

# Does Democratization Promote Competition?

Evidence from Indonesia

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## Abstract

Does democratization promote economic competition? This paper documents that the disruption of political connections associated with Suharto's fall had a modest pro-competitive effect on Indonesian manufacturing industries. Firms with connections to Suharto lost substantial

market share following his resignation. Industries in which Suharto family firms had larger market share during his tenure exhibited weak improvements in broader measures of competition in the post-Suharto era relative to industries in which Suharto firms had not been important players.

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# Does Democratization Promote Competition?

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## 1 Introduction

The ongoing debate about the extent to which democratization promotes growth (Acemoglu et al., 2019; Papaioannou and Siourounis, 2008; Persson and Tabellini, 2006; Rodrik and Wacziarg, 2005) brings into focus the relationship between political systems and capitalism, and the channels through which political contestability affects incentives and conditions for firms to enter, invest and grow. How political institutions shape the trade-off between protecting the property rights and rents of incumbents and promoting entry and demands for redistribution is at the core of this debate (Rajan and Zingales, 2003). Autocracies have been argued to be more prone to corruption and capture by incumbents (Acemoglu, 2008, Treisman, 2000; Chowdhury, 2004). Democratic institutions, in contrast, are often argued to level the playing field and promote entry by constraining public corruption (Adserà et al., 2003; Rose-Ackerman, 1999) and reducing regulatory protection for incumbent firms (Acemoglu, 2008). Yet, direct evidence on the impact of democratization on competition is limited.

This paper tests whether democratization promotes economic competition by assessing whether the severing of crony ties to President Suharto associated with Indonesia's democratic transition leads to enhanced competition in sectors disproportionately exposed to cronyism. To this end, we use plant-level manufacturing census data in which firms owned by Suharto family members and cronies are identified. We assess the impact of political turnover on both firm- and industry-level outcomes, exploiting President Suharto's fall and the removal of district mayors appointed by him as a quasi-natural experiment generating temporal and spatial (e.g. across district) variation in the value of political connections to him. By comparing firm-level impacts of political turnover with industry-level impacts, we aim to quantify both the distributional and efficiency implications of political connections.

Indonesia provides a suitable environment for analyzing the effect of democratization on competition. Suharto's autocratic regime was marked by state capture. His family had extensive and highly diversified business interests and is estimated to have amassed \$15-\$35 billion during his 31 years in office from 1967-1998 (Koerner, 2004, Transparency International, 2004). Cronyism was rampant, and it was well known that ingratiating oneself with the president's family was an important enabler of business success (McLeod, 2000; Basri, 2001; Mobarak and Purbasari, 2006a, 2006b). Suharto's fall, in the wake of the financial crisis, was largely unexpected. Indonesia furthermore has high-quality plant-level manufacturing census data spanning the Suharto era, the crisis and its aftermath in which 246 firms with political connections to the Suharto regime were identified by Mobarak and Purbasari (2006a). Among these, 86 firms are owned by Suharto family members, which is our preferred proxy for being

politically connected. While only 1.1 percent of firms in our data set were politically connected, they accounted for 15.8 percent of total output on the eve of the crisis. Last but not least, Suharto appointed mayors were allowed to finish their terms, which generates quasi-exogenous variation in the degree to which old-regime elites could capture local power (Martinez-Bravo et al., 2017,) and maintain anti-competitive privileges.

The main hypothesis tested in this paper is that disruption in political connections associated with Indonesia's democratization had a pro-competitive impact on Indonesian manufacturing industries. If political turnover resulted in a reduction in anticompetitive practices that conferred advantages on companies connected with Suharto, one would expect companies connected to him to lose their privileges and market share after his removal from power. The impact of Suharto's fall on firms with connections to him may be attenuated in districts where mayors appointed by him stayed in office longer. One would also anticipate greater competition and more vibrant firm dynamics in industries in which his family and cronies had extensive business interests, with greater improvements in industries where connected firms accounted for a higher market share.

A crucial identifying assumption is that the collapse of the Suharto regime reduced the value of connections to Suharto and attendant anticompetitive privileges received by politically connected firms. Fisman (2001) provides strong support for this assumption, showing significant movement in the stock prices of firms with connections to Suharto in response to news about his health. The online appendix B provides additional supportive evidence by showing that Suharto connections do not predict stock price movements to political events in the post-Suharto era.<sup>1</sup>

Empirically, the main challenge is to isolate the impact of Suharto's fall from potentially confounding changes caused by contemporaneous events such as the financial crisis, deregulation policies, and decentralization. Toward that end, we adopt two main strategies. To start with, we use difference-in-difference and event study approaches in which we control for industry, year and district fixed effects as well as for Suharto era time-invariant firm and industry characteristics and allow their impact to differ across the years. We are not quantifying the impact of political turnover on firm performance and competition indicators per se, but rather examining whether the attendant disruption in political

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<sup>1</sup> The online appendix B demonstrates that the stock market valuation of firms with Suharto connections did not respond (differentially) to news events leading up to Wahid's impeachment, for example, nor to elections. It also shows that industries in which the market share of politically connected firms expanded during the Suharto era witnessed a reduction in measures of competition, suggesting that political connections did repress industry-level competition during the Suharto era.

connections had a differential impact on politically connected firms and industries in which Suharto's family and cronies had more extensive business interests.

Second, following Martinez-Bravo et al. (2017), we exploit the differential timing of the removal of the last Suharto appointed mayors across districts in triple difference regressions in which we compare how the democratization induced reduction in the premium on being connected to Suharto varied with the tenure of the last Suharto appointed mayor. The staggered removal of Suharto appointed mayors helps break the near simultaneity of the onset of the financial crisis and regime change.

Politically connected firms witnessed sizable and statistically significant reductions in their market shares after Suharto's fall, yet remained large. These results are robust to using propensity score methods to limit the analysis to a comparable set of firms. Our tests for spatial heterogeneity in the impact of Suharto's fall are broadly consistent with the hypothesis that politically connected firms in districts in which Suharto appointed mayors remained in office longer were less impacted by regime change, but our results are not conclusive given the small number of observations.

Suharto's fall had a modest pro-competitive impact on industries in which his family had extensive business interests relative to industries in which they had not been important players. Our summary competition indicator, which aggregates individual competition indicators (entry, exit, price cost margins, the profit elasticity, the Herfindahl-Hirschman Index of concentration, the market share of the largest four firms, the number of market participants, and prices) into a single index following Kling et al. (2007), improves significantly more in industries in which Suharto family members had greater aggregate market shares.

Our study builds on and complements different strands of literature. By assessing which industry characteristics are associated with a greater prevalence of politically connected firms and quantifying the industry-level spillovers of anticompetitive practices, we contribute to the literature on politically connected firms (Fisman, 2001; Faccio, 2006; Ferguson and Voth, 2008, Johnson and Mitton, 2003; Khwaja and Mian, 2005; Rijkers, Arouri, and Baghdadi, 2017; Rijkers, Baghdadi and Raballand, 2017, Rijkers, Freund and Nucifora, 2017).

Second, the paper also contributes to the growing body of literature on the economic consequences of political turnover (Londregan and Poole, 1990; Earle and Gehlbach, 2015, Naidu et al., 2017, Acemoglu et al., 2018, Akcigit et al., 2017). In a closely related study Gonzalez and Prem (2020) show that firms with connections to Pinochet managed to shield their market position during Chile's transition to democracy, by making investments in productive capacity financed by state-owned banks. The limited

pro-competitive economic gains from the transition to democracy in Chile could be due to the fact that connected firms were able to anticipate the regime change, having a full 17 months to prepare for it.

Last but not least, our paper contributes to the literature on the impact of democracy on economic performance. The erosion of the premium on connections to former dictator Suharto is consistent with the hypothesis that democratization reduces privileges bestowed on politically connected incumbent firms. The limited pro-competitive impact of his fall suggest that democratization can help curb state capture but is not by itself sufficient to sustain competitive markets.

The rest of this paper is organized as follows. Section 2 provides background on the Indonesian context. Section 3 discusses the data sources, including the identification of political connections. Section 4 examines the impact of political turnover on firms' market share, including taking advantage of the district-time variation in the replacement of Suharto-appointed mayors. Section 5 assesses the pro-competitive impacts of Suharto's fall across manufacturing industries. Section 6 concludes.

## **2 Country Context**

### **2.1 The Suharto Era**

President Mohamed Suharto's (Soeharto) New Order regime, which began in the late 1960s, was a quintessential example of crony capitalism (Haber, 2002). Suharto, his children, and his close confidantes controlled the country, maintaining intimate state-business relationships with military officers, ethnic Chinese businessmen, and a few indigenous (pribumi) Indonesian businessmen. Many former military officers were appointed as ministers, high-level bureaucrats, and directors of state-owned companies. In exchange for political support and kickbacks, loyal businessmen received privileges and protection from the government.

The privileges were manifold. They included (a) licensing arrangements providing monopoly rents in importing, distribution, exploitation of natural resources, and other areas; (b) privileged access to inputs, including finance and land; (c) tax breaks and subsidies; (d) privileged treatment in public procurement; (e) designation as mandatory partners in foreign joint ventures; and (f) price regulation that resulted in supra-normal profits (McLeod, 2000).

Many of these favors were extended to specific firms, rather than entire industries. Using the Indonesian manufacturing survey, the same data set we use in this study, Mobarak and Purbasari (2006a) show that politically connected firms were more likely to receive an import license than their competitors,

and that their competitors became less likely to receive that same license. Yet, industry level tariffs and non-tariff barriers are not systematically correlated with the political characteristics of industries.

Even if favors were targeted to specific firms, cronyism adversely impacted industry-level competition. Price-setting in the cement industry, officially the domain of the Ministry of Trade, was heavily influenced by the Indonesian Cement Association, which acted like a cartel (Maarif, 2001). Mobarak and Purbasari (2006a) provide evidence that capture of the import licensing system curbed competition and led to increased industry concentration, higher downstream prices, and a weakened correlation between firm productivity and market shares. The online appendix C presents additional evidence showing that industries in which politically connected firms expanded their aggregate market share during the Suharto era witnessed a concomitant reduction in competition.

Despite extensive corruption, Indonesia, like many other countries in the region, grew rapidly during the 1980s and 1990s, a phenomenon often referred to as the East Asian Paradox (McLeod, 2000; Hadiz and Robison, 2005). Yet Suharto's economic model was ultimately unsustainable; it ended with a financial crisis that started in July 1997 and accompanied by a dramatic devaluation of the rupiah. Notwithstanding sound macroeconomic fundamentals, Indonesia was deeply affected, with the economy contracting almost 14 percent overall. Manufacturing was one of the worst affected sectors, together with the financial and construction sectors. Public protests forced Suharto to resign in May 1998. He was replaced by his protégé, B. J. Habibie.

## **2.2 The Post-Suharto Era**

In response to popular demands, Habibie swiftly announced elections, which were held in 1999, and introduced several reforms, including allowing free media and the establishment of new political parties and unions, limiting the presidency to two five-year terms, as well as large-scale decentralization reforms. Abdurrahman Wahid, who had founded the PKB (*Partai Kebangkitan Bangsa*) in 1998 and previously served as chairman of the biggest Muslim organization in Indonesia, the Nahdlatul Ulama (NU), was elected president in 1999. Megawati Soekarnoputri, daughter of Indonesia's first president Sukarno and founder of the DPI-P (*Partai Demokrasi Indonesia Perjuangan*) was appointed vice president.

The Wahid presidency was marred by regional unrest, most notably in Aceh, and president Wahid became embroiled in two corruption scandals, "Bulogate" and "Bruneigate", which ultimately led to his impeachment in 2001 and the appointment of Megawati Soekarnoputri as president. Although initially immensely popular, slow progress on reforms contributed to her losing the 2004 elections to Susilo



Bambang, the Coordinating Minister of Political and Security Affairs in Megawati's cabinet who had formed the Democratic Party (*Partai Demokrat*, abbreviated PD) and campaigned on a reformist anti-corruption platform. He was re-elected in 2009.

The financial turmoil of the Indonesian crisis forced many big firms to restructure or close (Hill, 2007), but many large firms were sheltered from some potential sources of pressure for greater change. Some conglomerates were so large that they may have been “too big to fail” (Borsuk and Chng, 2014), because they were virtually omnipresent in the Indonesian economy. Opaque financial statements made it difficult to price the real value of assets appropriately (Hadiz and Robison, 2005), and large parts of the government and judiciary remained highly corrupt (Lindsey, 1999; McLeod, 2000; Butt, 2009, Butt and Lindsey, 2010), making it hard to resort to legal action. The government also faced a delicate balancing act between seeking justice and keeping the economy afloat. A mounting budget deficit and fears that especially the Chinese corporate groups would keep their capital offshore increased pressures to compromise on restructuring and limit prosecutions (Hadiz and Robison, 2005).

Nonetheless, the government took important steps to promote competition and reduce privileges that had been bestowed upon connected firms. For instance, production and trade monopolies in some intermediate goods-producing industries (cement, plywood, rattan, pulp, paper, and clove) were eliminated (Pangestu et al., 2002). The national car program was abolished. Import protection and export taxes were reduced. In addition, restrictions on foreign direct investment were relaxed in many industries, and foreigners were allowed to fully own banks and companies through acquisition (IPA, 2011). Some state-dominated industries (e.g., civil aviation and telecommunications) were deregulated.<sup>2</sup> In addition, in 1999 a competition commission (the KPPU) was established to eliminate anticompetitive practices.<sup>3</sup>

Despite the large reform agenda and significant changes in the aftermath of the regime collapse, many regulatory reforms were piecemeal and slow. For example, not until 2007 did Indonesia issue a new negative list with those industries where foreign investment was restricted. The functioning of the competition commission was severely constrained by limited capacity and legal obstacles (Hadiz, 2004; Hill, 2007). Decentralization reforms that redistributed political, administrative, and economic power to

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<sup>2</sup> In its 1998–2003 pacts with the International Monetary Fund, Indonesia agreed to abolish virtually every state monopoly.

<sup>3</sup> In 1999 Indonesia's parliament passed the Anti-Monopoly and Unfair Business Competition Law No. 5. In 1998 Indonesia abolished the monopoly of the state logistics agency Bulog over the price and supply of rice; Law No. 8, on consumer protection, in 1999; the *Yayasan* law, promoting transparency and accountability of state-controlled charities, in 2001; elimination of tariffs on sugar; and the limited granting of import licenses to producers-importers.

provinces, districts, and even cities resulted in a renegotiation of state–business relationships (Hill, 2007) and the ascendancy of businessmen into politics (Fukuoka, 2012).

Rather than leading to a wholesale disappearance of the dominant business elite, democratization led to its repositioning (Johansson, 2014) and gave it direct access to political power (Fukuoka, 2012). Some entrepreneurs were elected as heads of administrative units. In many other cases, they won the support of heads of local cabinets by backing them during election campaigns (Hadiz, 2004). Though regime turnover led to personnel changes as well as changes to the rules of the game, close ties between business and politics and the “gift exchange” nature of doing business do not appear to have changed much (Eklof, 2003; Carney and Child, 2013), helping explain why even greater changes are not seen among the firms and industries that had been connected to Suharto.

Many people with close connections to Suharto managed to maintain positions of power and prominence. All of his children except Titiek were accused of corruption at some point, but none of them was convicted on such charges. Tommy Suharto was convicted for ordering the assassination of a Supreme Court judge in 2002, but he was released in 2006, having served only 4 years of his 15-year sentence. Testimony to the Suharto family’s lasting political prominence was the candidature of Suharto’s son-in-law, Prabowo Subianto, for the presidency in June 2014 (he was not elected).

Economic growth in Indonesia resumed in 2000, but it never reached its pre-crisis levels. Productivity growth did not recover fully after the crisis, and the process of “creative destruction” did not improve much (Hallward-Driemeier and Rijkers, 2013). Hill (2007) suggests that slow recovery was caused by imperfect implementation of the reforms and political instability.

In summary, the collapse of the regime decreased the value of connections to Suharto. The restructuring of politically connected companies, the elimination of a number of production and trade monopolies, and restrictions on investment are arguably all manifestations of reduced capture. If they are, one would expect increased competition, especially in industries where firms with connections to Suharto accounted for substantial market share. That the reform agenda and changes in business practices were not more sweeping, however, may limit the size of the effects.

### **3 Data**

This study draws on a number of data sets that are described in more detail in the online appendix A. Our primary data comes from the plant-level Annual Manufacturing Survey (*Survei Tahunan Perusahaan Industri Pengolahan*), collected by Indonesia’s Central Bureau of Statistics (*Badan Pusat*

*Statistik*). The survey contains detailed information on industry, employment, production, trade participation and other firm characteristics. It covers all formal manufacturing establishments with more than 20 employees, which account for about 80 percent of all manufacturing output in Indonesia.<sup>4</sup> For each year, we have approximately 20,000 plant-level observations.<sup>5</sup> Our sample spans 1993–2009, which enables us to study competition during the last years of Suharto’s reign and the decade following his departure. Following Blalock et al. (2008), we exclude the crisis years and the first year of the recovery, i.e. 1997–99, because they are characterized by high turmoil and volatility.

These data are used to construct measures of competition. We use entry and exit rates,<sup>6</sup> price costs margins (PCM), the profit elasticity of demand (PE), the Herfindahl-Hirschman Index of concentration (HHI), the aggregate market share of the biggest 4 firms (MS4), the number of firms in an industry and prices.<sup>7</sup> To draw general conclusions about the evolution of competition, we create a summary index of competition following Kling et al. (2007). Specifically, our competition index *Z* is simply the sum of equally weighted average z-scores of each of these 8 indicators, with the sign of each measures oriented so that higher values signal more intense competition (e.g. more competition is associated with *more* entry, exit, and market participants but a *lower* price-cost margin, profit elasticity, market share of the 4 largest firms, concentration, and prices).

To identify which firms are politically connected, we use data from Mobarak and Purbasari (2006a). They identify firms with family connections to Suharto, i.e. firms that are directly owned or managed by a Suharto family member (either directly or being owned by firms held by a family member). They also identify firms with other, i.e. cultivated connections to him. We will primarily focus on family connections, as this is the most conservative and strongest measure of connectedness.

The online appendix B provides supporting evidence that these variables capture connections that were specific to Suharto. It extends Fisman’s (2001) findings by showing that Suharto connections neither

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<sup>4</sup> We obtain this number by dividing total output produced by all firms in our sample by total manufacturing output reported by the World Development Indicators from the World Bank.

<sup>5</sup> We use the terms *plant* and *firm* interchangeably.

<sup>6</sup> Note that because we do not observe firms with fewer than 20 workers entry and exit rates may in part reflect movements in economic activity rather than actual firm creation or foreclosure.

<sup>7</sup> These indicators are important markers of competition and allocative efficiency as well as determinants of productivity growth (Aghion et al., 2005; Jerbashian and Kochanova, 2017).

predict stock price responses to elections during the post-Suharto era, nor stock price responses to news about President Wahid's impeachment.<sup>8</sup>

In addition, we use data on the appointment dates of the Suharto appointed mayors from Martinez-Bravo et al. (2013). We supplement the data they have made publicly available with data we collected ourselves from the Government of Indonesia's Official Directories at Cornell University. We also construct new data on entry regulation from presidential decrees issued in 1993, 1995, and 2000. We create a (stringent) entry regulation indicator variable that equals 1 if an industry is completely closed to investments or closed unless the firm in question meets certain conditions and zero otherwise. Industries that are reserved for small businesses are not considered as regulated.

