giovanni Maggi (1999). "Protection for Sale: An Empirical Investigation." *American Economic Review*, 89(5): 1135-1155.
- Grossman, Gene and Elhanan Helpman (1994). "Protection for Sale." *American Economic Review* 84: 833-850.
- Institute for Economic and Financial Research (1998). "*Indonesian Capital Market Directory 1998*," Ninth Edition, Jakarta.
- Jakarta Post (1997). "BULOG's Monopoly to End," *Jakarta Post*, Jakarta, August 21, 1997.
- Johnson, Simon and Todd Mitton (2003). "Cronyism and Capital Controls: Evidence from Malaysia," *Journal of Financial Economics* 67: 351-382.
- Kompas.com (2000). "Soal Dana Petani Cengkeh di BPPC. ICW Tuduh DPR Bela Tommy," March 15, 2000. <http://www.kompas.com/kompas-cetak/0003/15/ekonomi/icw13.htm>

Leuz, Christian and Felix Oberholzer-Gee (2003). "Corporate Transparency and Political Connections," unpublished paper, University of Pennsylvania.

Mitra, Devashish, Dimitrios Thomakos and Mehmet Ulubaşoğlu (2002). "Protection for Sale in A Developing Country: Democracy vs. Dictatorship. *The Review of Economics and Statistics* 84: 497-508.

Statistics Indonesia (1996). "Indonesia Foreign Trade Statistics," Jakarta.

Statistics Indonesia (1997). "Large and Medium Manufacturing Survey," Jakarta.

Tempo Interaktif (2003). "*Tidak Benar the Gang of Four Bubar*," March 2, 2003. <http://www.tempointeraktif.com/harian/wawancara/waw-Sudwikatmono01.html>

Transparency International (1998). "Suharto's Family Must Return Looted Wealth," *TI Press Release*, Berlin, May 25, 1998.

Transparency International (2004). "Corruption Perception Index." Berlin, <http://www.transparency.org/surveys/index.html#cpi>

Table 1a. Summary Statistics

Variables	All Firms (22386 obs.)		Firms in Industries which have at Least 1 Licensed Firm (8998 obs.)		Firms in Industries Governed by Import License Regulation (1868 obs.)	
	Mean (Std. Dev.)	Range	Mean (Std. Dev.)	Range	Mean (Std. Dev.)	Range
Firm Granted an Import License (Indicator)	0.0113 (0.106)	(0-1)	0.0277 (0.164)	(0-1)	0.0369 (0.189)	(0-1)
Degree of Licensing Protection (1/No. license holders - max value in case of multiple licenses)	0.0704 (1.47)	(0-100)	0.1733 (2.312)	(0-100)	0.376 (3.895)	(0-100)
Degree of Licensing Protection (1/No. license holders - sum across in case of multiple licenses)	0.0899 (1.81)	(0-141.67)	0.2215 (2.846)	(0-141.67)	0.5191 (5.106)	(0-141.67)
Number of Licenses Held per Firm	0.0165 (0.18)	(0-7)	0.0405 (0.281)	(0-7)	0.0675 (0.408)	(0-7)
Firm is Politically Connected (Indicator)	0.0105 (0.102)	(0-1)	0.0168 (0.128)	(0-1)	0.0359 (0.186)	(0-1)
Degree of Firm's Political Connection ("Suharto ill" coef. in stock market regs)	0.0005 (0.006)	(0-0.2)	0.0008 (0.007)	(0-0.17)	0.0013 (0.007)	(0-0.11)
No. of Workers in the Firm (logged)	4.1978 (1.176)	(3-10.57)	4.4315 (1.28)	(3-10.57)	4.4715 (1.342)	(3-9.15)
Value of Firm Production in 1000 Rupiah (logged)	13.6559 (2.098)	(7.22-22.71)	14.1173 (2.112)	(7.22-22.71)	14.6007 (2.276)	(8.27-22.05)
Profitability: Value Added by Firm net of Wage Payments (in billion Rupiah)	0.004 (0.05)	(-0.02-5.1)	0.0062 (0.072)	(0-5.1)	0.0115 (0.083)	(0-2.17)
Efficiency: Percentage of Firm Realized Production from Its Capacity/100	0.6676 (0.293)	(0-1)	0.6682 (0.283)	(0-1)	0.6738 (0.276)	(0-1)
Fraction of Production that is Exported	0.0995 (0.275)	(0-1)	0.1002 (0.272)	(0-1)	0.0773 (0.235)	(0-1)
Central Government Ownership Share of Firm	0.0191 (0.134)	(0-1)	0.0144 (0.117)	(0-1)	0.0518 (0.218)	(0-1)
Local Government Ownership Share of Firm	0.0059 (0.072)	(0-1)	0.0058 (0.072)	(0-1)	0.0061 (0.07)	(0-1)
Foreign Private Ownership Share of Firm	0.0474 (0.192)	(0-1)	0.0666 (0.223)	(0-1)	0.0724 (0.229)	(0-1)
Firm Age/10 Years	13.8244 (14.816)	(0-96)	14.6191 (15.75)	(0-96)	15.8721 (16.864)	(0-96)
Value of Total Production in the Industry (logged)	20.5956 (1.648)	(12.63-23.34)	21.4484 (1.264)	(15.82-23.34)	20.2814 (1.784)	(12.98-22.91)
Value of Imports for the Industry (logged)	24.3352 (2.733)	(0-29.93)	25.043 (2.155)	(0-29.93)	26.2895 (1.759)	(21.51-28.6)
Industry Concentration: Four Largest Firms' Production as Fraction of Total	0.3939 (0.247)	(0.09-1)	0.3713 (0.234)	(0.09-1)	0.4703 (0.273)	(0.13-1)
Indicator for Strategic Consumption Industry	0.0257 (0.158)	(0-1)	0.0067 (0.081)	(0-1)	0.2243 (0.417)	(0-1)
Indicator for Strategic Production Industry	0.0174 (0.131)	(0-1)	0.0202 (0.141)	(0-1)	0.0787 (0.269)	(0-1)