## **4 The Impact of Political Turnover on Manufacturing Firms**

### **4.1 Characteristics of Politically Connected Manufacturing Firms**

Even though the 86 Suharto family firms account for only 0.4 percent of firms in our sample, they matter for macroeconomic performance. As Table 1 (panel A) shows, Suharto family firms accounted for 1.3 percent of jobs and exports, 2.9 percent of all imports, and 3.8 percent of output in 1996. The larger group of firms with broadly defined political connections (presented in panel B) comprised 1.1 percent of all firms, employed 4.4 percent of all manufacturing workers, and produced 15.8 percent of total manufacturing output. They also accounted for 5.0 percent of manufacturing exports and for 12.7 percent of all imports. Politically connected firms were thus among the larger firms and were oriented toward production for domestic consumption. By 2000 the aggregate contributions of politically connected firms had diminished somewhat. Suharto connected firms nonetheless remained important and continued to account for 13.4% of all output.

Table 2 shows the average characteristics of politically connected and nonconnected firms and compares the difference between these averages during the final years of Suharto's tenure (1993–1996) and after his departure (2000–2009), presenting results for both Suharto family firms (panel A) and the broader group of politically connected firms (panel B). The average market share of Suharto family firms was almost seven times higher than that of nonconnected firms operating in the same five-digit industry (7% vs 1% respectively), and eight times larger when using the broader measure of connectedness. The

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<sup>8</sup> Additional support is provided by Leuz and Oberholzer-Gee (2006) who show that Suharto connected firms had difficulty re-establishing connections under the Wahid regime.

larger size of connected firms was also reflected in higher employment. Connected firms are more likely to import consistent with their privileged access to import licenses documented by Mobarak and Purbasari (2006a), and somewhat more likely to export. Connected firms also had higher foreign ownership, reflecting the tendency of the Suharto family to partner with foreign firms (Mobarak and Purbasari, 2006b). Firms with broadly defined political connections (but not Suharto family firms) also have significantly higher levels of state ownership, consistent with Suharto's tendency to control big businesses by means of state ownership.

If Suharto's ousting reduced the value of privileges received by companies connected to him, we would expect politically connected firms to experience a larger reduction in market power than nonconnected firms.<sup>9</sup> A comparison of the difference in mean market shares before and after his resignation shows that Suharto family firms on average incurred a 2 percentage points reduction in their markets share relative to that of non-connected firms. These averages mask significant heterogeneity; the median decrease in market share among connected firms is only 0.4 percentage points, and 32 out of 83 connected firms experienced an increase in their market share. The average market share of broadly connected firms also fell by 2 percentage points relative to the market share of non-connected firms. However, other disparities between connected and non-connected firms remained fairly stable.<sup>10</sup>

To assess to what extent differences are driven by selection bias, panel C in Table 2 also presents descriptive statistics on differences between matched connected and non-connected firms. Comparable firms are identified using propensity score matching based on the logarithm of firm age, foreign and state ownership, indicators for being an exporter and importer, industry and year fixed effects (see Table C4.1 in the online appendix for balance tests).<sup>11</sup> Although such matching does not eliminate bias associated with selection on unobservables, it helps identify a more similar set of comparator firms. As expected, differences between connected and non-connected firms are considerably smaller when focusing on this matched sample. The evolution of performance differences observed for the matched sample mimics the patterns documented in panel A; connected firms enjoy significant market share and size premia before

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<sup>9</sup> Another possibility, which we explore in the online appendix C, is that connected firms were more likely to exit. We show that this is not the case. Connected firms, if anything, were more resilient to the crisis. This may help explain the relatively weak impacts on competition at the industry level.

<sup>10</sup> Note that the age difference between connected firms and non-connected firms grows over time, which is to be expected given that by construction politically connected firms are ones that were already active in 1997.

<sup>11</sup> We use the 5 nearest neighbors, with replacement and restrict the sample to 1993-1996 when selecting comparator firms.

the crisis (which are smaller than the premia presented in panel A because the analysis is confined to firms that are more similar to each other). During the post-Suharto era connected firms remain on average slightly larger than non-connected firms, but, importantly, the size and market share premia on being connected to Suharto seem to have substantially eroded because of Suharto's ousting.

## 4.2 Impact of Political Turnover on Firms

The key challenge is to disentangle the impact of the fall of Suharto from the potential confounding effects of the events that happened in Indonesia at the same time. The Asian financial crisis led to drastic currency devaluation, the collapse of the banking system, and numerous defaults. Firms (and industries) that were more import oriented, less export oriented, and more reliant on external finance before 1997 were hit hardest by the crisis and had different recovery trajectories, as credit conditions were durably altered and because the rupiah did not recover. This exchange rate adjustment enhanced the competitiveness of (net) exporters but hurt (net) importers. Suharto's fall also precipitated regulatory reforms and decentralization.

To isolate the impact of (disruption of) political connections from these other developments, we use two main strategies. To start with, we use difference-in-difference and event study strategies to assess performance differences between connected and nonconnected firms before and after the fall of Suharto. Anticipation effects are likely limited (Fisman, 2001), given that his fall was largely unexpected, which aids identification. Propensity score methods are used to limit selection bias. Second, we exploit the differential timing of the removal of Suharto appointed mayors, who were allowed to finish their terms, across districts to break the simultaneity between the financial crisis and regime change. In both cases we follow Blalock et al. (2008) and exclude the crisis period and its immediate aftermath (1997–99), because it was characterized by turmoil and adjustment.

In our preferred event study specifications we interact the measure of being politically connected and other explanatory variables with a full set of year dummies  $D(\text{Year} = t)$  in order to assess how the premium on being connected evolves over time. We estimate:

$$\begin{aligned} \text{Market Share}_{it} = & \sum_{t=1993, \dots, 2009} \beta_t \text{PC}_i \times D(\text{Year} = t) \\ & + \sum_{t=1993, \dots, 2009} \gamma_t X_{it} \times D(\text{Year} = t) + \sum_{t=1993, \dots, 2009} \theta_t Z_{it} \times D(\text{Year} = t) \end{aligned} \quad (1)$$

$$+\mu_i + \tau_t + \varepsilon_{it}$$

where  $Market\ Share_{it}$  is the market share of firm  $i$  at time  $t$ ;  $PC_i$  is a dummy variable indicating whether or not a firm is politically connected;  $X_{it}$  is a set of firm characteristics including foreign and state ownership shares, indicators for whether a firm imports or exports, and the logarithm of the firm's age.  $Z_{it}$  is a vector of characteristics of the industry in which the firm operates, such as its dependence on external finance, asset tangibility and the stringency of entry regulation;<sup>12</sup>  $\mu_i$  is a firm fixed effects  $\tau_t$  are year fixed effects and  $\varepsilon_{it}$  is an i.i.d. error term. Standard errors are clustered by five-digit industry. Year dummies  $D(Year = t)$  measure the time before and after regime turnover and their interaction with  $PC_i$  allows us to test for potential pre-trends: we omit  $PC_i \times D(Year = 1996)$  such that 1996 is the base category.

In our preferred specification, the  $X_{it}$  variables as well as the entry regulation indicator are averaged over 1993–96 (and thus set to be time-invariant), to avoid potential endogeneity of the controls with respect to political turnover. This forces us to restrict the sample to firms already operating before Suharto's fall. We also present regressions using time-varying  $X_{it}$  measures, which allows us to use all firms and observations and helps minimize omitted variable bias though some of the explanatory variables could potentially be endogenous with respect to political turnover. We add interactions between a full set of year dummies  $D(Year = t)$  and firm characteristics  $X_{it}$  and industry characteristics  $Z_{it}$  to allow for a differential impact of these determinants of market share after Suharto's ousting and to control for potential (lasting) differential impacts of the financial crisis across firms and industries. The main coefficients of interest are the  $\beta$ s, which measures how the premium on being connected changed in the post-Suharto era.

The results are presented in Table 3, which focuses on Suharto family firms, our preferred indicator for being connected. To set the stage, we start with simple difference-in-difference specifications in which we use a  $Post\ Suharto_t$  dummy to pool all post-regime turnover years together to maximize power. The first specification is estimated using Ordinary Least Squares, and includes firm and industry controls, their interactions with the post-Suharto dummy, as well as industry, district, and year fixed effects. On average Suharto family firms enjoyed a market share premium of 2.8 percentage points during his tenure. After Suharto left office, this premium reduced significantly, by 1.8 percentage points. Including firm fixed

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<sup>12</sup> In our data a firm remains in the same industry over its life span, therefore, to convey a source of identification, we do not introduce a separate subscript for industry-level variables.

effects, as is done in column 2, reduces the estimated reduction in the markets share premium on being connected to Suharto associated with regime change to 1.2 percentage points. Column 3 replicates the specification presented in column 2 but now uses time-varying explanatory variables, which allows us to use the full sample. This hardly impacts the estimated reduction in the connectedness premium, which is now more precisely estimated to fall by 1.3 percentage points.

Columns 4-7 presents results from our event study specifications, in which both the PC family dummy and other firm and industry controls are interacted with a full set of year dummies. The regressions presented in columns 4, 5 and 6 are analogous to those presented in columns 1, 2 and 3, respectively. The OLS regression presented in column 4 confirms that connected firms enjoyed a significant market share premium before his fall. After his fall, this market share premium on Suharto connections was not only much smaller, but also no longer significant (except in 2003).<sup>13</sup> Replicating this specification but including firm fixed effects, as is done in column 5, which presents our preferred specification (1), yields similar results. The coefficients on the interactions between Suharto era year dummies (i.e. 1993, 1994 and 1995) and being politically connected are typically small and not significant, attesting to the absence of pre-trends. By contrast, the coefficients on the interaction between being a Suharto family firm and the post-Suharto era year dummies are consistently negative, hovering between -1.7 and -0.4 percentage points. They are significant at the 5% level in 2001 and at the 10% level in 2002. These results are also depicted in Figure C4.1 in the online appendix. When we estimate the same specification using time-varying measures, as is done in column 6, we find slightly larger reductions in the connectedness premium, which, are significant at the 5% level in 2001 and 2002, and at the 10% level in 2000 and 2005. The reduction in the premium on being connected is more precisely estimated (and hence more significant) when using time-varying measures partly because we are using a larger sample and not confining attention to firms already operating in 1996.

Finally, column 7 replicates the analysis presented in column 5 but confining the analysis to firms selected using propensity score methods based on firm age, foreign and state ownership, importing and exporting over 1993-1996 (see table C4.1 in the online appendix for balancing tests and Table 2 for descriptive statistics). This restricts the sample to firms that are most alike based on these observables, allowing for a more stringent test on whether connectedness itself matters or if these types of firms more

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<sup>13</sup> Tests for the joint significance of the PC family dummy and interactions between the PC dummy and year dummies are not presented to conserve space but available upon request.



generally faced different dynamics. The estimated reduction in the premium on being connected remains statistically significant and is very similar in magnitude to the reduction estimated using the full sample. In summary, political turnover resulted in a reduction in the market share premium associated with being a Suharto family firm.

Robustness tests are presented in the online appendix Table C4.2. The documented patterns are robust to including industry-year and district-year fixed effects, and thus not driven by different industry-specific recovery trajectories from the crisis or localized shocks, including those propagated by the financial crisis. They are not an artefact of survivor or selection bias and are also obtained when using a broad indicator of political connections. Last but not least, they remain when limiting the sample to firms that employed more than 100 workers, were among the top 50 firms in their industry or ever issued stocks or bonds.

In sum, the finding that Suharto firms experienced a significant reduction in their market power after regime turnover is robust. These findings are consistent with the results of Fisman (2001) and lend credence to our identification strategy at the industry level.

### **4.3 Exploiting Variation in the Turnover of Suharto Appointed Mayors**

As documented by Martinez-Bravo et al. (2017), mayors' political cycles were not synchronized and orthogonal to predetermined district characteristics relevant for firm performance (e.g. public goods provision, socioeconomic conditions, support for Golkar). Suharto appointed mayors were allowed to finish their terms after he left office. His fall thus generated exogenous variation in the length of time during which these mayors remained in office during the transition towards democracy, which Martinez-Bravo et al. (2017) demonstrate to be an important determinant of the persistence of elite capture. In spite of similar initial characteristics, districts with longer exposure to old-regime mayors experienced worse governance outcomes, higher elite persistence and less political competition in the post-Suharto era. Such districts also grew faster and had more firm entry and higher TFP growth after Suharto's fall (Abeberese et al., 2020). Gonzalez and Prem (2020) test for similar behavior on the part of the economic rather than political elite in currying favor to maintain power in Chile, finding connected firms actively sought to shield their market power, leveraging their connections to access credit to expand their capacity. If the pro-competitive effects are attenuated in districts where the transition was relatively slower, it would be consistent with privileged firms having more time to adjust to maintain their privilege.

We exploit this exogenous variation in the timing of the exit of Suharto mayors both to break the simultaneity between the financial crisis and regime turnover and to assess heterogeneity in the impact of Suharto's fall across districts. One important limitation, however, is that statistical power is very limited because information on the appointment dates of mayors is available only for a selected sub-sample of all districts. These districts account for less than 35% of all economic activity and, moreover, host only 34 firms with family connections to Suharto, and 88 firms with broad political connections to Suharto.<sup>14</sup> To maximize power, we estimate a simple difference-in-difference specification in which we use a dummy for the entire Suharto period. We estimate the following difference-in-difference-in-difference regression both for Suharto family and broadly connected firms:

$$\begin{aligned}
 \text{Market Share}_{it} = & \alpha PC_i * \text{Post Suharto}_t & (2) \\
 & + \beta PC_i * \text{Post Suharto Mayor}_{dt} \\
 & + \gamma PC_i * \text{Legacy}_d * \text{Post Suharto Mayor}_{dt} \\
 & + \delta X_{it} + \theta X_{it} * \text{Post Suharto Mayor}_{dt} \\
 & + \mu_i + d\tau_{dt} + \pi\tau_{jt} + \varepsilon_{it}
 \end{aligned}$$

Where  $PC_i$  is a dummy for being politically connected,  $\text{Post Suharto}_t$  a dummy that takes value 1 for years Suharto was no longer in office (i.e. after 1998) and 0 otherwise,  $\text{Post Suharto Mayor}_{dt}$  is a dummy that takes value 1 in the year the last Suharto appointed mayor in district  $d$  is replaced and thereafter, and 0 if a Suharto appointed mayor is still in power in year  $t$ .  $\text{Legacy}_d$  measures how long a Suharto appointed mayor remained in office after Suharto's removal.<sup>15</sup> We exclude from our analysis districts in which mayors were replaced in 1998 and those that split over time.  $\mu_i$  is a vector of firm fixed effects,  $d\tau_{dt}$  a vector of district-year fixed effects, and  $\pi\tau_{jt}$  a vector of industry-year fixed effects. The key parameters of interest are  $\beta$ , which measures the loss of market share associated with the departure of

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<sup>14</sup> Eight Suharto family firms and 21 broadly connected firms are located in districts in which the last Suharto appointed mayor took office in 1994; 14 family firms and 40 broadly connected firms in districts with appointment year 1995; 8 family firms and 16 broadly connected firms in districts with appointment year 1996; and 5 family firms and 11 broadly connected firms in districts with appointment year 1997.

<sup>15</sup> It is defined as  $\text{legacy} = (\text{Appointment year of last Suharto appointed mayor} + 5) - 1998$  since mayors serve 5 year terms, so it can take a value of 1 to 4 (since we exclude districts in which mayors were replaced in 1998 legacy never takes value 5 in our sample).

the last Suharto appointed mayor (in addition to the impact of Suharto's fall which is reflected in  $\alpha$ ), and  $\gamma$ , which measures the extent to which longer tenure of Suharto appointed mayors softened the impact of regime turnover on firms with connections to Suharto. In figures C4.1 and C4.2 in the online appendix we also present the results of regressions in which we interact the PC variable with dummies for the appointment year of the last Suharto appointed mayor and a full set of year dummies.

Results are presented in table 4. Column 1-5 present results for Suharto family firms and columns 6-10 for broadly connected firms. For purposes of comparability with the preceding analysis, in the first and sixth columns we include an interaction term between being politically connected and a *Post Suharto<sub>t</sub>* dummy. In the subsample of firms for which data on the appointment dates of Suharto mayors are available, the average reduction in market share of firms with Suharto family connections is 1.1 percentage points, but the effect is not statistically significant, reflecting the fact that we have very few firms and that the specification is very demanding. For firms with broad political connections the reduction is 1.5 percentage points and statistically significant. In the second and sixth column we replace the *Post Suharto<sub>t</sub>* dummy by a *Post Suharto Mayor<sub>dt</sub>* dummy. This hardly impacts the estimated effect of regime turnover on politically connected firms; the estimated reduction in the market share of politically connected firms is now 0.8 percentage points for family firms and 1.3 percentage points for broadly connected firms. The third and seventh columns add both dummies at the same time. The post-Suharto dummy has the strongest predictive power and is associated with the largest reduction in market share; the additional impact of the removal from office of a Suharto mayor is not statistically significant on average.

Such average estimates mask important heterogeneity, as is shown in columns four and eight which add a triple interaction between being politically connected, the post-Suharto mayor dummy and the legacy measure that captures how long Suharto appointed mayors stayed in office after his removal. This triple interaction term has a positive coefficient and is statistically significant, albeit only at the 10% level, for broadly connected firms: each additional year a Suharto mayor remains in power is associated with a 0.8 percentage points lower loss in market share of politically connected firms. The interaction between being politically connected and the removal of the last Suharto appointed mayor is now negative. For firms with family connections an additional year in office of the last Suharto appointed mayor is associated with an insignificant 0.3 percentage point lower loss in market power. When we enter separate interactions between being politically connected, the post-Suharto mayor dummy and each appointment year, as is done in columns 4 and 8, however, it is readily apparent that the Suharto mayor tenure effect is non-

monotonic. In fact, the most limited impact of regime turnover on broadly connected firms is in districts in which the last Suharto appointed mayor was appointed in 1996 (rather than in 1997 as would be expected if longer exposure to Suharto mayors reduced the impacts on connected firms); whereas for family connected firms the most limited impacts are observed in districts in which the last Suharto mayors were appointed in 1995. Given the very limited number of firms, we should be cautious not to overinterpret these results. In sum, there is some evidence that politically connected firms in districts in which Suharto appointed mayors remained in office longer were less adversely impacted by regime change, but the evidence is not very strong.

Quantifying the precise mechanisms which led connected firms to lose market power is beyond the remit of this study, yet it seems likely that losing (some of) the privileges associated with being connected is (part of) the explanation.

## **5 Impact of Political Turnover on Competition at the Industry Level**

### **5.1 Characteristics of Politically Connected Manufacturing Industries**

Having established significant declines in connected firms' market share, we next test whether there were significant impacts on competition at the industry level, taking advantage of the differences in prevalence of connected firms across industries. As described in the data section, we measure the importance of politically connected firms in a five-digit industry using the share of output produced by these firms averaged over 1996–97; the variable is called 'political connectedness (MS)' to indicate this is an industry level indicator of the aggregate market share accounted for by connected firms.

Suharto family firms are present in 53 of a total of 200 five-digit industries (27 percent of all industries); the mean value of family political connectedness in these industries is 0.09, the median is 0.04. The industries with the highest market share of Suharto family firms are manufacturing of macaroni, spaghetti, noodles and the like (0.72), manufacturing of sago (0.39), manufacturing of industrial papers (0.30). Firms with broad connections are active in 95 different industries (48 percent of all industries). The mean value of broadly defined political connectedness in these industries is 0.19, and the median is 0.10. Industries with the largest aggregate market shares of broad connections are manufacturing of wheat flour (0.99); explosives and ammunition (0.91); cement (0.82); and macaroni, spaghetti, noodles and the like (0.81) (see online appendix table C1.1).