Table 1b. Summary Statistics of Firms in Industries which have at least 1 Licensed Firm

Variables	Firm Granted an Import License (Indicator) = 0 (8749 obs.)		Firm Granted an Import License (Indicator) = 1 (249 obs.)		t-test of the Difference in Means
	Mean (Std. Dev.)	Range	Mean (Std. Dev.)	Range	Mean Diff. (p-value)
Firm is Politically Connected (Indicator)	0.0119 (0.108)	(0-1)	0.1888 (0.392)	(0-1)	0.177 (0.000)
Degree of Firm's Political Connection ("Suharto ill" coef. in stock market regs)	0.0005 (0.006)	(0-0.17)	0.0092 (0.024)	(0-0.17)	0.009 (0.000)
No. of Workers in the Firm (logged)	4.3865 (1.25)	(3-10.2)	6.0125 (1.295)	(3-10.57)	1.626 (0.000)
Value of Firm Production in 1000 Rupiah (logged)	14.0285 (2.051)	(7.22-22.39)	17.2375 (1.815)	(11.14-22.71)	3.209 (0.000)
Profitability: Value Added by Firm net of Wage payments (in billion Rupiah)	0.0049 (0.044)	(0-2.03)	0.0543 (0.34)	(0-5.1)	0.049 (0.023)
Efficiency: Percentage of Firm Realized Production from Its Capacity/100	0.6681 (0.283)	(0-1)	0.6737 (0.276)	(0-1)	0.006 (0.753)
Fraction of Production that is Exported	0.0988 (0.271)	(0-1)	0.1496 (0.295)	(0-1)	0.051 (0.000)
Central Government Ownership Share of Firm	0.0143 (0.117)	(0-1)	0.0177 (0.128)	(0-1)	0.003 (0.679)
Local Government Ownership Share of Firm	0.006 (0.073)	(0-1)	0.001 (0.016)	(0-0.25)	0.005 (0.000)
Foreign Private Ownership Share of Firm	0.0606 (0.215)	(0-1)	0.2747 (0.372)	(0-1)	0.214 (0.000)
Firm Age/10 Years	14.5922 (15.753)	(0-96)	15.5663 (15.663)	(0-78)	0.974 (0.335)
Value of Total Production in the Industry (logged)	21.4632 (1.26)	(15.82-23.34)	20.9273 (1.302)	(15.82-23.34)	0.536 (0.000)
Value of Imports for the Industry (logged)	25.0497 (2.127)	(0-29.93)	24.8013 (2.976)	(0-29.93)	0.248 (0.192)
Industry Concentration: Four Largest Firms' Production as Fraction of Total	0.3667 (0.232)	(0.09-1)	0.5305 (0.246)	(0.09-1)	0.164 (0.000)
Indicator for Strategic Consumption Industry	0.0054 (0.073)	(0-1)	0.0522 (0.223)	(0-1)	0.047 (0.001)
Indicator for Strategic Production Industry	0.02 (0.14)	(0-1)	0.0281 (0.166)	(0-1)	0.008 (0.447)