Table 5 reports correlations between the aggregate market share of politically connected firms, family owned (in panel A) and broadly defined (in panel B), and various industry characteristics during 1993–96 and 2000–09. The sorting of connected firms across industries is by no means random. Industries with higher levels of political connections – measured either by the market share of Suharto family firms or firms with broad connections – generate significantly more output, have more tangible assets, and have lower exports. Politically connected firms thus seem to sort into non-tradable industries. In addition, industries in which broadly defined politically connected firms are more important tend to import more. They have lower foreign ownership but higher state ownership penetration.<sup>16</sup> The market share of the largest four firms (market concentration) tends to be higher, and there are fewer firms in such industries.

Churning is negatively correlated with political connectedness. Both entry, exit, and the natural rate of entry are negatively correlated with political connectedness measures, albeit that the correlation between exit and family connections is not significant. Connections seem to repress entry.<sup>17</sup>

Overall, political connections appear especially important in industries that are less competitive. Our summary competition index,  $Z$ , is negatively correlated with the aggregate market share of firms with both family and broad connections, but only significantly so for the latter group.

Regime change has resulted in a significant increase in the correlation between Suharto family connectedness and the aggregate competition index, albeit only at the 10% level. Competition thus appears to have improved somewhat in family connected industries, though we cannot reject the null hypothesis of no correlation between Suharto family connections and competition in either the Suharto era or the post-Suharto era. The negative correlation between broad connectedness and the summary competition index also attenuates slightly after Suharto's fall, but not significantly so.

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<sup>16</sup> Note the contrast with the results from the firm level descriptive statistics, which show that politically connected firms have higher foreign ownership shares (see Table 3).

<sup>17</sup> The natural rate of entry is based on US data, which assuages concerns about entry rates being endogenous to political connections. In principle, entry rates in the U.S. could also be endogenous to political connections and correlated with Suharto connectedness. Existing literature, however, suggests that this is not very likely. Fisman et al. (2012) estimate the value of being connected to former vice president Dick Cheney to be zero. Lobbying and fostering effective state-business relationships can still be an important determinant of corporate success in the U.S., but business-politics relationships are less personalized, and arguably more institutionalized in more advanced countries. Consistent with this argument, Faccio (2006) documents that political connections are less prevalent in countries which are more democratic and in which politicians are required to disclose their assets.

The associations between the industry output share of Suharto family firms in 1996–97 and individual industry outcomes in the post-Suharto era (2000–09) did not change dramatically. Only the correlations with output and the profit elasticity have significantly weakened in the post-Suharto period. Correlations between the broad measure of connectedness and individual industry outcomes are also quite stable, with only a change in the correlation with the export propensity. In sum, at first glance, Suharto’s fall seems to have sparked mild improvements in competition industries with family connections to him relative to industries that were not connected.<sup>18</sup>

## 5.2 Impact of Political Turnover on Competition

We now assess more rigorously the impact of the disruption of political connections on competition.<sup>19</sup> We use an event study analysis which exploits the collapse of the Suharto regime as a quasi-natural experiment by which the value of political connections was reduced. Our empirical specification is:

$$Y_{jt} = \sum_{t=1993,..,2009} \alpha_t PC (MS)_j * D(Year = t) + \sum_{t=1993,..,2009} \gamma_t S_{jt} * D(Year = t) + \pi_j + \tau_t + \varepsilon_{jt} \quad (3)$$

where  $Y_{jt}$  is one of the outcome variables in five-digit industry  $j$  at time  $t$ . These variables are the competition index  $Z$  and the specific indicators from which it is derived, notably entry and exit rates; the price–cost margin; profit elasticity; the Herfindahl-Hirschman index and the market share of the four largest companies; the number of firms; and prices. The key variables of interest are the interaction terms

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<sup>18</sup> See Table C1.2 in the Appendix for descriptive statistics on competition indicators during and after the Suharto era. Overall, competition seems to have improved somewhat in the post-Suharto era. The number of firms went up. Prices fell and concentration rates went down slightly, but entry rates decreased. Assessing to what extent these developments can be attributed to the fall of Suharto is difficult given that there are many confounders, such as globalization, technological progress, changing demographics, structural change etc.

<sup>19</sup> As a prelude to that analysis, the online appendix C2 examines the relationship between changes in connectedness and changes in competition during the Suharto era, and shows that increases in the market share of connected firms were associated with attenuated competition as measured by the  $Z$  competition index which is based on 8 individual indicators of competition during the Suharto era.

between the aggregate market share of connected firms in an industry  $PC (MS)_j$  averaged over 1996 and 1997 and year dummies  $D(Year = t)$ . The crisis (1997–98) and the immediate recovery (1999) are excluded from the sample.  $S_{jt}$  is a vector of industry characteristics (similar to the  $X_{it}$  and  $Z_{it}$  in the firm-level specification). It includes the aggregate market shares of firms with majority foreign and state ownership, aggregate import and export shares, a dummy indicating whether the industry in question is subject to stringent entry regulation, and measures of dependence on external finance and asset tangibility. In our preferred specifications, these variables are averaged over the Suharto-era (1993–96) and hence are time invariant, to minimize their potential endogeneity with respect to the regime change. In the robustness tests we also present specifications in which they are allowed to vary over time. We control for five-digit industry fixed effect  $\pi_j$  and year fixed effects  $\tau_t$  in all specifications. Identification is thus based on within-industry variation, which is quite demanding of the data. Note that the interaction between year dummies and industry characteristics helps control for the impact of the crisis, which altered credit conditions and disproportionately impacted industries highly reliant on imported inputs. Standard errors are clustered at the five-digit industry level, except when the log of price is the dependent variable, in which case standard errors are clustered at the three-digit level, the level at which prices are observed.

Our main hypothesis is that Suharto’s fall reduced the value of privileges received by companies connected to him and thereby had a procompetitive impact on Indonesian manufacturing industries. If it did, the impact should be more pronounced in industries in which politically connected firms accounted for a larger share of output on the eve of the fall of the regime. We therefore test the null hypothesis that this is not the case. The coefficients  $\alpha_{2000}, \dots, \alpha_{2009}$ , measure how the change in the outcome variables associated with the regime collapse varies with the extent to which the industry had been dominated by politically connected firms. They capture the *differential* impact of regime turnover on industries in which firms with political connections had greater market share during the Suharto era, and thus measure the impact of the disruption of political connections on competition.

Figure 1 shows the results (which are also presented in online appendix table C5.1) for individual competition indicators.<sup>20</sup> The null hypothesis of no pre-trends cannot be rejected for any of these indicators, with the exception of the profit elasticity; none of the interactions between the aggregate market share of firms owned by Suharto family members and the year dummies for 1993, 1994 and 1995 are significant for individual indicators of competition. The only exception is the interaction between the

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<sup>20</sup> The figure for the broader measure of connectedness is available in the online appendix, figure C5.1.

market share of Suharto family firms and the profit elasticity in 1995, but this interaction is only significant at the 10% level.<sup>21</sup>

Turning to the impact of Suharto's fall, results for these individual indicators are mostly insignificant but consistent with a procompetitive impact of Suharto's fall. Industries in which Suharto family firms had more market power during his tenure have significantly higher entry rates (at the 10% level) post regime change, with the exception of 2005, 2006 and 2007. The positive impact on entry is partially due to choosing 1996 as the base year given that entry rates were particularly low in Suharto dominated industries in 1995 and 1996. Price-costs margins also decrease more in industries where Suharto family firms had been important relative to industries in which they were not, with the difference with the latter group being significant at the 10% level from 2006 onwards. Regime change also appears to reduce, though not significantly so, the profit elasticity, the market share of the four largest firms and prices in industries where Suharto family firms had been important relative to industries in which they were either not present or not important. However, the Herfindahl index of concentration is rising more rapidly in industries in which Suharto family firms had been important whereas the number of firms seems to fall more rapidly in such industries, but these effects are not statistically significant either.

The evolution of the aggregate competition indicator is presented in Figure 2, clearly points to significant pro-competitive impacts of Suharto's fall; industries in which Suharto family firms had been important experienced significantly faster improvements in competition after his fall. A 10 percentage points increase in the market share of Suharto family firms is associated with a 0.40 increase in the competition index in 2000 and a 0.35 increase in 2001. The standard deviation of the competition index is 3.92 so these increases amount to roughly a 0.1 standard deviation increase in the competition index. These positive pro-competitive effects fade somewhat over time but rise again between 2006 and 2009.<sup>22</sup>

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<sup>21</sup> The point estimates on individual competition indicators, however, are broadly suggestive of entry rates (column 1), the number of firms (column 7) and prices falling somewhat faster in industries where firms owned by the Suharto family had greater market shares. By contrast, price costs margins (column 3), the Hirschman-Herfindahl index of concentration (column 5) and the market share of the 4 largest firms (column 6) seemed to be rising somewhat faster in these industries. This helps explain why point estimates from regressions in which the summary competition indicator – the competition index  $Z$  – is the dependent variable (column 9) are suggestive of deteriorating competition in industries in which connected firms had higher market share during the Suharto era, though none of the individual coefficients is statistically significant.

<sup>22</sup> These results could also in part be driven by the increase in sample coverage in 2006 which is a census year; every 10 years the Indonesian bureau of statistics (BPS) conducts an economic census, which typically leads to an improvement in coverage of the manufacturing survey.



Overall then, regime turnover seems to have had a pro-competitive impact in industries in which Suharto's cronies had extensive business interests.

Robustness tests are presented in Table C5.4 in the appendix. Results are robust to using OLS instead of fixed effect estimation, using time-varying (instead of time-invariant) explanatory variables, adding additional controls is to allow for potential lasting impacts of the crisis, and to controlling for three digit sector – year fixed effects. They strengthen substantially when outliers are excluded. Our results are also robust to excluding the top 3 and bottom 3 sectors which experienced the largest changes in the market share of connected firms. The improvements in competition are thus not driven by a select few firms. Figure C5.4 in the appendix plots the results when using the broadly defined connectedness. Results are qualitatively very similar to those obtained using only family connections but not statistically significant. One possible explanation for the absence of significant results is that broad connections are a weaker form of connectedness than family connections.

In sum, regime change seems to have resulted in modest improvements in competition in industries in which Suharto family firms had extensive business interests relative to industries in which they did not have large vested interests.<sup>23</sup>

How can the sizeable adverse impacts of Suharto's fall on connected firms and somewhat limited pro-competitive effects at the industry level be reconciled? One possible explanation is that the nature of state–business relationships altered very little, even though political turnover reduced the (anticompetitive) benefits enjoyed by Suharto's family and cronies. In fact, democratization has been argued to enable the ascendancy of business interests into the political arena (Fukuoka, 2012; Hadiz and Robison, 2013). This may help explain why anti-corruption and pro-competition reforms were piecemeal and slow. A second, complementary, explanation is that the privileges the regime bestowed on Suharto cronies were targeted to specific firms (rather than entire industries), and thus had limited impact on the nature of competition (Mobarak and Purbasari, 2006a). Third, though democratization seems to have eroded the premium on being connected, many of the connected firms remained large; path dependence and legacy effects may help explain how connected firms managed to remain large even after the privileges initially conferred upon them had been removed. The results are not likely to be an artefact of our focus on manufacturing firms; the online appendix B presents results showing that political

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<sup>23</sup> Our specifications, which primarily rely on within-industry variation over time, are quite demanding.

connections are neither significantly less prevalent nor significantly less valuable in the manufacturing sector than in other sectors.

## **6 Conclusion**

Using Indonesian manufacturing plant-level survey data spanning Indonesia's democratic transition, we have shown that Suharto's resignation substantially eroded the premium on being connected to him. His fall also had a modest but significant pro-competitive impact on industries in which his family had extensive business interests relative to industries that did not. Democratization thus improved competition.

The contrast between the erosion of the firm-level premium on being connected and weak pro-competitive impacts at the industry level is plausibly in part due to the nature of privileges having been targeted to specific firms rather than entire industries. Second, connected firms remained large; the capacity, capital, know-how, and relationships they had accumulated during the Suharto era enabled many previously connected firms to remain competitive even after the privileges that propelled their initial growth had been removed. More fundamentally, the nature of state-business relationships did not alter dramatically.

Notwithstanding the persistence of cronyism, our results point toward the potential of democratic institutions to promote competition and curb state capture. Yet Indonesia's experience simultaneously serves as a reminder that democratization alone does not suffice to sustain competitive markets.

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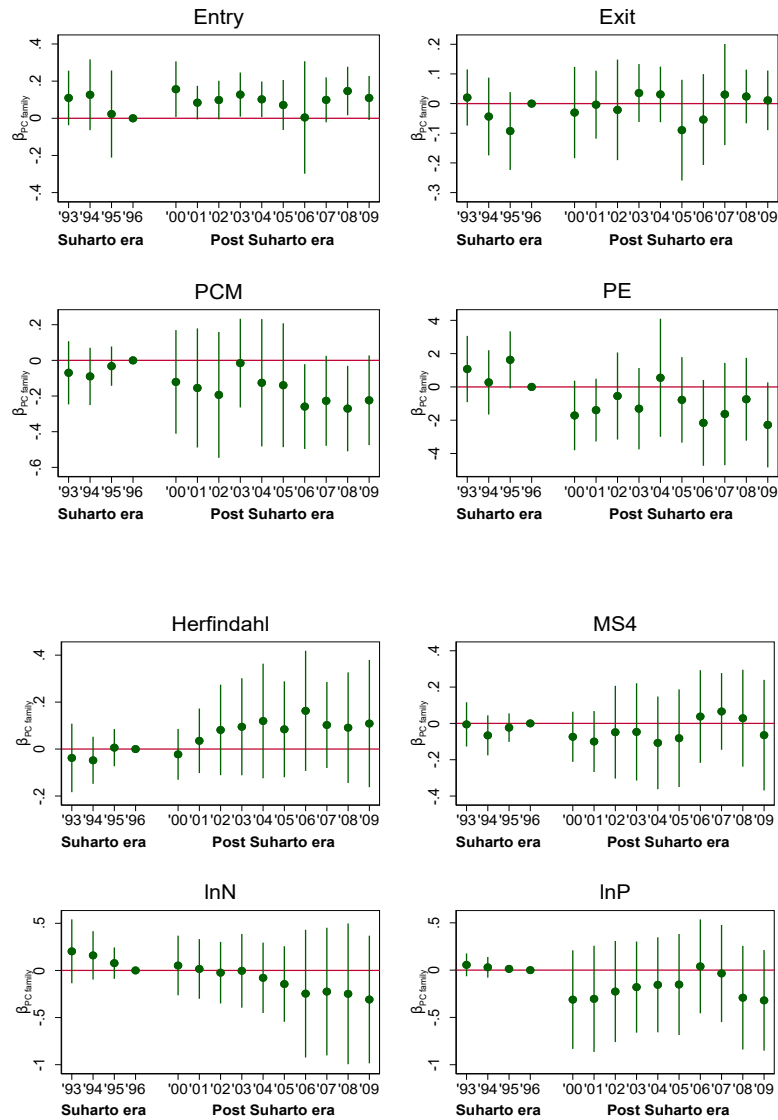
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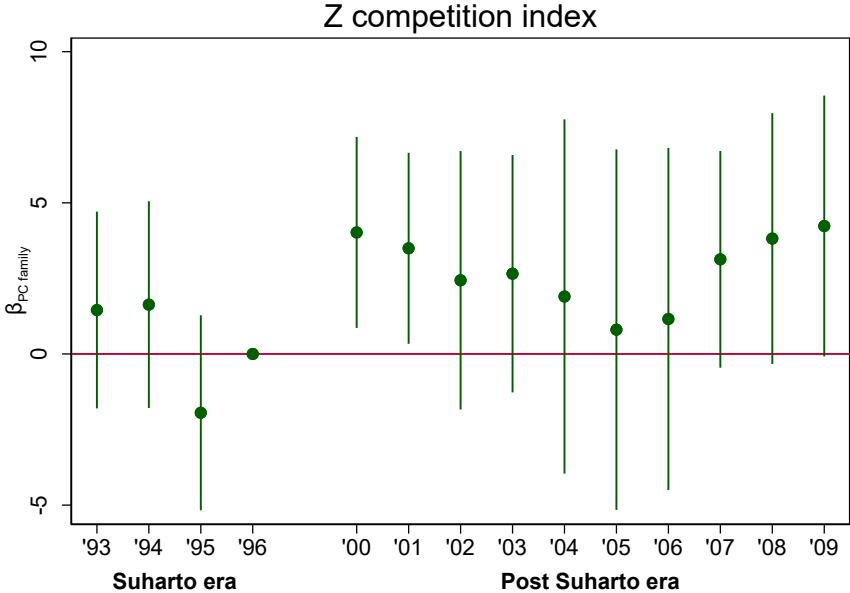
## Figures and Tables

**Figure 1: Evolution of the premium on industry-level Suharto family connectedness – individual competition indicators**



*Note:* The figure depicts annual variation in the estimated impact of the market share of Suharto family firms on the outcome of interest. The dots depict the coefficient estimates  $\alpha_{193}, \alpha_{194}, \dots, \alpha_{109}$ , estimated using the regression:  $Y_{jt} = \sum_{t=1993, \dots, 2009} \alpha_t PC(MS)_j * D(Year = t) + \sum_{t=1993, \dots, 2009} \gamma_t S_{jt} * D(Year = t) + \pi_j + \tau_t + \varepsilon_{jt}$  which are presented in Table C5.1, with 1996 as the omitted year.  $PC(MS)_j$  measures the aggregate market share of Suharto family firms (the average of their aggregate market share in 1996 and 1997),  $S_{jt}$  measures Suharto-era (time-invariant) industry characteristics,  $\pi_j$  is a vector of industry fixed effects, and  $\tau_t$  is a vector of year fixed effects. The vertical bars indicate the 95% confidence interval associated with the estimates.

**Figure 2: Evolution of the premium on industry-level Suharto family connectedness – competition index**



*Note:* The figure depicts annual variation in the estimated impact of the market share of Suharto family firms on the competition index  $Z$ . The dots depict the coefficient estimates  $\alpha_{1993}, \alpha_{1994}, \dots, \alpha_{1996}, \dots, \alpha_{1999}, \dots, \alpha_{2009}$ , estimated using the regression:  $Z_{jt} = \sum_{t=1993, \dots, 2009} \alpha_t PC(MS)_j * D(Year = t) + \sum_{t=1993, \dots, 2009} \gamma_t S_{jt} * D(Year = t) + \pi_j + \tau_t + \varepsilon_{jt}$  which are presented in Table C5.1, with 1996 as the omitted year.  $PC(MS)_j$  measures the aggregate market share of Suharto family firms (the average of their aggregate market share in 1996 and 1997),  $S_{jt}$  measures Suharto-era (time-invariant) industry characteristics,  $\pi_j$  is a vector of industry fixed effects, and  $\tau_t$  is a vector of year fixed effects. The vertical bars indicate the 95% confidence interval associated with the estimates.



**Table 1: Economic importance of politically connected firms**

Year	Number of firms	Output	Labor	Import	Export
<b>Panel A: Suharto family firms</b>					
1996	0.38	3.75	1.31	2.87	1.31
2000	0.41	2.92	1.27	3.07	1.26
2009	0.29	3.20	0.98	6.07	1.08
<b>Panel B: Politically connected firms (broad)</b>					
1996	1.07	15.81	4.38	12.73	4.98
2000	1.17	13.41	4.33	14.62	9.24
2009	0.79	12.86	3.61	20.61	5.95

*Note:* Reported numbers reflect the share of the total number of firms, output, labor, imports and exports in percent respectively accounted for by firms with family connections to Suharto (panel A) as well as firms with any form of political connections (panel B). The total number of observations is 21,797 in 1996; 21,012 in 2000; and 22,650 in 2009.

**Table 2: Characteristics of politically connected and nonconnected firms during and after the Suharto era**

Variable	1993–96					2000–09					Diff-in-diff
	Connected firms		Non-connected firms			Connected firms		Non-connected firms			
	Mean	SD	Mean	SD	Diff	Mean	SD	Mean	SD	Diff	
<b>Panel A: Suharto family firms vs non-connected firms</b>											
Market share	0.07	0.09	0.01	0.04	0.06***	0.05	0.06	0.01	0.04	0.04***	-0.02*
Log labor	5.84	1.13	4.22	1.18	1.62***	5.82	1.11	4.17	1.18	1.64***	0.02
Importer	0.56	0.50	0.18	0.39	0.37***	0.52	0.50	0.20	0.40	0.32***	-0.05
Exporter	0.39	0.49	0.18	0.38	0.22***	0.29	0.46	0.17	0.38	0.12**	-0.10
Foreign ownership	12.76	25.74	3.68	16.42	9.09***	17.86	31.69	6.64	23.54	11.25***	2.15
State ownership	5.70	21.40	2.71	15.83	2.98	14.95	33.50	15.81	36.21	-3.79*	-6.77***
Log firm age	2.28	0.84	2.19	0.90	0.08	2.95	0.48	2.48	0.84	0.46***	0.38***
Observations	310		77143			741		218277			
<b>Panel B: Politically connected firms (broadly defined) vs non-connected firms</b>											
Market share	0.08	0.14	0.01	0.04	0.07***	0.07	0.12	0.01	0.04	0.06***	-0.02**
Log labor	5.96	1.14	4.21	1.17	1.75***	5.92	1.18	4.16	1.17	1.74***	-0.00
Importer	0.59	0.49	0.18	0.39	0.41***	0.56	0.50	0.19	0.40	0.37***	-0.04
Exporter	0.35	0.48	0.17	0.38	0.18***	0.29	0.45	0.17	0.38	0.12***	-0.06*
Foreign ownership	13.14	24.56	3.61	16.34	9.53***	20.30	33.12	6.55	23.43	13.79***	4.25**
State ownership	17.36	36.79	2.56	15.39	14.79***	22.35	39.57	15.74	36.17	3.65	-11.14***
Log firm age	2.30	0.93	2.19	0.90	0.11	2.97	0.55	2.48	0.84	0.49***	0.38***
Observations	847		76606			2089		216929			
<b>Panel C: Suharto family firms vs non-connected firms (matched sample)</b>											
Market share	0.07	0.09	0.03	0.08	0.04***	0.05	0.06	0.03	0.08	0.01*	-0.02***
Log labor	5.84	1.13	5.00	1.37	0.84***	5.81	1.10	5.17	1.44	0.64**	-0.20**
Importer	0.24	0.34	0.24	0.33	0.00	0.25	0.34	0.22	0.33	0.02	0.02
Exporter	0.18	0.31	0.20	0.35	-0.02	0.15	0.28	0.15	0.31	-0.01	0.01
Foreign ownership	12.76	25.74	10.91	25.18	1.85	16.92	31.18	15.75	32.42	1.10	-0.74
State ownership	5.70	21.40	5.78	22.27	-0.07	14.87	33.63	20.45	39.13	-5.03**	-4.95**
Log firm age	2.28	0.84	2.26	0.89	0.01	2.98	0.46	3.03	0.49	-0.07	-0.08
Observations	310		3015			712		5324			

*Note:* Reported differences account for year fixed effects. They are the coefficients  $\beta$  estimated by running the regression  $Y_{it} = \alpha + \beta PC_i + \theta_t + \varepsilon_{it}$ , where  $Y_{it}$  is an outcome variable reported in the first column,  $PC_i$  is a dummy variable indicating a firm having connections to Suharto, and  $\theta_t$  is a set year fixed effects. Standard errors are clustered at the five-digit industry level. The last column reports the coefficients  $\gamma$  estimated from the regression  $Y_{it} = \alpha + \beta PC_i + \gamma PC_i * Post\ Suharto_t + \theta_t + \varepsilon_{it}$ , where  $Post\ Suharto_t$  is a dummy variable taking the value 1 in the period after Suharto's resignation and 0 otherwise. Results presented in Panel C are confined to firms that were matched on the basis of their firm age, foreign and state ownership, indicators for being an exporter and importer, industry and year fixed effects during the 1993-1996 period (see Table C4.1 in the online appendix for balance tests). \* indicates significance at the 10 percent level, \*\* - at the 5 percent level, and \*\*\* - at the 1 percent level.

**Table 3: Impact of political turnover on firm market share – Suharto family firms**

Firms included in the sample:	Dependent variable: market share						
	created before 1997		all	created before 1997		all	matched
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
PC family	0.028*** (0.011)			0.024** (0.011)			
PC family*post Suharto	-0.018** (0.007)	-0.012* (0.006)	-0.013** (0.006)				
PC family*1993				0.011 (0.008)	0.008 (0.007)	0.007 (0.007)	0.010 (0.008)
PC family*1994				0.002 (0.006)	-0.000 (0.006)	-0.002 (0.006)	0.001 (0.006)
PC family*1995				0.005 (0.005)	0.002 (0.004)	-0.000 (0.004)	0.003 (0.004)
PC family*1996							
PC family*2000				-0.012 (0.007)	-0.010 (0.007)	-0.015* (0.008)	-0.012 (0.008)
PC family*2001				-0.018** (0.007)	-0.017** (0.008)	-0.019** (0.008)	-0.019** (0.009)
PC family*2002				-0.014** (0.007)	-0.010* (0.006)	-0.014** (0.006)	-0.013* (0.007)
PC family*2003				-0.010 (0.007)	-0.005 (0.007)	-0.007 (0.007)	-0.008 (0.007)
PC family*2004				-0.015* (0.009)	-0.009 (0.008)	-0.012 (0.008)	-0.013 (0.009)
PC family*2005				-0.017** (0.008)	-0.011 (0.008)	-0.015* (0.008)	-0.015* (0.008)
PC family*2006				-0.014* (0.008)	-0.005 (0.007)	-0.009 (0.007)	-0.009 (0.008)
PC family*2007				-0.008 (0.010)	-0.005 (0.009)	-0.008 (0.009)	-0.009 (0.009)
PC family*2008				-0.016* (0.009)	-0.010 (0.008)	-0.012 (0.008)	-0.013 (0.009)
PC family*2009				-0.010 (0.011)	-0.004 (0.010)	-0.008 (0.010)	-0.007 (0.011)
<i>Fixed effects</i>							
Firm FE		Yes	Yes		Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes			Yes			
District FE	Yes			Yes			
<i>Controls</i>							
firm controls (Suharto era)	Yes						
firm controls (Suharto era)*post Suharto	Yes	Yes					
firm controls (time varying)			Yes				
firm controls (time varying)*post Suharto			Yes				
firm controls (Suharto era)*year				Yes	Yes		Yes
firm controls (time varying)*year						Yes	
industry controls (Suharto era)*post Suharto	Yes	Yes					
industry controls (time varying)			Yes				
industry controls (time varying)*post Suharto			Yes				
industry controls (Suharto era)*year				Yes	Yes		Yes
industry controls (time varying)*year						Yes	
Observations	197,000	194,096	287,819	197,000	194,096	287,819	9,334
Firms	25,903	22,999	42,824	25,903	22,999	42,824	892
R-squared	0.242	0.765	0.772	0.243	0.766	0.772	0.822

*Note:* Table reports results of estimation of specification (1). The sample period spans 1993–96 and 2000–09. Firm controls include foreign and state ownership, the logarithm of firm age, and indicators for whether a firm imports or exports. Industry controls are a dummy indicating whether the industry in which the firm is operating is subject to entry restrictions; dependence on external finance and asset tangibility (both variables are only time invariant). Appendix A defines all the variables. “Suharto era” versions of firm and industry controls take averages for the period 1993–96 and are used in columns 1, 2, 4, 5, and 7. This confines the sample to firms already operating in 1996. Time-varying firm and industry controls are used in columns 3, 6 and 8. The matched sample includes firms that were matched on the basis of their firm age, foreign and state ownership, indicators for being an exporter and importer, industry and year fixed effects during the 1993-1996 period (see Table C4.1 in the online Appendix for balance tests). Standard errors are clustered at the industry level and presented in parentheses. \* indicates significance at the 10 percent level, \*\* - at the 5 percent level, and \*\*\* - at the 1 percent level.

**Table 4: Impact of political turnover on market share – exploiting variation in the tenure of the last Suharto appointed mayors**

	Dependent variable: market share									
	Suharto Family Firms					Politically Connected Firms (Broad)				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
PC family*post Suharto	-0.011 (0.007)		-0.014*	-0.013*	-0.011 (0.008)					
PC family*post Suharto mayor		-0.008 (0.007)	0.003 (0.004)	-0.003 (0.018)	-0.012 (0.018)					
PC family*legacy				0.003 (0.007)						
PC family*app yr=95*post Suharto mayor					0.020 (0.020)					
PC family *app yr=96*post Suharto mayor					0.016 (0.021)					
PC family *app yr=97*post Suharto mayor					0.011 (0.020)					
PC*post Suharto						-0.015** (0.006)		-0.011* (0.006)	-0.009 (0.006)	-0.010* (0.006)
PC*post Suharto mayor							-0.013** (0.006)	-0.004 (0.006)	-0.025* (0.013)	-0.008 (0.013)
PC*legacy*post Suharto mayor									0.008* (0.005)	
PC*app yr=95*post Suharto mayor										-0.007 (0.015)
PC*app yr=96*post Suharto mayor										0.030* (0.015)
PC*app yr=97*post Suharto mayor										0.011 (0.013)
Observations	89,484	89,484	89,484	89,484	89,484	89,484	89,484	89,484	89,484	89,484
Firms	10,641	10,641	10,641	10,641	10,641	10,641	10,641	10,641	10,641	10,641
R-squared	0.793	0.793	0.793	0.793	0.793	0.793	0.793	0.793	0.793	0.793

*Note:* Table reports results of estimation of specification (2). The sample period spans 1993–96 and 2000–09. Districts for which we do not know the appointment year, districts that split over time, and districts in which the mayor changed or was re-appointed in 1998 are excluded. All specifications include firm, industry-year, district-year fixed effects, and Suharto-era firm controls interacted with either post Suharto dummy (columns 1 and 6) or post Suharto mayor dummy (columns 2 and 7) or both (columns 2-5 and 8-10). Firm controls include foreign and state ownership, the logarithm of firm age, and indicators for whether a firm imports or exports, all averaged over the Suharto era (1993-1996). Legacy is a measure of how long the last Suharto appointed mayor stayed in power after Suharto’s removal from office (defined as *Appointment year of the last Suharto appointed mayor*+5)-1998). Post Suharto mayor dummy variable indicates a time period after Suharto appointed mayor was changed. Appendix A defines all the variables. Standard errors are clustered by industry and district and presented in parentheses. \* indicates significance at the 10 percent level, \*\* - at the 5 percent level, and \*\*\* - at the 1 percent level.

**Table 5: Association between Political Connectedness and industry characteristics**

	Aggregate Market Share Suharto Family Firms			Aggregate Market Share Politically Connected Firms (Broad)		
	1993–96	2000–09	Diff	1993–96	2000–09	Diff
Log output	4.36**	3.66**	-0.70*	2.09***	2.02***	-0.07
Log labor	1.29	1.13	-0.16	0.10	-0.03	-0.13
Import	-0.10	0.08	0.18	0.21*	0.26**	0.05
Export	-0.37***	-0.23***	0.13	-0.24***	-0.16***	0.08*
Foreign (MS)	-0.19	-0.10	0.09	-0.18***	-0.11	0.07
State (MS)	0.16	0.25	0.09	0.33**	0.24**	-0.10
Entry regulations	0.01	0.11	0.10	0.15	0.17	0.02
Entry	-0.10*	-0.07**	0.03	-0.05**	-0.04***	0.02
Exit	-0.06	-0.05*	0.01	-0.05***	-0.03***	0.02
PCM	0.09	-0.03	-0.12	0.05	0.10	0.04
PE	1.15*	-0.56	-1.70**	0.26	0.09	-0.17
HHI	-0.17	-0.10	0.07	0.11	0.11	-0.01
MS4	0.05	0.02	-0.03	0.21***	0.20**	-0.02
Log number of firms	0.20	-0.01	-0.21	-0.78	-0.90**	-0.12
Log prices	0.27	-0.07*	-0.34	0.13	0.01	-0.12
Z	-2.85	-0.25	2.60*	-4.16***	-3.77***	0.39
External finance dependence (EFD)		-0.10			0.01	
Natural entry		-1.55***			-0.82**	
Tangibility		0.20**			0.09*	
Observations		800			2000	
Industries		200			200	

*Note:* The associations for 1993-96 and 2000-2009 are the coefficients  $\alpha$  from the regression  $Y_{jt} = \alpha PC (MS)_j + \theta_t + \varepsilon_{ij}$ , where  $Y_{jt}$  is an industry-level outcome variable reported in the first column,  $PC (MS)_j$  is a measure of the average over 1996-97 output share of firms with connections to Suharto in an industry, and  $\theta_t$  is a set year fixed effects. The difference column reports the differences between these correlations, these are the coefficients  $\beta$  from the regression  $Y_{jt} = \alpha PC (MS)_j + \beta PC (MS)_j * Post\ Suharto_t + \theta_t + \varepsilon_{ij}$  estimated over the sample period 1993-2009 but excluding 1997-1999, where all variables defined as above and  $Post\ Suharto_t$  is a dummy variable taking the value 1 in the period after Suharto's resignation and 0 otherwise. Standard errors are clustered at the five-digit industry levels, except for log of price, in which case standard errors are clustered at the three-digit level, the level at which prices are observed. External finance dependence, tangibility, and natural entry are constant over time. \* indicates significance at the 10 percent level, \*\* - at the 5 percent level, and \*\*\* - at the 10 percent level.

## Online Appendix A Data, Variable Definitions and Data Cleaning

### A1. Additional information on key variable sources

**Stock market data:** To replicate and extend Fisman's (2001) analysis testing for the value of political connections through the relationship between share prices and news of Suharto's health, we use stock market data from Bloomberg. Unfortunately, Bloomberg does not retain information on the stock prices of de-listed companies, forcing us to focus on surviving firms only.

**Political connections:** Mobarak and Purbasari (2006a) identify politically connected firms as follows: First, they identify firms whose market value on the Jakarta Stock Exchange exhibited abnormally negative movements in response to news episodes about Suharto's deteriorating health that occurred between 1994 and 1997 before the onset of the East Asian financial crisis (and thus not contaminated by confounding financial turmoil), following Fisman's (2001) event study methodology. Whereas Fisman examined the stock price responses of 79 firms belonging to the 25 largest conglomerates for whom a Castle Suharto Dependency Index score was available, Mobarak and Purbasari examine the share price responses of all 285 firms traded on the Jakarta Stock Exchange at the time. Out of these, 29 firms were significantly adversely affected and thereby identified as politically connected. The authors used newspapers, and other media to confirm that these firms were indeed connected. Second, they trace the shareholders and members of the boards of management and commissioners of each of the adversely affected firms. They subsequently list all conglomerates owned by each of the members as well as all firms that are part of these conglomerates. They then merge these data with the annual manufacturing survey in 1997. In our data we have 246 politically connected firms. A Suharto family member owned or served on the board of 86 (35 percent) of these firms. To identify such Suharto family firms, Mobarak and Purbasari used information obtained from the Castle Group on board membership. To avoid potential endogeneity, they excluded those that married into the family, thus focusing only on blood relatives. Moreover, to avoid the possibility a Suharto family member was invited to the board strategically they further restrict the definition of Suharto family firms to only those firms that are subsidiaries of business groups that belong to the Suharto family.

Some potential limitations of Mobarak and Purbasari's (2006a) approach have to be borne in mind when interpreting our results. First, some publicly traded firms may have spuriously overreacted (underreacted) to news about Suharto's health and consequently been incorrectly identified as (not)

politically connected. At the same time, the advantage of using stock market data is that it avoids being reliant on the inevitably subjective expert assessments that formed the basis for the Castle ranking of connectedness. Second, it is likely that there are other privately held politically connected firms that are not part of large conglomerates. This measure therefore likely underestimates the prevalence and importance of political connections. This issue is compounded by the fact that only firms that appear in the 1997 manufacturing survey are potentially identified as politically connected; firms that enjoyed connections but exited before 1997 (or lost their connections before 1997) are never identified as being connected in our sample. We also do not know what happened to connections of firms after Suharto's resignation or whether new connections were formed.

These measurement issues could impact our estimates; by construction the methodology selects overreactive firms, which creates a risk of correlated measurement errors (firms wrongly identified as connected are also those which for some other reason are more likely to be sensitive to political changes while those wrongly identified as non-connected are more likely to be less sensitive to political changes), which could bias upwards the impact of Suharto's fall. By contrast, if measurement errors are not correlated, this could bias estimates towards zero. To limit these potential biases we primarily focus on firms with family connections, for whom there is no risk that aberrant share price responses result in misclassification and correlated errors.

The number of economically active politically connected firms increased from 191 in 1993 to a peak of 245 in 2000, before decreasing to 178 in 2009. No exit is recorded between 1997 and 2000, the crisis years.<sup>24</sup> As information on connected firms is most accurate in 1997 and 1996 is the last pre-crisis year, in our industry-level analysis we proxy connections with the Suharto regime by the average of the sum of the market shares of politically connected firms within a given five-digit industry in 1996 and 1997. Construction of this de facto time-invariant industry-level presence of politically connected firms also helps alleviate endogeneity concerns related to entry and exit of connected firms and measurement errors. Our preferred measure of connectedness is the aggregate market share of Suharto family firms. The aggregate market share of firms with broad connections to Suharto is used in robustness checks.

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<sup>24</sup> The spectacular survival rate of connected firms documented in the appendix may reflect the fact that some weaker firms may already have been weeded out, that the strategy is more likely to identify larger firms that are part of extended business networks, and that some of the connected firms were "too big to fail." Another possibility is that the timing of exit of these firms was not accurately recorded in the survey, another reason to discard the crisis years.

**Appointment dates of Suharto appointed mayors:** data on the appointment dates of the Suharto appointed mayors are taken from Martinez-Bravo et al. (2013). We supplement the data they have made publicly available with data we collected ourselves from the Government of Indonesia's Official Directories at Cornell University.

**Entry regulation:** We also construct new data on entry regulation from presidential decrees issued in 1993, 1995, and 2000. We create a (stringent) entry regulation indicator variable that equals 1 if an industry is completely closed to investments or closed unless the firm in question meets certain conditions and zero otherwise. Industries that are reserved for small businesses are not considered as regulated.<sup>25</sup>

Appendix A provides a detailed description of all the variables and how the firm-level data were cleaned. We do not consider industries that are not present over the entire sample period, that produce less than 10 million USD in 2005 prices worth of output annually over the sample period, or that do not have enough firms to compute price–cost margins and profit elasticities over a reasonable range. Eliminating these industries leaves 200 five-digit industries.