Table 1c. Summary Statistics of Industry Level data

Variables	All Industries (271 obs.)		Industries in which at least 1 Firm Granted an Import License (Indicator) = 0 (184 obs.)		Industries in which at least 1 Firm Granted an Import License (Indicator) = 1 (87 obs.)		t-test of the Difference in Means
	Mean (Std. Dev.)	Range	Mean (Std. Dev.)	Range	Mean (Std. Dev.)	Range	Mean Diff. (p-value)
Average Nominal Tariff Rates	13.4889 (16.436)	(0-146.43)					
Industry has at least 1 License Holder (Indicator)	0.321 (0.468)	(0-1)					
Fraction of firms that have import license	0.0303 (0.1)	(0-1)					
Degree of Licensing Protection (1/No. license holders - max value in case of multiple licenses)	2.7343 (10.074)	(0-100)					
Degree of Licensing Protection (1/No. license holders - sum across firms within an Industry)	6.6182 (30.83)	(0-423.99)					
Industry is Politically Connected (Indicator)	0.3321 (0.472)	(0-1)	0.2337 (0.424)	(0-1)	0.5402 (0.501)	(0-1)	0.307 (0.000)
Value of Total Production in 1000 rupiah in the Industry (logged)	18.8134 (2.286)	(12.63-23.34)	18.1495 (2.282)	(12.63-22.38)	20.2176 (1.545)	(16.11-23.34)	2.068 (0.000)
Value of Imports for the Industry (logged)	17.4272 (2.602)	(6.96-23.02)	17.2501 (2.684)	(6.96-22.63)	17.8016 (2.39)	(12.14-23.02)	0.552 (0.000)
Profits in the Industry (in billion rupiah)	0.1715 (0.512)	(0-6.56)	0.0849 (0.19)	(0-1.18)	0.3545 (0.835)	(0-6.56)	0.270 (0.000)
Percentage of Firms in the Industry located in Java	0.8168 (0.223)	(0-1)	0.8 (0.247)	(0-1)	0.8523 (0.155)	(0.14-1)	0.052 (0.000)
Industry Concentration: Four Largest Firms' Production as Fraction of Total	0.697 (0.264)	(0.09-1)	0.7232 (0.264)	(0.12-1)	0.6417 (0.256)	(0.09-1)	0.081 (0.000)
Indicator for Strategic Consumption Industry	0.0443 (0.206)	(0-1)	0.0489 (0.216)	(0-1)	0.0345 (0.184)	(0-1)	0.014 (0.227)
Indicator for Strategic Production Industry	0.0443 (0.206)	(0-1)	0.0326 (0.178)	(0-1)	0.069 (0.255)	(0-1)	0.036 (0.026)
Average Central Government Ownership Share of Firms in the Industry/100	0.0293 (0.099)	(0-1)	0.0279 (0.09)	(0-0.71)	0.0321 (0.117)	(0-1)	0.004 (0.575)
Average Foreign Private Ownership Share of Firms in the Industry/100	0.0882 (0.137)	(0-1)	0.0774 (0.137)	(0-1)	0.1111 (0.132)	(0-0.8)	0.034 (0.000)
Average Fraction of Firms Production in the Industry that is Exported/100	0.1074 (0.138)	(0-1)	0.1064 (0.147)	(0-1)	0.1094 (0.119)	(0-0.55)	0.003 (0.697)
Average Firms Efficiency in the Industry: Percentage of Realized Production from Capacity/100	0.6522	(0-1)	0.6502 (0.139)	(0-1)	0.6565 (0.083)	(0.46-1)	0.006 (0.250)