## A.2 Definition of Firm-Level Variables

**Export** is the share of exports in sales (not available after 2000).

**Exporter** is a dummy variable that takes the value 1 if the firm exports and 0 otherwise.

**Firm age** measures the age of the firm in years (current year – year of establishment + 1).

**Foreign ownership** is the share of ownership of a firm held by foreigners.

**Labor** is the total number of paid workers.

**Legacy:** is a measure of how long the last Suharto appointed mayor remained in office after Suharto's fall. It is defined as  $(Appointment\ year\ of\ the\ last\ Suharto\ appointed\ mayor + 5) - 1998$  (since Suharto left office in 1998 and because mayors have five-year terms). *Appointment year of the last Suharto appointed mayor* variable takes values 1994, 1995, 1996 or 1997. *Legacy* takes values 1, 2, 3, and 4.

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<sup>25</sup> The sample includes 25 regulated industries for 1993–94, 15 for 1995 and 1996, and 14 for 2000–05. Two industries (manufacture of veneer and manufacture of aircraft and components) became deregulated, and one (manufacture of miscellaneous chemicals) became newly regulated after the crisis.



**Import** is the share of raw material imports in total material inputs.

**Importer** is a dummy variable that takes the value 1 if the firm imports and 0 otherwise.

**Market share** of firm  $i$  in industry  $j$  at time  $t$  is the share of output in five-digit industry  $j$  it accounts for in year  $t$  ( $MS_{it} = \frac{Output_{it}}{\sum_{j \in i} Output_{jt}}$ ).

**State ownership** is the share of ownership of a firm held by the government.

### A.3 Definition of Industry-Level Variables

**Dependence on external finance (EFD)** is the median of the ratio of capital expenditures minus cash flow from operations over capital expenditures in US industries. Source: Rajan and Zingales (1998).

**Entry rate (Entry)** in industry  $j$  at time  $t$  is the number of all new firms in our data at time  $t$  divided by the total number of firms at time  $t - 1$ .

**Entry regulation** in industry  $j$  is a dummy variable that equals 1 if industry was subject to entry restrictions (source: Presidential Decrees issued in 1993, 1995, and 2000 in Indonesia); it is an indicator of stringent entry regulation.

**Exit rate (Exit)** in industry  $j$  at time  $t$  is the number of all firm that do not exist in our data at time  $t + 1$  divided by the total number of firms at time  $t$ .

**Export** in industry  $j$  is the share of total exports out of total output.

**Foreign market share (MS)** is the share of output in industry  $j$  produced by firms with majority foreign ownership:  $\frac{\sum_{i \in j} F_i Y_i}{\sum_{i \in j} Y_i}$ , where  $F_i$  is a dummy variable indicating a firm with a majority of foreign ownership and  $Y_i$  is the output of firm  $i$ .

**Herfindahl-Hirschman Index (HHI)** in industry  $j$  at time  $t$  is defined as the sum of the squared market shares of firms in an industry:  $HHI_{jt} = \sum_{i \in j} \left( \frac{Output_{it}}{\sum_{i \in j} Output_{it}} \right)^2$ .

**Import** in industry  $j$  is the share of total imported raw materials out of total material inputs.

**Labor (log)** is total number of paid workers in an industry.

**Market share of the four largest firms (MS4)** in industry  $j$  at time  $t$  is defined as  $MS4_{jt} = \frac{\sum_{i=1,2,3,4 \in j} Output_{it}}{\sum_{i \in j} Output_{it}}$ , where  $i$  indicates the rank of firms in sector  $j$  with 1 representing the largest firms, 2 the second largest firm, 3 the third largest firm and 4 the fourth largest firm.

**Natural rate of entry** is the percentage of new corporations (firms that are not more than one year old) in US industries, averaged over the period 1998-99. Source: Klapper et al. (2006).

**Number of firms** is the number of firms in industry  $j$  in year  $t$ .

**Output (log)** is total real output in an industry; nominal output was deflated using three-digit industry-level deflators obtained from the Indonesian statistical office.

**Political connections** ( $MS$ ) is the share of output produced by politically connected firms in industry  $j$ :  $PCpresence_j = \frac{\sum_{i,i \in j} PC_i \cdot Y_i}{\sum_{i,i \in j} Y_i}$ , where  $PC_i$  is a dummy variable indicating Suharto crony and  $Y_i$  is the output of firm  $i$ . The measure is time invariant and averaged over 1996 and 1997.

**Price** is an inverse output deflator measured at the three-digit industry level.

**Price–cost margin** ( $PCM$ ) in industry  $j$  at time  $t$  is defined as  $PCM_{jt} = \frac{(Output - Variable\ cost)_{jt}}{Output_{jt}}$ , where variable cost includes labor compensation and intermediate inputs.

**Profit elasticity** ( $PE$ ) in industry  $j$  at time  $t$  is the vector of coefficients  $\hat{\beta}_{jt}$  estimated from the following econometric specification:  $\ln Profit_{jt} = \beta_t \ln \left( \frac{Variable\ cost}{Output} \right)_{jt} + \mu_j + \theta_t + \varepsilon_{jt}$  for each industry  $j$  following Boone (2008).

**State market share** ( $MS$ ) is the share of output in industry  $j$  produced by firms with a majority of state ownership:  $\frac{\sum_{i,i \in j} S_i \cdot Y_i}{\sum_{i,i \in j} Y_i}$ , where  $S_i$  is a dummy variable indicating a firm with a majority of state ownership and  $Y_i$  is the output of firm  $i$ .

**Tangibility** is the median level of the ratio of intangible assets to fixed assets in US industries. Source: Kroszner et al. (2007).

**Z competition index** is a summary competition index (following Kling et al. 2007) calculated by computing the sum of equally weighted average z-scores of entry, exit, price cost margins, the profit elasticity, Herfindahl-Hirschman Index, the market share of the largest four firms, the number of market participants, and prices, with the sign of each measures oriented so that higher values signal more intense competition (e.g. more competition is associated with *more* entry, exit, and market participants but a *lower* price-cost margin, profit elasticity, market share of the 4 largest firms, concentration, and prices). These z-scores are calculated by subtracting from each indicator its sample average and dividing by its standard deviation, such that each underlying component of the index has mean 0 and standard deviation 1.

## A.4 Data Cleaning

To prepare the data for analysis, we undertook a number of data-cleaning steps:

1. **Harmonizing industry codes over time.** The industry classification that was used changed over time. Until 2000, firms reported their five-digit industry codes using KLUI (Klasifikasi Lapangan Usaha Indonesia) industry codes, which are similar to ISIC rev. 2 but allow for Indonesia-specific idiosyncrasies. From 1998 onward, firms reported five-digit industry codes in ISIC rev. 3, which is more disaggregated than KLUI. To harmonize the two classification systems and ensure

consistency in our definition of industries, we had to aggregate some industries (e.g., see table C1.1 in online appendix C).

2. **Ensuring industry affiliation is time invariant.** Firms are required to report their industry each year based on what products account for the majority of their sales. It is therefore possible for multiproduct firms to switch industries. Such switches are rare. We assign each firm to a unique industry based on the mode of the reported industry codes over time. In case of tie-breaks, we assign firms to the industry in which they started.
3. **Removing extreme (and nonpersistent) outliers.** The Indonesia manufacturing census data are known to suffer from measurement error (see, e.g., Blalock et al. 2008). To minimize the impact of measurement error, we identify nonpersistent outliers that are likely to be the product of data entry error as follows. An observation is classified as a nonpersistent outlier if (a) labor usage triples relative to the year before but the change does not persist (i.e., labor usage in the subsequent year is not more than twice what it was the year before) and (b) real output, real output per worker, the ratio of real output to real inputs, the ratio of real output to real variable costs (real input plus wages), wages, wages per worker, material input usage, or material input usage per worker reported increase by a factor of more than four relative to the year before but the change does not persist, in that the reported amount for the variable in question the subsequent year is less than twice the amount reported in the preceding year. If more than half of observations for a firm are outliers over its life span, we remove the firm from the sample. We treat other observations/outliers as missing values and linearly interpolate for them for relevant variables.

## **Online Appendix B: The Evolution of the Value of Suharto Connections (Extending Fisman, 2001)**

A key assumption of our paper is that the fall of Suharto reduced the value of political connections to him. Given that he was replaced by his protégé, B. J. Habibie, and that many people, including Suharto family members, managed to maintain their positions of power and prominence, it is important to assess whether this is indeed the case. If political connections to the Suharto regime remained valuable – or if our measure of political connections is a measure of generic political connectedness, rather than connectedness to Suharto specifically, we might anticipate that these connections continued to impact how firms’ stock prices responded to political developments (at least to some extent). By contrast, if these connections lost their relevance, then political connections to the Suharto regime should not predict firms’ share price responses to news about political developments.

To discriminate between these competing hypotheses, we use Fisman’s (2001) event study methodology and data to assess how firms with connections to him respond to political news after his fall, with the caveat that we have to confine our attention to firms that survived up until 2019.<sup>26</sup> We use the Castle Suharto Dependency Index which Ray Fisman generously shared with us. This indicator is a numerical rating of the degree to which the profitability of the 25 largest industrial groups in Indonesia was dependent on political connections to Suharto, ranging from 1 to 5, that is based on the subjective assessments of consultants at the Castle Group, a leading economics consultancy firm based in Jakarta. Rank 5 is given to conglomerates with direct ownership links to the Suharto family. Most of these groups had multiple companies listed on the Jakarta Stock Exchange. The total sample of firms for which we can revisit Fisman’s analysis is 51, which is lower than the original sample of 79 firms analyzed by Fisman (2001) because Bloomberg data were only available for surviving firms.

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<sup>26</sup> Recall that Bloomberg does not retain information on the stock prices of de-listed companies. This forces us to reduce our analysis to 51 firms instead of the 79 firms that Ray Fisman included in his original analysis. These 51 surviving firms do not seem to be systematically more or less connected than those included in Fisman’s original sample as is shown in Table B1 in the online appendix. Replicating key regressions from Fisman’s (2001) seminal paper using our smaller sample, as is done in Table B3, offers additional suggestive evidence that survivor bias is limited.

Specifically, we assess how share price returns respond to news about president Wahid's potential impeachment<sup>27</sup> by running regressions of the following form:

$$R_{ie} = \alpha + \rho POL_{it} + \varepsilon_{it}$$

Where  $R_{it}$  is the return on the price of security  $I$  during episode  $e$ ,  $POL_{it}$  is a measure of political connectedness, notably the Suharto Dependency Index developed by the Castle Group, and  $\varepsilon_{it}$  is an error term. The coefficient on  $POL$  should be negative if political connections remained relevant. We also run regressions in which we augment the specification with an indicator of the return on the Jakarta Stock Exchange Composite Index net of broader Southeast Asian Effects (referred to as  $NR JCI$ ) and its interaction with the indicator of political connectedness.  $NR JCI$  serves as a measure of event severity. If the severity of an adverse rumor affects politically dependent more than less dependent firms the interaction term  $NR JCI * POL$  should be positive.<sup>28</sup>

To set the scene for the analysis Figure B1a shows the response of share prices, as measured by average daily returns, by level of political connectedness to rumors about Suharto's health; connected firms experienced greater reductions in their share prices than firms less dependent on Suharto. Such a pattern is not present in Figure B1b, which examines share prices responses to six salient events leading up to Wahid's impeachment.

The 51 surviving firms we use for our analysis of share prices responses to political news in the post-Suharto era do not seem to be systematically more or less connected than the original sample of 79 firms used by Fisman as is shown in Table B1 below. Since these 51 firms operate in different sectors, as is shown in column 2, the stock market data also allow us to examine sectoral heterogeneity in both the prevalence and valuation of political connections, which helps shed light on the external validity of our

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<sup>27</sup> Specifically, we focus on six salient events. (i) On February 1 Wahid received his first parliamentary censure because of two financial scandals, "Bulogate" and "Bruneigate". The "Bulogate" scandal involved the alleged theft of \$2 million USD from state food company Bulog in the name of Wahid by his personal masseur. "Bruneigate" resulted from Wahid's failure to make public a gift of 2 million USD from the Sultan of Brunei intended to provide assistance in Aceh. (ii) On February 13 parliament made its first call on Wahid to share power with Megawati Sukarnoputri. After several rounds of protests, (iii) on March 21 Wahid's defense minister claimed that the president would be ready to step aside if there were constitutional reasons for doing so. (iv) Wahid received a second censure on May 1, 2001. While he rejected this censure, (v) on May 14, 2001 Megawati announced that impeachment proceedings against Wahid were "unstoppable". (vi) on May 30, 2001 the parliament decided to start impeachment proceedings against Wahid.

<sup>28</sup> Note that we anticipate  $NR JCI$  to be negative such that a positive coefficient on the interaction  $NR JCI * POL$  implies bigger losses for firms that are characterized by higher political dependence.

findings and the extent to which our findings for formal manufacturing firms are likely to be relevant for other industries. Political connectedness among manufacturing firms is on average slightly lower, with an average score of 2.88, than political connectedness in the financial and services sectors where firms on average have scores of 3.37 and 3.48 respectively (see Table B2).

To build confidence in our data and assess the importance of survivor bias, we first replicate the key regressions from Fisman’s (2001) seminal paper using our smaller sample. The results are shown in Table B3. While the pattern of the coefficient estimates is qualitatively similar to the results in Fisman (2001), quantitatively the estimates are somewhat different.<sup>29</sup> Perhaps the biggest difference is that the interaction between the return on the Jakarta Stock Exchange Composite Index net of broader Southeast Asian Effects (referred to using *NR JCI*) and the measure of political connectedness, though positive, is not statistically significant. This could be due to sample selection and/or differences in the way the *NR JCI* proxy is constructed.<sup>30</sup>

The data we use in our paper is restricted to manufacturing firms, so to assess whether political connections might be especially valuable (or not) for manufacturing firms, we run a regression in which we add two crude sector dummies and interact them with the *POL* measure. The results are presented in column 9: we cannot reject the null hypothesis that political connections are less valuable in manufacturing

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<sup>29</sup> For example, using the sample of surviving firms, we find no evidence of connections playing a significant role in the response of firm’s share prices to rumors about Suharto’s health On April 1-3, 1997, even though the estimated coefficient estimate is negative (-0.53).

<sup>30</sup> The net return measure is calculated as follows; first, a “market model” for daily returns is estimated:

$$R_t(JCI) = \alpha + \sum_{m \in M} \beta_m R_t(m) + \varepsilon_t$$

where  $R_t(JCI)$  is the return on the Jakarta Composite on day  $t$ ,  $R_t(m)$  is the return on market index  $m$  and  $M$  is the set of ASEAN market indices (including Tokyo’s Nikkei 225; Hong Kong SAR, China’s Hang Seng; Bangkok’s SET; Taiwan, China’s Weighted and the Philippines Composite; but not Singapore’s Straits Times, Kuala Lumpur’s Composite or Seoul’s Composite, which Fisman did use in his 2001 paper, simply because we lack the relevant data). For each episode the net return for the JCI is calculated as

$$NR_t(JCI) = R_t(JCI) - \left[ \hat{\alpha} + \sum_{m \in M} \hat{\beta}_m R_t(m) \right]$$

Note that our measure of *NR JCI* is slightly different from the one used in the original Fisman paper not only because we use a more limited set of ASEAN market indices but also because of survivor bias; we can only use data on surviving firms.

than in other sectors, although the coefficient on the interaction between our measure of political connections and being in the manufacturing sector is negative. Thus, the manufacturing sector is by no means an outlier; political connections are neither significantly less prevalent nor significantly less valuable in this sector.

As an additional robustness check, Table B4 examines whether connections to Suharto impacted how share price responded to regime turnover and elections. To start with, we examine the impact of Suharto's departure. He resigned on May 21. However, the response of the stock market, which re-opened on May 22, was muted and, moreover, connected firms did not appear to lose more value than non-connected firms. Fisman (2001) warned about the difficulty of interpreting this event, omitting it from his own paper; *"it is difficult to utilize this event for a number of reasons. Most importantly, there are many confounding events that took place simultaneously (...). Moreover, by the end of 1997, shares on the Jakarta Stock Exchange were very thinly traded, making it relatively easy for prices to be manipulated. There is also serious difficulties in defining an appropriate event window; expectations of regime shift had begun to form long before Suharto was replaced, so it is difficult to allow for a reasonably short event window..."*

The results are generally consistent with the value of the measured political connections being Suharto specific; they do not significantly predict how share prices respond to (the announcement of the results of) elections held in the post-Suharto era. We cannot reject the null that they do not predict share price responses to the first democratic legislative and presidential elections held in 1999, nor to the legislative and first round of presidential elections held in 2004. We do find some evidence that the valuation of connected firms grew less than that of non-connected firms when the 2<sup>nd</sup> round of the presidential elections in 2004 were announced, but the effect is only significant at the 10% level. Similarly, we find some evidence that connected firms' share prices responded less positively to the announcement of the legislative elections in 2009, but again the effect is only significant at the 10% level. Moreover, in either instance, these results are not robust to widening the event window over which returns are calculated (results are omitted to conserve space but available upon request).

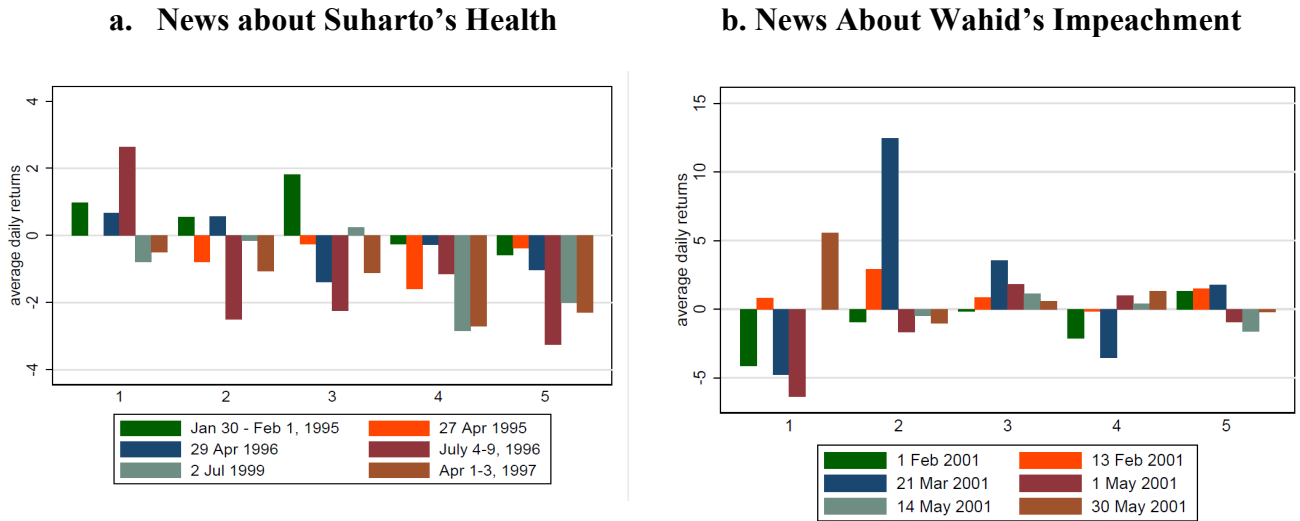
Table B5 presents regressions showing that firms' share prices responses to these events were in no case significantly correlated with the measure of Suharto-era political connections. Even when pooling all episodes (as is done in column 6) we cannot reject the null hypothesis that political connections to Suharto did not predict firms stock prices responses to news about Wahid's impeachment. These results are consistent with our assumption that the value of political connections to Suharto diminished after his

fall and with the findings of Leuz and Oberholzer-Gee (2006) who study firms' financing strategies and show firms connected to Suharto had difficulty reconnecting to power and turned to foreign sources of financing instead. Online appendix B demonstrates that political connections did not have significant predictive power in explaining share price responses to elections and other major political developments.