**Table 2. Firm Licensing Protection Regressions:
Linear Probability Model Estimation of the Likelihood that the Firm is Granted an Import License**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	All Firms			Firms with more than 100 Workers	Firms with more than 250 Workers	Firms in Industries which have at least 1 Licensed Firm	Firms in Industries Governed by Import Licensing
Firm is Politically Connected (Indicator)	0.156 (5.98)***	0.166 (6.61)***	0.145 (5.80)***	0.116 (4.50)***	0.096 (2.98)***	0.208 (5.91)***	0.099 (2.20)**
No. of Workers in the Firm (logged)			0.006 (3.54)***	0.015 (3.59)***	0.023 (2.99)***	0.008 (2.56)**	0.031 (3.52)***
Value of Firm Production in 1000 Rupiah (logged)			0.005 (5.62)***	0.010 (4.32)***	0.011 (2.57)**	0.011 (5.69)***	0.010 (2.37)**
Profitability: Value Added by Firm net of Wage payments (in billion Rupiah)			0.129 (3.32)***	0.089 (1.74)*	0.085 (1.59)	0.125 (2.99)***	0.105 (1.10)
Efficiency: Percentage of Firm Realized Production from Its Capacity/100			-0.002 (0.58)	-0.005 (0.72)	-0.004 (0.36)	-0.000 (0.03)	-0.006 (0.33)
Fraction of Production that is Exported			-0.009 (2.69)***	-0.008 (1.33)	-0.003 (0.30)	-0.017 (2.07)**	-0.011 (0.55)
Central Government Ownership Share of Firm			-0.020 (2.91)***	-0.031 (3.48)***	-0.046 (3.64)***	-0.051 (2.73)***	-0.063 (2.40)**
Local Government Ownership Share of Firm			-0.015 (3.54)***	-0.041 (3.01)***	-0.106 (2.20)**	-0.032 (3.45)***	-0.076 (2.96)***
Foreign Private Ownership Share of Firm			0.044 (5.01)***	0.032 (3.04)***	0.030 (2.27)**	0.076 (4.85)***	0.058 (1.78)*
Firm Age/10 Years			0.001 (1.70)*	0.003 (1.54)	0.001 (0.28)	0.003 (2.05)**	0.005 (1.46)
Value of Total Production in the Industry (logged)	0.004 (6.37)***						
Value of Imports for the Industry (logged)	-0.001 (1.54)						
Industry Concentration: Four Largest Firms' Production as Fraction of Total	0.034 (7.50)***						
Indicator for Strategic Consumption Industry	0.015 (2.37)**						
Indicator for Strategic Production Industry	0.001 (0.16)						
Constant	-0.083 (7.75)***	-0.010 (1.87)*	-0.117 (7.63)***	-0.308 (6.37)***	-0.406 (4.49)***	-0.290 (6.02)***	-0.485 (4.44)***
Industry Fixed Effects?	No	Yes	Yes	Yes	Yes	Yes	Yes
Observations	20974	22386	20897	6282	3218	8998	1868
R-squared	0.03	0.12	0.15	0.23	0.34	0.17	0.24

All regressions control for province fixed effects

Robust t statistics in parentheses; * significant at 10%; ** significant at 5%; *** significant at 1%

**Table 3. Firm Licensing Protection Regressions:
Alternative Definitions of Licensing and Political Connections**

Dependent Variable	(8)		(9)		(10)		(11)		(12)	
	Firms Granted an Import License (Indicator)		Firms Granted an Import License (Indicator)		Degree of Licensing Protection (1/No. license holders - max value in case of multiple licenses)	Degree of Licensing Protection (1/No. license holders - sum across in case of multiple licenses)	Degree of Licensing Protection (1/No. license holders - sum across in case of multiple licenses)	Degree of Licensing Protection (1/No. license holders - sum across in case of multiple licenses)	Total No. of License Held per Firm	
Estimation Method	Probit				Ordinary Least Squares				Poisson	
	Coeff.	ME ^a	Elasticity ^b	Coeff.	Elasticity ^b	Coefficient	Coefficient	Coeff.	ME ^c	Elasticity ^d
Firm is Politically Connected (Indicator)	0.729 (4.97)***	0.043				1.976 (3.15)***	3.049 (3.72)***	0.701 (3.29)***	0.035	
Degree of Firm's Political Connection ('Suharto ill' coef. in stock market regs)				13.096 (4.91)***	0.086					
No. of Workers in the Firm (logged)	0.285 (4.94)***		0.386	0.286 (4.89)***	0.386	-0.039 (0.62)	-0.043 (0.64)	0.398 (3.57)***		0.266
Value of Firm Production in 1997 in 1000 Rupiah (logged)	0.228 (6.36)***		0.307	0.236 (6.51)***	0.318	0.108 (2.45)**	0.140 (2.90)***	0.451 (5.45)***		0.211
Profitability: Value Added by Firm net of Wage/1000 Rupiah	-0.088 (0.36)		-0.004	-0.100 (0.41)	-0.005	2.895 (2.40)**	3.092 (2.67)***	-0.932 (0.72)		-0.003
Efficiency: Percentage of Firm Realized Production from Its Capacity/100	-0.071 (0.58)		-0.067	-0.074 (0.60)	-0.070	0.082 (0.84)	0.085 (0.79)	0.173 (0.67)		-0.046
Fraction of Production that is Exported	0.011 (0.08)		0.003	-0.015 (0.11)	-0.004	0.065 (0.40)	0.018 (0.10)	0.260 (1.02)		0.002
Central Government Ownership Share of Firm	-0.676 (1.81)*		-0.016	-0.495 (1.42)	-0.012	0.028 (0.03)	-0.014 (0.02)	-1.068 (2.78)***		-0.011
Local Government Ownership Share of Firm	-1.619 (1.75)*		-0.003	-1.616 (1.76)*	-0.003	-0.171 (1.85)*	-0.225 (1.92)*	-3.117 (1.61)		-0.002
Foreign Private Ownership Share of Firm	0.659 (5.48)***		0.232	0.649 (5.39)***	0.229	0.222 (1.47)	0.294 (1.53)	1.033 (5.03)***		0.160
Firm Age / 10 Years	0.056 (1.73)*		0.111	0.054 (1.67)*	0.108	0.015 (0.87)	0.010 (0.53)	0.041 (0.73)		0.076
Constant	-18.997 (20.57)***			-18.980 (20.82)***		-2.203 (3.66)***	-3.100 (3.79)***	-54.805 (29.54)***		
Observations	8941		8941		8998		8998		8998	
R-squared					0.10		0.12			

All regressions control for industry fixed effects and province fixed effects

Robust z statistics in parentheses; * significant at 10%; ** significant at 5%; *** significant at 1%

^aAverage Marginal Effect: change in the probability that the firm is granted an import license, in response to a discrete 0 to 1 change for the binary variable

^bElasticity: percentage change in the probability that the firm is granted an import license, in response to 1 percent increase in the independent variable

^cAverage Marginal Effect: Increase in the number of licenses granted to the firm in response to discrete 0 to 1 change in the binary variable

^dElasticity: Percentage change in the number of licenses in response to a one percent increase in the independent variable

**Table 4. Firm Licensing Protection Regressions with Interaction Variables:
Linear Probability Model on the Probability the Firm is Granted an Import License**