Overall, Suharto-era political connections are at best of very limited use in predicting stock market responses to news about political events in the post-Suharto era, consistent with the key assumption of our paper that connections to Suharto became less valuable after his fall.



**Figure B1: Share Price Responses by Suharto Dependence Before and After Suharto’s Fall**



*Note:* The figure depicts average daily returns of firms listed on the Jakarta Stock Exchange different news episodes impacting the probability of regime change by level of political connectedness as proxied by the Castle Suharto Dependency Index (with higher values representing a greater dependence on Suharto). Figure 1a represents share prices responses to adverse news about Suharto’s health (see Fisman, 2001). Figure 1b shows share prices responses to news about president Wahid’s potential impeachments. The timeline of events is as follows:

- 1 February 2001 -- Wahid gets first parliamentary censure because of corruption charges.
- 13 February 2001 -- Parliament makes first call on Wahid to share power with Megawati Sukarnoputri.
- 21 March 2001 -- Defense minister Mahfud M.D. claims Wahid is ready to step aside if there are constitutional reasons for doing so.
- 1 May 2001 -- Wahid gets second censure.
- 14 May 2001 -- Megawati says impeachment proceedings against Wahid are “unstoppable.”
- 30 May 2001 -- Parliament decides on impeachment moves against Wahid

**Table B1: Descriptive Statistics**

Summary Statistics by Degree of Political Dependence as Measured by the Castle Suharto Dependency Index (1=not dependent on Suharto, ..., 5= highly dependent on Suharto)						
Suharto Dependency Index	1	2	3	4	5	All firms
<i>A. Sample</i> (firm surviving up until 2019)						
Observations	4	13	13	12	9	51
% of firms	8%	25%	25%	24%	18%	100%
<i>B. Original Fisman sample</i> (includes firms that exited since 1997)						
Observations	5	34	10	16	14	79
% of firms	6%	43%	13%	20%	18%	100%
Assets	2,145.76	2,228.57	2,206.20	1,634.08	1,765.51	2,033.19
Debt	707.18	791.32	813.25	397.83	712.57	717.37
Return on assets	0.23	0.24	0.16	0.22	0.15	0.21

**Table B2: Political Connections by Sector**

Sector	Suharto Dependency Index Average	# firms
<b>Banking/financial</b>	<b>3.37</b>	<b>20</b>
Life Insurance	4.00	1
Nonlife Insurance	3.60	5
Financial Services (Sector)	3.50	4
Banks	3.00	2
Real Estate Investment and Services	2.75	8
<b>Manufacturing</b>	<b>2.88</b>	<b>25</b>
Chemicals	5.00	1
Electronic and Electrical Equipment	5.00	1
Construction and Materials	4.00	4
Food Producers	2.92	6
Technology Hardware and Equipment	2.75	2
Automobiles and Parts	2.67	3
Industrial Engineering	2.50	1
Pharmaceuticals and Biotechnology	2.50	1
Forestry and Paper	2.17	3
Tobacco	2.00	1
Leisure Goods	2.00	1
Industrial Metals and Mining	1.00	1
<b>Services</b>	<b>3.38</b>	<b>6</b>
Industrial Transportation	5.00	1
General Retailers	4.00	2
Travel and Leisure	3.50	2
Mobile Telecommunications	1.00	1

**Table B3: Replicating Fisman (2001)**

	Dependent variable: share price returns								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Jan 30- Feb 1, 1995	Aril 27, 1995	29 April, 1996	July 4-9, 1996	26-Jul, 1996	April 1- 3. 1997	Pooled	Pooled	Pooled
Political Connectedness	-0.458** (0.173)	-0.0677 (0.179)	-0.435** (0.211)	-0.548 (0.438)	-0.683** (0.334)	-0.533 (0.344)	-0.434*** (0.126)	-0.381** (0.188)	-0.0257 (0.375)
NR JCI							0.0875 (0.384)	-0.326 (1.059)	0.0911 (0.384)
NR JCI* PC								0.130 (0.307)	
Banks/financial									2.014 (1.792)
Manufacturing									2.189 (1.824)
PC*Banking/financial									-0.354 (0.433)
PC*Manufacturing									-0.483 (0.419)
Constant	1.962** (0.901)	-0.480 (0.480)	1.021 (0.890)	-0.179 (1.593)	1.096 (0.965)	0.0536 (1.210)	0.501 (0.502)	0.336 (0.683)	-1.466 (1.660)
Observations	37	37	40	41	41	41	237	237	237
R-squared	0.036	0.002	0.063	0.045	0.094	0.058	0.039	0.040	0.048
For Reference: Fisman 2001									
Political Connectedness	-0.58* (0.34)	-0.31 (0.18)	-0.24* (0.15)	-0.95*** (0.27)	-0.57*** (0.22)	-0.90** (0.35)	-0.60** (0.11)	-0.199 (0.15)	
NR JCI							0.25 (0.14)	-0.32 (0.28)	
NR JCI* PC								0.28* (0.11)	
Constant	1.29 (0.79)	0.21 (0.32)	0.12 (0.46)	0.83 (0.64)	-0.07 (0.41)	0.77 (0.97)	0.88 (0.27)	0.06 (0.35)	
Observations	70	70	78	799	79	79	455	455	
R-squared	0.037	0.043	0.025	0.147	0.078	0.075	0.066	0.078	

*Note:* this table replicates Fisman (2001) and examines how share price returns respond to adverse news about Suharto's health.

**Table B4: Stock market responses to major political events**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Suharto's fall	First democratic legislative elections	Wahid elected president	Legislative elections April 5 - May 5 2004	1st round presidential elections July 5 - 26 2004	2nd round presidential elections Sept 20 - Oct 4 2004	Legislative elections May 11 2009	Presidential elections July 27 2009
Political Connectedness	0.0940 (1.664)	1.514 (0.953)	1.237 (1.099)	0.624 (0.478)	-0.238 (0.499)	-0.755* (0.442)	-1.054* (0.619)	0.658 (0.476)
Constant	7.651 (5.078)	-5.716* (3.387)	-0.863 (4.052)	-4.483** (1.901)	-0.276 (1.635)	3.745** (1.745)	4.457* (2.227)	-1.083 (1.938)
Observations	44	45	45	46	46	46	47	48
R-squared	0.000	0.079	0.013	0.042	0.010	0.083	0.064	0.032

*Note* timeline of events:

May 22 1998: Suharto falls on May 21 of 1998. Stock market opens again the 22.

June 7- 26 1999: results of the first democratic legislative elections of June 7, 1999 declared official.

October 20 1999: Wahid elected president by the People's Consultative Assembly.

April 5 -May 5 2004: results of the legislative elections of April 5, 2004.

July 5 - 26 2004: results of the 1st round of presidential elections (first direct election in Indonesia) of July 5, 2004.

September 20 - October 4 2004: results of the 2nd round of presidential elections of September 20, 2004.

May 11 2009: results of the legislative elections of April 9, 2009. The stock market opened again on May 11.

July 27 2009: results of the presidential election of July 8, 2009.

**Table B5: The Effect of News About Wahid's Impeachment on Share Prices**

	Dependent variable: share price returns							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	1	13	21	1 May,	14	30		
	February,	February,	March,	1 May,	May,	May,	Pooled	Pooled
	2001	2001	2001	2001	2001	2001		
Suharto Dependence	0.612	-0.451	-2.534	0.880	-0.232	-0.211	0.217	0.172
	(0.509)	(0.550)	(1.892)	(1.347)	(0.521)	(0.640)	(0.313)	(0.315)
NR JCI							0.537	0.246
							(0.442)	(1.362)
NR JCI* Suharto Dependence								0.0906
								(0.422)
Constant	-2.847	2.676	11.33	-3.142	0.709	1.215	-1.195	-1.048
	(1.788)	(2.043)	(7.722)	(3.587)	(1.650)	(2.486)	(1.046)	(1.067)
Observations	46	46	46	46	46	46	276	276
R-squared	0.034	0.017	0.043	0.018	0.004	0.003	0.007	0.008

*Note:* The dependent variable is the return on the price of security  $i$  during the news episode listed in the column heading. Suharto Dependence is a measure of political connectedness, notably a score from 1-5 provided by the Castle Group. NR JCI is an indicator of the return on the Jakarta Stock Exchange Composite Index net of broader Southeast Asian and serves as a measure of event severity. The specific events studied are:

1 February 2001 -- Wahid gets first parliamentary censure because of corruption charges.

13 February 2001 -- Parliament makes first call on Wahid to share power with Megawati Sukarnoputri.

21 March 2001 -- Defense minister Mahfud M.D. claims Wahid is ready to step aside if there are constitutional reasons for doing so.

1 May 2001 -- Wahid gets second censure.

14 May 2001 -- Megawati says impeachment proceedings against Wahid are "unstoppable."

30 May 2001 -- Parliament decides on impeachment moves against Wahid.

## Online Appendix C: Additional Analysis

### C1 Additional Descriptive Statistics – Industry Level

**Table C1.1: Political Connectedness by Industry, 1996-1997 vs 2000-2009**

		Political connectedness (MS) by industry					
Code(s) KLUI	Industry	Suharto family connections			Broad connections		
		1996-97	2000-09	Diff	1996-97	2000-09	Diff
31168	Manufacture of wheat flour	0.082	0.227	0.145	0.994	0.905	-0.088
35292	Manufacture of explosives and ammunition	0	0	0	0.912	0.835	-0.077
36310	Manufacture of cement	0.239	0.152	-0.087	0.816	0.753	-0.063
31171	Manufacture of macaroni, spaghetti, noodle and the like	0.717	0.546	-0.170	0.808	0.626	-0.182
34112	Manufacture of cultural papers	0.035	0.052	0.017	0.734	0.699	-0.035
37103	Steel rolling industry	0	0	0	0.569	0.505	-0.064
31184	Manufacture of syrup	0	0	0	0.561	0.053	-0.508
35299	Manufacture of chemicals n.e.c	0.060	0.004	-0.056	0.494	0.210	-0.284
38231	Manufacture of metal working machineries	0	0	0	0.484	0.256	-0.228
37102	Iron and steel smelting industry	0	0	0	0.464	0.150	-0.315
32419, 32420, 35602	Manufacture of plastic footwears and footwear except made of leather, imitation leather, rubber and wood, and n.e.c	0	0	0	0.457	0.586	0.128
35122	Manufacture of straight fertilizers	0.066	0.091	0.024	0.430	0.443	0.013
31281	Manufacture of prepared animal feeds	0.102	0.124	0.022	0.405	0.381	-0.024
31121	Manufacture of powdered, condensed and preserved milk	0.148	0.029	-0.118	0.399	0.404	0.005
31212	Manufacture of sago	0.389	0.004	-0.385	0.389	0.004	-0.385
35224	Manufacture of herbal medicine	0	0	0	0.372	0.386	0.014
38322	Manufacture of communication equipment	0	0	0	0.356	0.055	-0.301
35119	Manufacture of basic chemicals n.e.c	0.078	0.044	-0.034	0.354	0.244	-0.110
31261, 31262	Manufacture of prepared food spices and seasoning	0.114	0.088	-0.026	0.352	0.226	-0.127
38396	Manufacture of electric and telephone cables	0.262	0.058	-0.204	0.328	0.162	-0.166
34114	Manufacture of tissues paper	0	0	0	0.311	0.084	-0.226
34113	Manufacture of industrial papers	0.305	0.112	-0.192	0.305	0.112	-0.192
36211	Manufacture of glass products for household purposes	0.269	0.241	-0.028	0.269	0.241	-0.028
38212	Manufacture of internal combustion engine and marine internal combustion engine	0.046	0.059	0.013	0.259	0.194	-0.065
31134	Manufacture of pulverized fruits and vegetables	0	0	0	0.249	0.062	-0.187
38139	Manufacture of fabricated metal products n.e.c	0.117	0.169	0.051	0.246	0.504	0.258
36214	Manufacture of glass containers	0.234	0.358	0.124	0.234	0.358	0.124
38431	Manufacture of motor vehicles	0.121	0.247	0.126	0.231	0.394	0.163
38294	Manufacture of air conditioning, refrigerator and the like	0.068	0.015	-0.053	0.213	0.127	-0.086
35291	Manufacture of adhesive	0.105	0.050	-0.055	0.212	0.118	-0.094
38293, 38295, 38296	Manufacture of blower, compressor and the like, machinery and equipment n.e.c, component and part of machinery and equipment n.e.c	0.058	0.014	-0.044	0.204	0.085	-0.119
35222	Manufacture of drugs and medicines	0.007	0.002	-0.005	0.203	0.129	-0.074
35114	Manufacture of basic inorganic chemicals n.e.c	0.169	0.063	-0.106	0.199	0.075	-0.125
35603	Manufacture of plastic sheets	0	0	0	0.198	0.011	-0.186
35118	Manufacture of basic organic chemicals resulting special chemicals	0.034	0.049	0.015	0.194	0.056	-0.139
38411	Manufacture of ships / boats	0	0	0	0.184	0.425	0.240

31282	Manufacture concentrate animal feeds	0.016	0.041	0.025	0.176	0.209	0.033
35131	Manufacture of synthetic resins	0.173	0.225	0.052	0.173	0.225	0.052
36112	Manufacture of structural materials made of porcelain	0	0	0	0.171	0.205	0.034
31153	Manufacture of cooking oil made of coconut oil	0	0	0	0.160	0.044	-0.116
38433	Manufacture of motor vehicle component and apparatus	0.006	0.002	-0.003	0.154	0.173	0.019
31164	Peeling and cleaning of seed other than coffee	0	0	0	0.147	0.020	-0.127
34190	Manufacture of products of paper and cardboard n.e.c	0	0	0	0.147	0.138	-0.008
37201	Manufacture of non-ferrous metal basic industries	0.134	0.083	-0.051	0.134	0.083	-0.051
31271, 31279	Manufacture of shrimp paste and the like, other food products n.e.c	0	0	0	0.132	0.037	-0.096
31251, 31252	Manufacture of all kinds of chips (shrimp chip, fish chip etc.) and similar of chips (emping, ceriping, karak etc.)	0	0	0	0.130	0.060	-0.070
31141	Manufacture of canned fish and other similar products	0	0	0	0.115	0.109	-0.006
35210	Manufacture of paints, varnishes and lacquers	0.102	0.050	-0.052	0.102	0.050	-0.052
35593	Manufacture of products of rubber n.e.c	0.008	0.006	-0.002	0.101	0.015	-0.086
36410	Manufacture of household wares made of clay	0	0	0	0.099	0.119	0.020
31154	Manufacture of cooking oil made of palm oil	0	0	0	0.097	0.087	-0.010
31181	Manufacture of granulated sugar	0.084	0.064	-0.020	0.084	0.064	-0.020
34120	Manufacture of boxes made of paper and cardboard	0.024	0.017	-0.008	0.077	0.075	-0.002
35601	Manufacture of pipes and hose made of plastics	0	0	0	0.069	0.003	-0.066
34119	Manufacture of paper n.e.c	0	0	0	0.066	0.084	0.018
32122	Manufacture of made up textile for health purposes	0	0	0	0.061	0.013	-0.048
36111	Manufacture of household wares made of porcelain	0	0	0	0.060	0.062	0.002
38324	Manufacture and sub assembly of electronic components	0	0	0	0.054	0.014	-0.040
35116	Manufacture of basic organic chemicals intermediate cyclic, dyes and pigment	0	0	0	0.045	0.089	0.043
38133	Manufacture of fabricated structural steel products	0.045	0.046	0.001	0.045	0.046	0.001
31221, 31222	Manufacture of processed tea and coffee	0.045	0.021	-0.023	0.045	0.021	-0.023
38134	Manufacture of plate working, pressure vessel, steel tank, for industry	0.036	0.006	-0.029	0.045	0.017	-0.027
39014, 39090	Manufacture of personal adornment made of non-precious metal, other manufacturing industries n.e.c	0	0	0	0.043	0.063	0.020
35231	Manufacture of soap and cleaning preparations, including toothpaste	0	0	0	0.043	0.025	-0.017
33115	Manufacture of block board, particle board and the like	0.039	0.027	-0.012	0.039	0.027	-0.012
33111	Sawmills	0.036	0.010	-0.026	0.036	0.010	-0.026
31179	Manufacture of bakery products	0.018	0.023	0.006	0.035	0.037	0.002
38432	Manufacture of motor vehicle bodies	0.005	0.005	-0.001	0.033	0.016	-0.017
31340	Manufacture of soft drinks	0	0	0	0.033	0.032	-0.002
33113	Manufacture of plywood	0.033	0.007	-0.026	0.033	0.007	-0.026
34200	Printing, publishing and allied industries	0.005	0.006	0.002	0.032	0.014	-0.018
33112	Manufacture of molding and building components	0.029	0.016	-0.013	0.029	0.016	-0.013
36911	Manufacture of household wares, made of stone	0.028	0.029	0.001	0.028	0.029	0.001
32114	Weaving mills except gunny and other sacks	0	0	0	0.027	0.036	0.009
33212	Manufacture of furniture and fixtures made of bamboo and /or rattan	0.026	0.049	0.023	0.026	0.049	0.023
37203, 38194	Nonferrous metal rolling industry and manufacture of wire	0	0	0	0.023	0.009	-0.014
35606	Manufacture of plastics bags, containers	0.003	0.000	-0.002	0.018	0.017	-0.001
35112	Manufacture of basic inorganic chemicals industrial gas	0.017	0.002	-0.014	0.017	0.002	-0.014



31151	Manufacture of crude vegetable and animal cooking oil	0	0	0	0.016	0.007	-0.009
38441	Manufacture of motor cycle and motorized tricycles	0.016	0.080	0.064	0.016	0.080	0.064
39040	Manufacture of toys	0.015	0.013	-0.002	0.015	0.013	-0.002
35523	Manufacture of crumb rubber	0.015	0.011	-0.003	0.015	0.011	-0.003
32111	Spinning mills	0	0	0	0.014	0.007	-0.008
31112	Processing and preserving of meat	0.013	0.021	0.008	0.013	0.021	0.008
35511	Manufacture of tire and inner tubes	0.012	0.008	-0.004	0.012	0.008	-0.004
38241, 38242, 38243, 38245, 38246, 38247	Manufacture of textile and printing machineries, of shore construction equipment, of other industrial machinery and equipment n.e.c, of component and parts and alteration and repair of special industrial machineries	0.010	0.027	0.017	0.010	0.027	0.017
35609	Manufacture of plastic products n.e.c	0	0	0	0.008	0.012	0.004
31144	Manufacture of frozen fish and other similar products	0	0	0	0.006	0.011	0.004
31142	Manufacture of salted /dried fish and other similar products	0	0	0	0.006	0.002	-0.004
38131	Manufacture of fabricated structural metal products other than aluminum	0	0	0	0.005	0.139	0.133
32210	Manufacture of wearing apparel made of textile (garments)	0	0	0	0.004	0.001	-0.002
38323, 38511, 38512, 38513, 38514	Manufacture of x-ray apparatus and equipment, professional, scientific, measuring and controlling manual, electric and electronic equipment, instruments for practicum purposes	0	0	0	0.003	0.007	0.004
38113, 38114, 38120	Manufacture of kitchen ware made of aluminum	0	0	0	0.003	0.001	-0.001
31246, 31249	Manufacture of chip and other food made of soya bean / other nuts	0.001	0.002	0.001	0.003	0.004	0.002
36321	Manufacture of structural cement products	0	0	0	0.002	0.029	0.027

Note: Table includes only industries in which at least one politically connected firm was active in 1996-97. N.e.c. Not otherwise classified.

**Table C1.2: Descriptive statistics industry outcomes before and after the crisis**

	All years (‘93-‘96, ‘00-‘09)		Suharto era (‘93-‘96)		Post-Suharto era (‘00-‘09)	
	Mean	SD	Mean	SD	Mean	SD
entry	0.09	0.11	0.13	0.10	0.07	0.10
exit	0.07	0.07	0.07	0.06	0.07	0.07
PCM	0.31	0.14	0.29	0.12	0.31	0.14
PE	-3.06	1.50	-2.97	1.56	-3.09	1.47
HHIY	0.18	0.17	0.20	0.19	0.18	0.16
MS4	0.60	0.24	0.61	0.26	0.59	0.24
lnN	3.86	1.21	3.73	1.27	3.91	1.18
Z	0.00	3.92	-1.23	4.03	0.49	3.76
lnP	0.31	0.61	1.16	0.28	-0.03	0.30
N	2,800		800		2,000	
Industries	200		200		200	

## C2 The Impact of political connections on competition during the Suharto era

One of the assumptions of the paper is that a higher degree of political connectedness during the Suharto era led to lower competition. To assess whether this assumption finds support in the data we regress competition indicators on the aggregate market share held by politically connected firms during the Suharto era, controlling for industry and year fixed effects, as well as time-varying industry controls including government and foreign ownership shares, imports and exports. The timespan of our data is fairly short, and changes in the market share of politically connected firms are partially driven by entry (recall that we only observe political connectedness in 1997). The results, which are presented in Table C2.1 below, do point towards higher market shares of connected firms being associated with less competition. According to our estimates a 10% increase in the market share of Suharto family firms, which is roughly one standard deviation, is associated with an increase in the Herfindahl index of 0.025 points (see column 5) and a decrease in the competition index of -0.48 (e.g. approximately 0.12 standard deviations, see column 9). Similarly a 10% increase in the market share of firms with broad connections is associated with an increase in the Herfindahl index of 0.039 points (column 4), a 2.7 percentage points increase in the market share of the 4 largest firms (column 15), and a 0.43 point decrease in the competition index (column 18).

**Table C2.1: Impact of political connectedness on competition during the Suharto era (1993-1996)**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Entry	Exit	PCM	PE	HHI	MS4	lnN	lnP	Z
<b>Panel A: Family Connections</b>									
PC family (MS)	-0.018	-0.097	0.186	-0.515	0.252**	0.197	0.126	-0.020	-4.795**
	(0.082)	(0.068)	(0.292)	(1.875)	(0.116)	(0.123)	(0.212)	(0.095)	(2.118)
Observations	800	800	800	800	800	800	800	800	800
Industries	200	200	200	200	200	200	200	200	200
R-squared	0.065	0.102	0.072	0.055	0.110	0.082	0.401	0.672	0.173
<b>Panel B: Broad connections</b>									
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	Entry	Exit	PCM	PE	HHI	MS4	lnN	lnP	Z
PC broad (MS)	0.031	-0.021	0.090	0.502	0.392***	0.274***	-0.012	-0.057	-4.354**
	(0.066)	(0.035)	(0.127)	(0.852)	(0.100)	(0.093)	(0.152)	(0.071)	(1.805)
Observations	800	800	800	800	800	800	800	800	800
Industries	200	200	200	200	200	200	200	200	200
R-squared	0.065	0.102	0.072	0.056	0.164	0.110	0.401	0.672	0.178

*Note:* PCM=price cost margin, PE=profit elasticity, HHI=Herfindahl Hirschman index, MS4=cumulative market share of 4 largest firms, lnN= natural log of the number of firms, lnP=natural log of price, Z is a summary competition index. The sample period spans 1993–96. All specifications include industry and year fixed effects, as well as imports, exports, the cumulative market shares of state-owned and foreign-owned firms, entry regulation, dependence on external finance, and asset tangibility. Appendix A defines all the variables. Standard errors are clustered at the industry level and presented in parentheses. \* indicates significance at the 10 percent level, \*\* - at the 5 percent level, and \*\*\* - at the 1 percent level.

### C3 Firm Exit

This section analyzes the relationship between political connections and firm exit. Table C3.1 presents descriptive statistics on firm exit, for Suharto family firms, firms with broad political connections and all firms. In interpreting these results it is important to recall that we only observe whether a firm is politically connected in 1997. Firm exit is defined as exit from our data; we cannot distinguish between genuine exits and falling below the 20 workers threshold. As a result, some firms that exit re-appear in later years. However, the overwhelming bulk of all exit is accounted for by firms that do not re-appear.

Exit rates for politically connected firms are clearly much lower than exit rates for firms that are not connected, which is in part due to the fact that connected firms tend to be larger. Intriguingly no politically connected firms exited between 1996 and 2000, which is in part because of their size; some have argued politically connected firms were too big to fail (Landler, 1999; Dieleman, 2007) given that they occupied strategic positions within industries. The low exit rate could also reflect data quality/inaccuracies in the recording of the timing of exit (and is hence another reason to discard the crisis years).

Exit regressions are presented in Table C3.2. Columns 1-4 present results when using being owned by a Suharto family member as our proxy for being connected, columns 5-8 present results that use our broader proxy for being connected. Columns 1 and 5 model the likelihood that firms existing in 1996 exited by 2009 controlling for state and foreign ownership, the age of the firm, whether it is importing or exporting, its market share, and industry as well as district fixed effects. *Ceteris paribus* family owned firms are 22.7 percentage points less likely to have exited by 2009, and firms with broad connections are 14.2 percentage points less likely to have exited. When we divide this period into two sub-period and examine the likelihood of exiting between 1996 to 2000 (in columns 2 and 6) and exiting between 2000 to 2009 (in columns 3 and 7) we see that this effect is predominantly driven by the higher propensity of connected firms to survive the crisis.

Columns 4 and 8 present annual exit regressions for the period from 2000 to 2009 which control for industry-year and district-year fixed effects. Suharto family firms are *ceteris paribus* 2.4% percentage points less likely to exit in any given year, whereas firms with broad connections are only 0.5% percentage points less likely to exit. The latter effect is not statistically significant.

In sum, connected firms were more likely to survive the crisis and there was no catch-up/disproportionate exit of Suharto connected firms in the post-Suharto period.

**Table C3.1: Firm Exit – Descriptive Statistics**

	PC family firms			PC (broad) firms			All firms		
	total	Exiting	exit rate	total	Exiting	exit rate	total	Exiting	exit rate
1993	74	0	0	191	1	0.52	17,211	1,264	7.34
1994	75	0	0	205	0	0	18,018	1,150	6.38
1995	78	0	0	217	0	0	20,427	1,856	9.09
1996*	83	0	0	234	0	0	21,797	5,728	26.28
2000	87	4	4.60	246	14	5.69	21,012	2,346	11.17
2001	83	4	4.82	233	5	2.15	20,171	1,174	5.82
2002	79	2	2.53	228	7	3.07	19,963	1,742	8.73
2003	77	4	5.19	221	13	5.88	19,200	1,584	8.25
2004	73	1	1.37	209	7	3.35	19,537	1,455	7.45
2005	72	3	4.17	202	14	6.93	19,570	2,816	14.39
2006	69	2	2.90	190	3	1.58	27,251	2,594	9.52
2007	70	4	5.71	195	10	5.13	25,897	3,048	11.77
2008	66	1	1.52	185	5	2.70	23,767	1,704	7.17
Total	986	25	2.54	2,756	79	2.87	273,821	28,461	10.39

Note: \*the exit rate for 1996 is defined as any firm that does not survive up until 2000.

**Table C3.2: Firm Exit – Analysis**

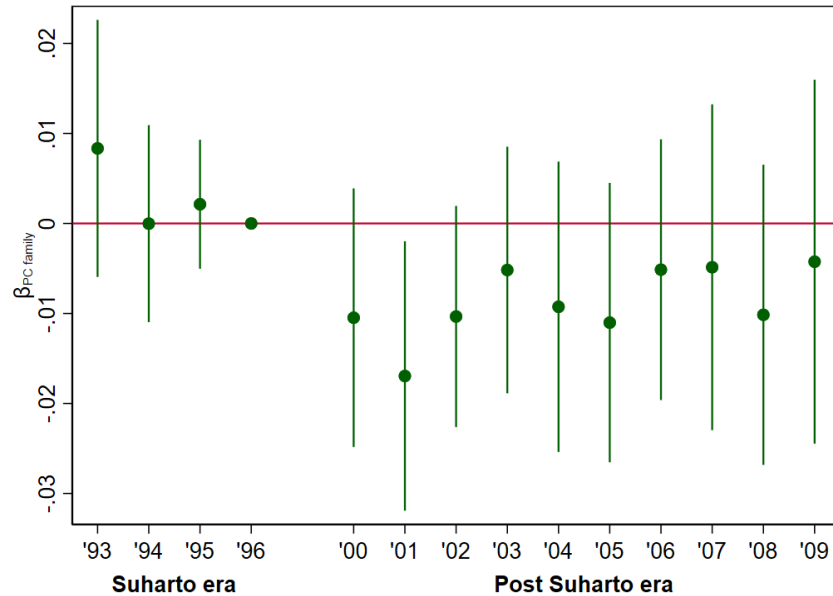
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		long run		annual		long run		annual
Base year	1996	1996	2000	2000-2009	1996	1996	2000	2000-2009
Dependent variable	Exit by 2009	Exit by 2000	Exit by 2009		Exit by 2009	Exit by 2000	Exit by 2009	
PC family	-0.227*** (0.072)	-0.140*** (0.018)	-0.156** (0.066)	-0.024** (0.011)				
PC (broad)					-0.142*** (0.043)	-0.143*** (0.015)	-0.059 (0.039)	-0.005 (0.007)
MS	-0.710*** (0.096)	-0.329*** (0.058)	-0.732*** (0.097)	-0.146*** (0.014)	-0.678*** (0.097)	-0.291*** (0.058)	-0.722*** (0.097)	-0.146*** (0.014)
Foreign owned	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.000*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.000*** (0.000)
Government owned	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.000*** (0.000)	-0.001** (0.000)	-0.000** (0.000)	-0.001*** (0.000)	-0.000*** (0.000)
Ln firm age	-0.041*** (0.005)	-0.043*** (0.005)	-0.045*** (0.005)	-0.012*** (0.001)	-0.041*** (0.005)	-0.043*** (0.005)	-0.045*** (0.005)	-0.012*** (0.001)
exporter	-0.086*** (0.015)	-0.094*** (0.011)	-0.070*** (0.011)	-0.027*** (0.003)	-0.085*** (0.015)	-0.094*** (0.011)	-0.070*** (0.011)	-0.027*** (0.003)
importer	-0.075*** (0.011)	-0.053*** (0.008)	-0.061*** (0.010)	0.007** (0.003)	-0.074*** (0.011)	-0.052*** (0.008)	-0.061*** (0.010)	0.007** (0.003)
industry FE	Yes	Yes	Yes		Yes	Yes	Yes	
district FE	Yes	Yes	Yes		Yes	Yes	Yes	
industry-year FE				Yes				Yes
district -year FE				Yes				Yes
Observations	21,778	21,778	20,997	216,303	21,778	21,778	20,997	216,303
R-squared	0.167	0.115	0.187	0.578	0.167	0.115	0.187	0.578

Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1; standard errors are clustered by industry

## C4 Additional firm-level analysis

This graph depicts the estimates presented in column 5 of Table 3.

**Figure C4.1: The evolution of the market share premium on Suharto family connections**



*Note:* The figure depicts annual variation in the estimated market share premium on being owned or managed by a Suharto family member. The dots depict the coefficient estimates  $\beta_{193}, \beta_{194}, \dots, \beta_{109}$ , estimated using the regression:

$$\text{Market Share}_{it} = \sum_{t=1993, \dots, 2009} \beta_t \text{PC family}_i \times D(\text{Year} = t) + \sum_{t=1993, \dots, 2009} \gamma_t X_{it} \times D(\text{Year} = t) + \sum_{t=1993, \dots, 2009} \theta_t Z_{it} \times D(\text{Year} = t) + \mu_i + \tau_t + \varepsilon_{it}$$

which is presented in column 5 of Table 3, with 1996 as the base year, and hence omitted.  $\text{PC family}_i$  is an indicator of being a Suharto family firm,  $X_{it}$  is a vector of Suharto-era firm characteristics, and  $Z_{it}$  a vector of Suharto-era industry characteristics,  $\mu_i$  is a vector of firm fixed effects, and  $\tau_t$  is a vector of year fixed effects. The vertical bars indicate the 95% confidence interval associated with the estimates.

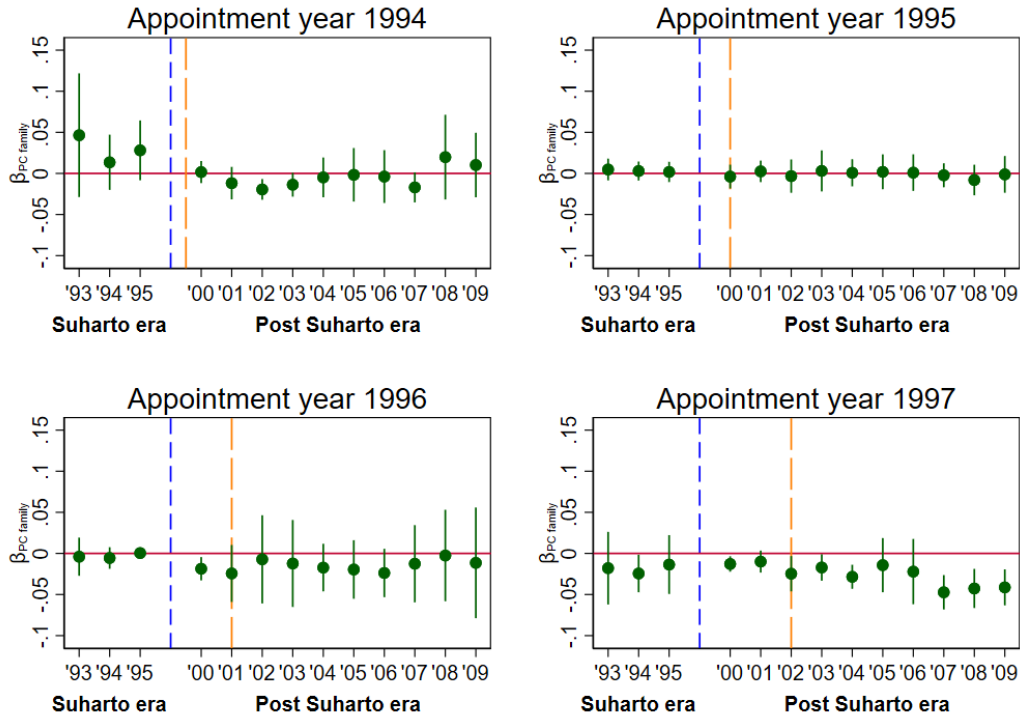
Figures C4.2 and C4.3 show the results of regressions in which we interact indicators for Suharto family connections and broad political connections with a full set of year dummies, as well as dummies for the different appointment dates.<sup>31</sup> The blue line with short dashes indicates 1998, the year Suharto left office, whereas the orange line with the longer dashes shows in what year the tenure of the last appointed Suharto mayor came to an end. Although these estimates of the time trajectories of the connectedness premium across districts with different appointment dates are noisy and typically not statistically significant, they do exhibit some noteworthy features. To start with, the political turnover-induced reductions in the premium on being connected appear especially large in districts in which the last Suharto appointed mayor took office in 1994 and, to a lesser extent, 1995 (when we focus on broad Suharto connections). For districts in which the last Suharto appointed mayor came to power in 1996 it seems that, if anything, the premium on being connected increased, though it is important to bear in mind that we only have 16 broadly politically connected firms in this group and only 8 Suharto family firms. These results are thus very broadly consistent with the adverse effects of regime change on politically connected firms being stronger in districts where Suharto mayors were removed relatively quickly, though we have only very limited power to detect differences in the persistence of the connectedness premium across districts.

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<sup>31</sup> In this case the specification becomes:

$$\begin{aligned}
 \text{Market Share}_{it} = & \sum_{t=1993, \dots, 2009} \sum_{n \in \{1994, 1995, 1996, 1997\}} \beta_t \text{PC family}_i * D(\text{Year} = t) * I(\text{App year} = n) \\
 & + \sum_{t=1993, \dots, 2009} \gamma_t X_{it} * D(\text{Year} = t) * I(\text{App year} = n) + \mu_i + d\tau_{dt} + \pi\tau_{jt} + \varepsilon_{it}.
 \end{aligned}$$

**Figure C4.2: Evolution of the market share premium on Suharto family connections by appointment year of last Suharto appointed mayor**

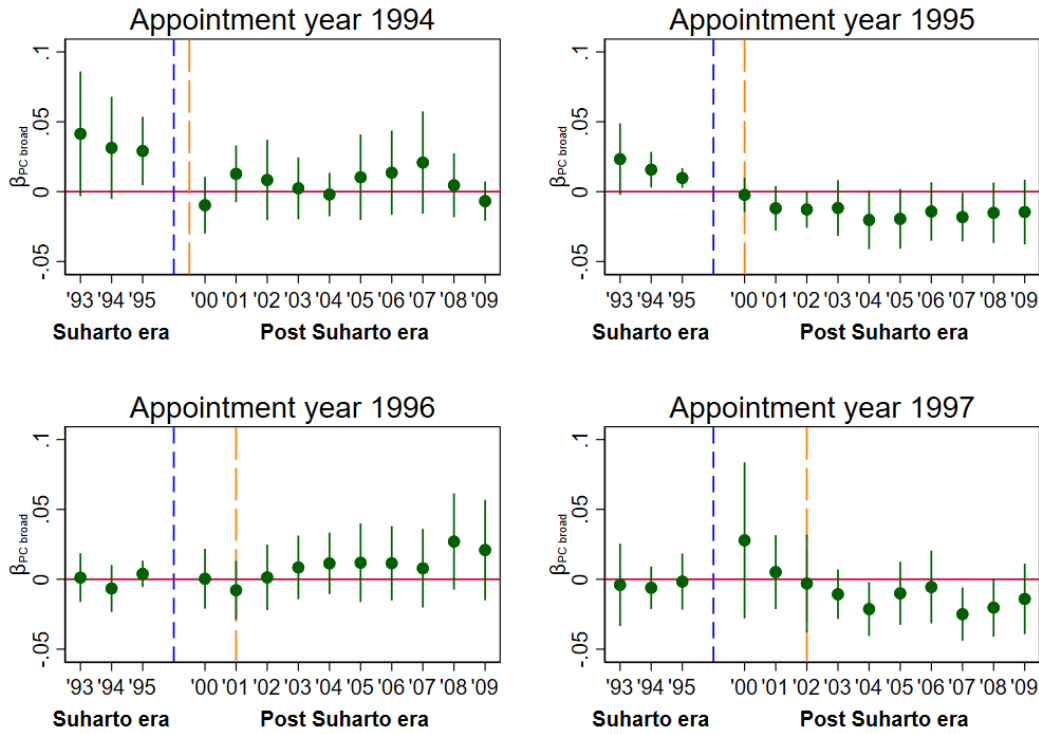


Note: The figure depicts annual variation in the estimated market share premium on Suharto family connections. The dots depict the coefficient estimates  $\beta_{1993}, \beta_{194}, \dots \dots \beta_{109}$ , estimated using the regression

$$Market\ Share_{it} = \sum_{t=1993, \dots, 2009} \sum_{n \in \{1994, 1995, 1996, 1997\}} \beta_t PC\ family_i * D(Year = t) * I(App\ year = n) + \sum_{t=1993, \dots, 2009} \gamma_t X_{it} * D(Year = t) * I(App\ year = n) + \mu_i + d\tau_{dt} + \pi\tau_{jt} + \varepsilon_{it}.$$

$PC\ family_i$  is an indicator of being a Suharto family firm,  $X_{it}$  is a vector of Suharto-era firm characteristics,  $\mu_i$  is a vector of firm fixed effects,  $d\tau_{dt}$  is a vector of district-year fixed effects,  $\pi\tau_{jt}$  is a vector of industry-year fixed effects. The interaction terms between the political connections dummy, year dummies, and the appointment year for the last Suharto appointed mayor are plotted separately for each of the possible appointment years (1994, 1995, 1996, 1997). The vertical bars indicate the 95% confidence interval associated with the estimates. The short-dashed blue line indicates Suharto's resignation. The long-dashed orange line indicates the year in which the last Suharto appointed mayor is expected to leave office. 1996 is the base year (and hence omitted). In interpreting this figure, it is important to bear in mind that power is limited because we only have respectively 8, 16, 8 and 5 Suharto family firms in districts in which the last Suharto mayor took office in 1994, 1995, 1996, and 1997.