	(13)	(14)	(15)	(16)	(17)
	Firms in Industries which have at least 1 Licensed Firm				
Firm is Politically Connected (Indicator)	-0.336 (1.85)*	-0.642 (1.75)*	0.207 (5.76)***	0.066 (1.07)	0.209 (5.51)***
Connection*No. of Workers in the Firm	0.092 (2.97)***				
Connection*Value of Firm Production		0.050 (2.31)**			
Connection*Firm Profits			0.044 (0.23)		
Connection*Firm Efficiency				0.234 (2.47)**	
Connection*Fraction of Production that is Exported					-0.005 (0.03)
No. of Workers in the Firm (logged)	0.007 (2.16)**	0.009 (2.81)***	0.008 (2.56)**	0.008 (2.60)***	0.008 (2.56)**
Value of Firm Production in 1997 in 1000 Rupiah (logged)	0.012 (6.00)***	0.010 (5.18)***	0.011 (5.68)***	0.011 (5.56)***	0.011 (5.69)***
Profitability: Value Added by Firm net of Wage Payments (in billion Rupiah)	0.110 (2.26)**	0.109 (2.21)**	0.121 (2.78)***	0.125 (2.88)***	0.125 (2.99)***
Efficiency: Percentage of Firm Realized Production from Its Capacity/100	0.000 (0.04)	-0.001 (0.09)	-0.000 (0.03)	-0.006 (1.05)	-0.000 (0.03)
Fraction of Production that is Exported	-0.016 (1.95)*	-0.017 (2.03)**	-0.017 (2.07)**	-0.017 (2.04)**	-0.017 (2.12)**
Central Government Ownership Share of Firm	-0.058 (3.04)***	-0.050 (2.65)***	-0.051 (2.75)***	-0.045 (2.41)**	-0.051 (2.73)***
Local Government Ownership Share of Firm	-0.031 (3.43)***	-0.028 (3.25)***	-0.032 (3.45)***	-0.034 (3.31)***	-0.032 (3.45)***
Foreign Private Ownership Share of Firm	0.078 (4.98)***	0.078 (4.95)***	0.076 (4.85)***	0.075 (4.75)***	0.076 (4.85)***
Firm Age/10 Years	0.003 (2.05)**	0.003 (2.04)**	0.003 (2.06)**	0.003 (2.05)**	0.003 (2.05)**
Constant	-0.292 (5.99)***	-0.281 (5.71)***	-0.289 (6.03)***	-0.289 (5.75)***	-0.290 (6.02)***
Observations	8998	8998	8998	8998	8998
R-squared	0.17	0.17	0.17	0.17	0.17

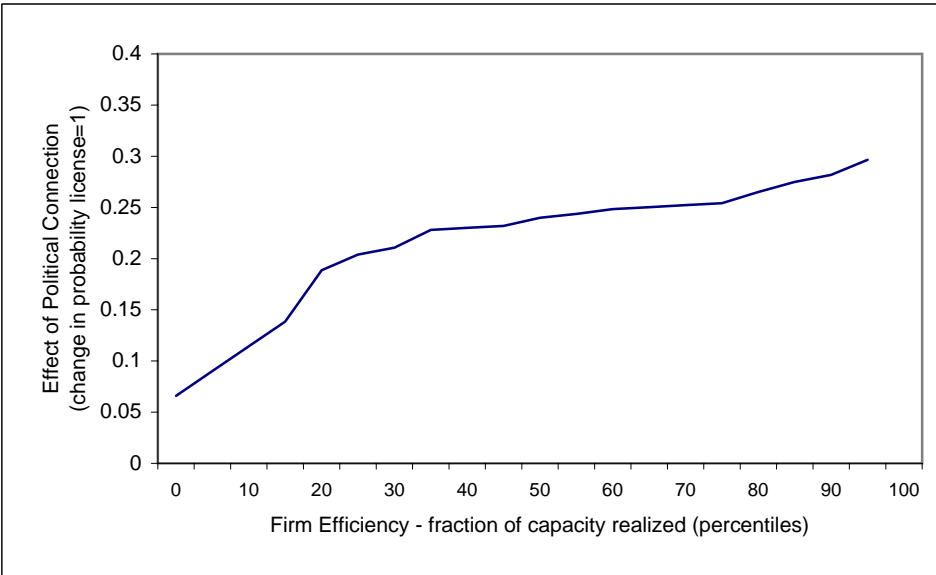
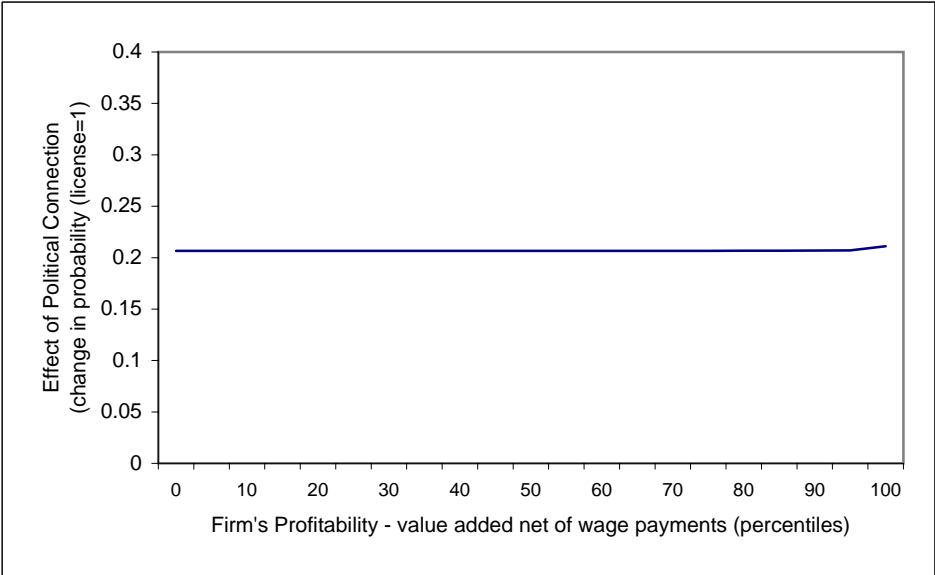
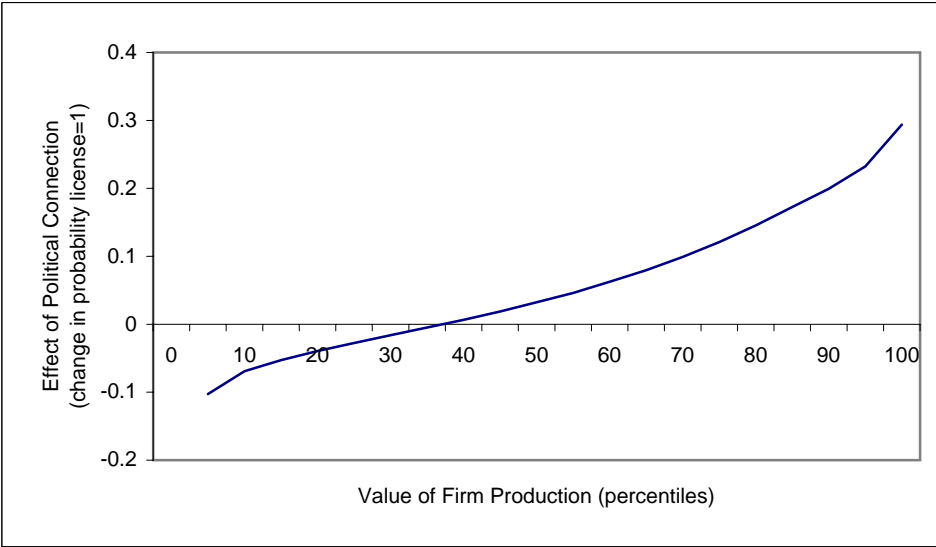
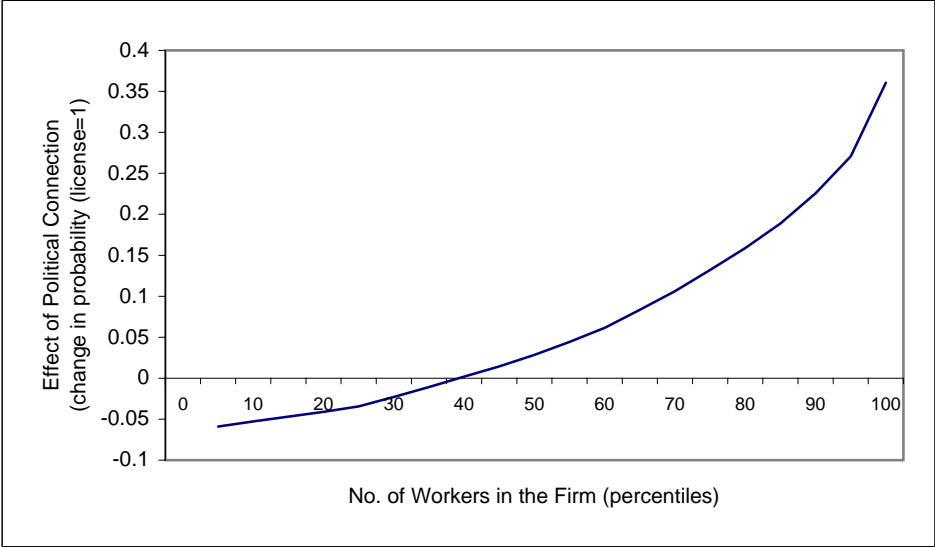
Observation is limited only for firms in industries which have at least 1 licensed firm

All regressions control for industry fixed effects and province fixed effects

Robust t statistics in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Figure 1. The Marginal Effect of Political Connections Across Percentiles of Firm Size, Profitability and Efficiency



* Marginal effects computed based on the models in table 4 of the political connections indicator interacted with No. of workers, Value of production, Profitability and Efficiency respectively (models 13,14, 15 and 16)

Table 5. Industry Level Regressions: Tariffs and Import Licensing Protection

Dependent Variable	(18)	(19)	(20)	(21)
	Average Nominal Tariff Rates	Industry has at least 1 License Holder (Indicator)	Fraction of Firms in the Industry that have Import License	Degree of Licensing Protection (1/No. license holders - max value in case of multiple licenses)
Industry has a Politically Connected Firm (Indicator)	-1.672 (1.09)	0.139 (2.01)**	0.036 (2.02)**	4.727 (2.79)***
Value of Total Production in 1000 rupiah in the Industry (logged)	1.731 (1.43)	0.078 (2.22)**	-0.011 (0.87)	-0.025 (0.05)
Value of Imports for the Industry (logged)	-1.516 (3.55)***	-0.013 (1.26)	-0.004 (2.29)**	-0.262 (1.37)
Profits in the Industry (in billion rupiah)	0.090 (0.09)	0.009 (0.26)	0.012 (1.30)	0.674 (0.93)
Percentage of Firms in the Industry Located in Java	-1.378 (0.22)	0.214 (1.99)**	0.081 (2.45)**	0.764 (0.38)
Industry Concentration: Four Largest Firms' Production as Fraction of Total	5.076 (0.91)	0.102 (0.85)	0.046 (1.87)*	0.173 (0.10)
Indicator for Strategic Consumption Industry	-6.437 (2.13)**	-0.039 (0.33)	0.034 (0.89)	0.729 (0.25)
Indicator for Strategic Production Industry	-4.371 (1.56)	0.117 (0.84)	0.030 (0.84)	2.811 (0.61)
Average Central Government Ownership Share of Firms in the Industry/100	-15.004 (2.34)**	-0.234 (0.72)	0.291 (1.26)	3.341 (0.25)
Average Foreign Private Ownership Share of Firms in the Industry/100	6.815 (0.79)	0.177 (0.76)	0.136 (1.23)	-5.261 (1.35)
Average Fraction of Firms Production in the Industry that is Exported/100	-19.673 (1.87)*	-0.177 (0.86)	0.025 (0.41)	3.363 (0.88)
Average Firms Efficiency in the Industry: Percentage of Realized Production from Capacity/100	-14.643 (1.87)*	-0.048 (0.31)	0.101 (1.52)	-6.086 (1.28)
Constant	17.990 (0.60)	-1.125 (1.41)	0.155 (0.70)	12.111 (0.86)
Observations	263	271	271	271
R-squared	0.11	0.23	0.25	0.11

Robust t statistics in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%