**Figure C4.3: Evolution of the market share premium on broad Suharto connections by appointment year of last Suharto appointed mayor**



Note: The figure depicts annual variation in the estimated market share premium on being broadly connected to Suharto. The dots depict the coefficient estimates  $\beta_{193}, \beta_{194}, \dots, \beta_{109}$ , estimated using the regression

$$\begin{aligned}
 \text{Market Share}_{it} = & \sum_{t=1993, \dots, 2009} \sum_{n \in \{1994, 1995, 1996, 1997\}} \beta_t \text{PC broad}_i * D(\text{Year} = t) * I(\text{App year} = n) \\
 & + \sum_{t=1993, \dots, 2009} \gamma_t X_{it} * D(\text{Year} = t) * I(\text{App year} = n) + \mu_i + d\tau_{dt} + \pi\tau_{jt} + \varepsilon_{it}.
 \end{aligned}$$

PC broad<sub>*i*</sub> is an indicator of being connected to Suharto (broadly defined),  $X_{it}$  is a vector of Suharto-era firm characteristics,  $\mu_i$  is a vector of firm fixed effects,  $d\tau_{dt}$  is a vector of district-year fixed effects,  $\pi\tau_{jt}$  is a vector of industry-year fixed effects. The interaction terms between the political connections dummy, year dummies, and the appointment year for the last Suharto appointed mayor are plotted separately for each of the possible appointment years (1994, 1995, 1996, 1997). The vertical bars indicate the 95% confidence interval associated with the estimates. The short-dashed blue line indicates Suharto's resignation. The long-dashed orange line indicates the year in which the last Suharto appointed mayor is expected to leave office. 1996 is the base year (and hence omitted). In interpreting this figure, it is important to bear in mind that power is limited because we only have respectively 21, 40, 16 and 11 firms broadly connected to Suharto in districts in which the last Suharto mayor took office in 1994, 1995, 1996, and 1997.



**Table C4.1: Balance tests for matching**

	Mean		t-stat	p> t
	Treated	Control		
Panel A: Balance				
Log age	2.28	2.16	1.65	0.09
Foreign ownership	12.77	11.34	0.69	0.49
State ownership	5.70	4.71	0.59	0.55
Importer	0.56	0.56	-0.13	0.90
Exporter	0.39	0.41	-0.51	0.61
Panel B: Balance (Alternative)				
Log age	2.37	2.36	0.07	0.95
Foreign ownership	13.37	11.71	0.77	0.44
State ownership	5.97	5.66	0.17	0.86
Importer	0.57	0.55	0.55	0.59
Exporter	0.40	0.42	-0.43	0.66

*Note:* This table presents balance tests for propensity score matching, using the 5 nearest neighbors, with replacement. Suharto family firms are matched with non-connected firms, based on the following variables: logarithm of firm age, foreign and state ownership, indicators for being an exporter and importer, industry and year fixed effects; and the sample is restricted to 1993-1996. In panel A the matching is done on all firms, while in panel B only on firms that exist since 1993. After obtaining the frequency (weight) with which the observation is used as a match, we compute the average weight score for each matched firm and estimate weighted specifications. The results on the two matched samples are presented in table 3, column 7 in the main text and table C4.2 in the online Appendix.

**Table C4.2: Impact of political turnover on firm market share – Suharto Family Firms – Robustness**

Dependent variable: market share									
<i>Robustness check/Sample restriction</i>	Adding district-year and industry-year FEs	Firms surviving until 2009	Firms already active in 1993	All firms	Firms already active in 1993	Firms with L (1996) >100	Top 50 firms within industry (1996)	Firms that ever issued stocks or bonds	Matched firms (Alternative)
PC measure	Family (1)	Family (2)	Family (3)	Broad (4)	Broad (5)	Family (6)	Family (7)	Family (8)	Family (9)
PC*1993	0.008 (0.007)	0.009 (0.009)	0.008 (0.008)	0.010* (0.005)	0.008 (0.005)	0.008 (0.008)	0.008 (0.008)	-0.000 (0.019)	0.007 (0.008)
PC*1994	-0.000 (0.006)	0.000 (0.007)	-0.001 (0.006)	0.006 (0.004)	0.005 (0.004)	-0.001 (0.006)	-0.002 (0.006)	-0.014 (0.015)	-0.001 (0.007)
PC*1995	0.002 (0.004)	0.003 (0.005)	0.001 (0.004)	0.005** (0.002)	0.004 (0.002)	0.002 (0.004)	0.001 (0.004)	-0.003 (0.008)	0.002 (0.004)
PC*2000	-0.008 (0.007)	-0.005 (0.007)	-0.011 (0.008)	-0.006 (0.004)	-0.011** (0.005)	-0.013 (0.008)	-0.011 (0.008)	-0.040* (0.024)	-0.013 (0.009)
PC*2001	-0.016** (0.007)	-0.011 (0.007)	-0.017** (0.008)	-0.005 (0.005)	-0.010* (0.005)	-0.019** (0.009)	-0.017** (0.008)	-0.051** (0.025)	-0.021** (0.009)
PC*2002	-0.010 (0.007)	-0.008 (0.008)	-0.011 (0.007)	-0.005 (0.004)	-0.010** (0.005)	-0.011 (0.007)	-0.010 (0.007)	-0.029 (0.019)	-0.015** (0.007)
PC*2003	-0.005 (0.007)	-0.002 (0.009)	-0.006 (0.008)	-0.004 (0.004)	-0.006 (0.005)	-0.006 (0.008)	-0.005 (0.008)	-0.014 (0.020)	-0.010 (0.007)
PC*2004	-0.011 (0.008)	-0.007 (0.010)	-0.012 (0.009)	-0.005 (0.005)	-0.008 (0.006)	-0.011 (0.010)	-0.009 (0.009)	-0.020 (0.026)	-0.016* (0.009)
PC*2005	-0.013 (0.008)	-0.009 (0.009)	-0.012 (0.009)	-0.007 (0.006)	-0.009 (0.007)	-0.012 (0.009)	-0.010 (0.009)	-0.021 (0.025)	-0.017* (0.008)
PC*2006	-0.007 (0.008)	-0.002 (0.009)	-0.005 (0.008)	-0.004 (0.006)	-0.005 (0.007)	-0.006 (0.009)	-0.003 (0.008)	-0.019 (0.024)	-0.011 (0.008)
PC*2007	-0.006 (0.009)	-0.001 (0.010)	-0.003 (0.010)	-0.003 (0.007)	-0.005 (0.008)	-0.006 (0.011)	-0.003 (0.010)	0.000 (0.029)	-0.010 (0.010)
PC*2008	-0.013 (0.009)	-0.008 (0.009)	-0.009 (0.010)	-0.007 (0.007)	-0.009 (0.008)	-0.013 (0.010)	-0.009 (0.009)	-0.032 (0.020)	-0.016 (0.011)
PC*2009	-0.007 (0.011)	-0.002 (0.011)	-0.004 (0.012)	-0.001 (0.008)	-0.004 (0.009)	-0.006 (0.012)	-0.003 (0.011)	-0.034* (0.020)	-0.008 (0.013)
Firms	22.985	8.734	16.071	22.999	16.071	6.157	6.776	1.746	888
Share of total output accounted for by firms in the sample	99.8%	84.0%	86.3%	100.0%	86.3%	92.9%	87.4%	24.9%	21.7%
Observations	193.770	116.509	146.449	194.096	146.449	67.386	69.960	18.182	9.533
R-squared	0.795	0.759	0.775	0.766	0.775	0.774	0.747	0.739	0.788

*Note:* Table reports results of estimation of baseline specification (1) for different sample restrictions and measures of political connections. The sample period spans 1993–96 and 2000–09. All specifications include firm and year fixed effects, firm and industry controls interacted with year fixed effects. Firm controls include foreign and state ownership, the logarithm of firm age, and indicators for whether a firm imports or exports. Industry controls are a dummy indicating whether the industry in which the firm is operating is subject to entry restrictions, dependence on external finance and asset tangibility. Both firm and industry controls are averaged over the Suharto era (i.e. 1993-1996) Appendix A defines all the variables. Column 1 is a baseline specification with additional district-year and industry-year fixed effects. Column 2 confines the sample to firms surviving up until 2009; columns 3 and 5 confine the sample to firms already active in 1993. Column 6 restricts the sample to firms with more than 100 employees in 1996. Column 7 restricts the sample to the top 50 firms, in terms of market share, in each sector. Column 8 limits the sample to firms that ever issued stocks or bonds. Column 9 restricts the sample to politically connected firms and comparator firms identified using propensity score matching on the basis of their firm age, foreign and state ownership, indicators for being an exporter and importer, industry and year fixed effects during the 1993-1996 period and on firms that exist since 1993. Balance tests for matching are presented in the online Appendix, Table C4.1. In columns 4 and 5 politically connected (PC) firms are firms with broadly defined political connections, while in other columns politically connected firms are defined as being owned by a Suharto family member. Standard errors are clustered at the industry level and presented in parentheses. \* indicates significance at the 10 percent level, \*\* - at the 5 percent level, and \*\*\* - at the 1 percent level.

## C5 Additional Industry-Level Regressions

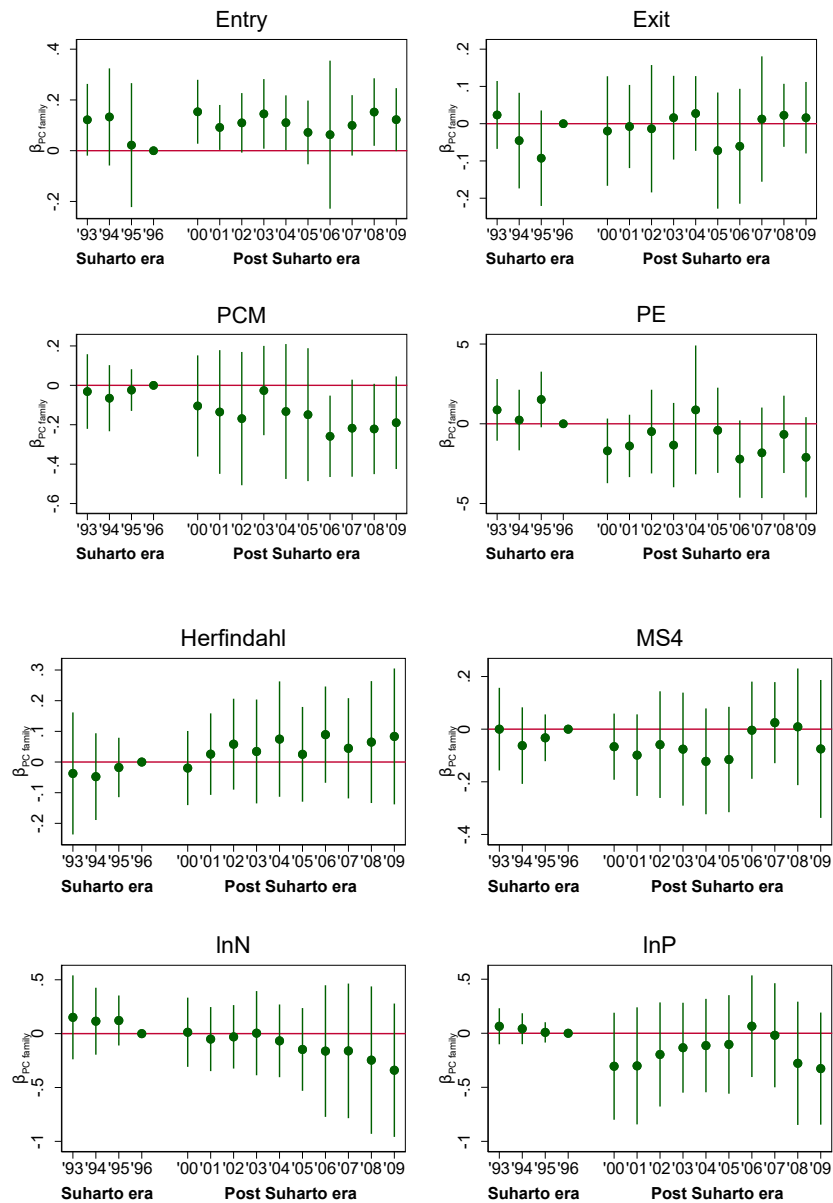
**Table C5.1: Impact of Political Turnover on Competition**

These estimates are displayed graphically in Figures 1 and 2 in the main paper.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Entry	Exit	PCM	PE	HHI	MS4	lnN	lnP	Z
PC family*1993	0.110 (0.074)	0.020 (0.048)	-0.070 (0.090)	1.076 (1.010)	-0.038 (0.074)	-0.005 (0.062)	0.203 (0.172)	0.056 (0.059)	1.452 (1.650)
PC family*1994	0.127 (0.097)	-0.044 (0.067)	-0.090 (0.081)	0.271 (0.978)	-0.049 (0.051)	-0.067 (0.056)	0.160 (0.130)	0.030 (0.053)	1.633 (1.735)
PC family*1995	0.023 (0.119)	-0.093 (0.067)	-0.032 (0.056)	1.630* (0.868)	0.006 (0.040)	-0.024 (0.040)	0.078 (0.085)	0.013 (0.019)	-1.949 (1.636)
PC family*2000	0.157** (0.076)	-0.030 (0.078)	-0.121 (0.147)	-1.713 (1.059)	-0.022 (0.055)	-0.074 (0.070)	0.052 (0.161)	-0.312 (0.255)	4.013** (1.599)
PC family*2001	0.084* (0.046)	-0.004 (0.058)	-0.155 (0.169)	-1.393 (0.955)	0.036 (0.070)	-0.100 (0.085)	0.015 (0.161)	-0.304 (0.274)	3.493** (1.601)
PC family*2002	0.098* (0.053)	-0.021 (0.086)	-0.194 (0.179)	-0.548 (1.327)	0.082 (0.098)	-0.048 (0.129)	-0.024 (0.166)	-0.226 (0.261)	2.439 (2.165)
PC family*2003	0.128** (0.060)	0.036 (0.050)	-0.016 (0.126)	-1.306 (1.238)	0.095 (0.105)	-0.047 (0.136)	-0.004 (0.198)	-0.180 (0.236)	2.662 (1.987)
PC family*2004	0.102** (0.049)	0.031 (0.048)	-0.126 (0.181)	0.551 (1.799)	0.120 (0.124)	-0.107 (0.129)	-0.079 (0.189)	-0.156 (0.246)	1.898 (2.970)
PC family*2005	0.071 (0.068)	-0.089 (0.086)	-0.138 (0.176)	-0.776 (1.302)	0.081 (0.104)	-0.084 (0.136)	-0.145 (0.203)	-0.153 (0.261)	0.814 (3.022)
PC family*2006	0.004 (0.153)	-0.054 (0.078)	-0.259** (0.121)	-2.161* (1.307)	0.163 (0.130)	0.038 (0.129)	-0.247 (0.343)	0.039 (0.243)	1.152 (2.868)
PC family*2007	0.099 (0.061)	0.030 (0.086)	-0.227* (0.128)	-1.624 (1.559)	0.100 (0.093)	0.064 (0.107)	-0.225 (0.343)	-0.036 (0.252)	3.151* (1.823)
PC family*2008	0.147** (0.066)	0.024 (0.046)	-0.272** (0.123)	-0.737 (1.263)	0.088 (0.120)	0.027 (0.135)	-0.249 (0.379)	-0.293 (0.269)	3.857* (2.121)
PC family*2009	0.109* (0.060)	0.011 (0.051)	-0.226* (0.129)	-2.279* (1.294)	0.106 (0.138)	-0.066 (0.155)	-0.309 (0.343)	-0.321 (0.261)	4.263* (2.201)
Observations	2,800	2,800	2,800	2,800	2,800	2,800	2,800	2,800	2,800
Industries	200	200	200	200	200	200	200	200	200
R-squared	0.545	0.145	0.065	0.087	0.078	0.083	0.284	0.934	0.302

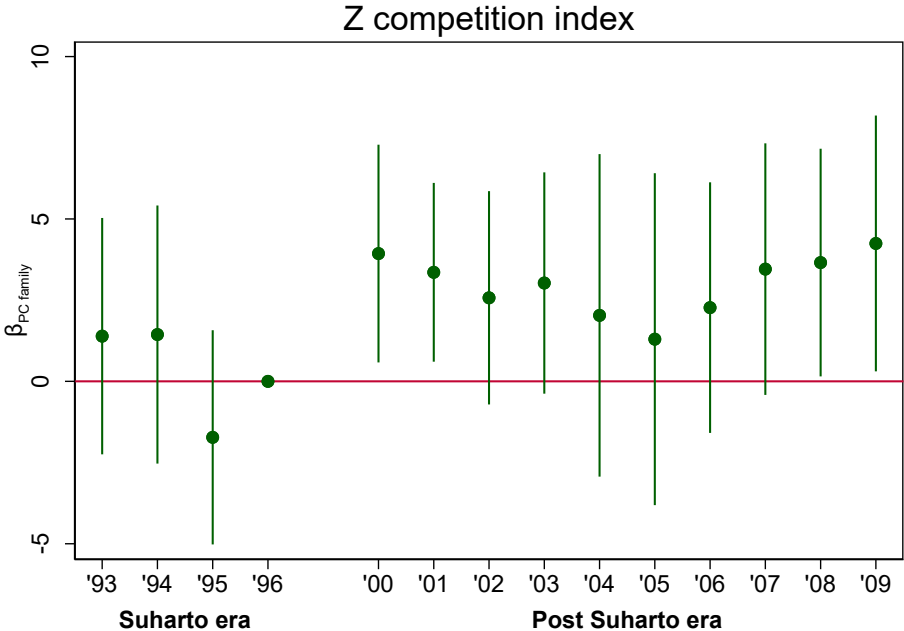
*Note:* Table reports results of estimation of specification (3) for the specified dependent variables. PCM=price cost margin, PE=profit elasticity, HHI=Herfindahl index of market concentration, MS4=cumulative market share of 4 largest firms, lnN=natural logarithm of the number of firms, lnP=natural logarithm of price, Z is a summary competition index. PC family measures the aggregate Suharto-era market share of Suharto family firms. The sample period spans 1993–96 and 2000–09. All specifications include industry and year fixed effects, and Suharto-era (averaged over 1993-1996) industry controls interacted with year dummies. Industry controls include aggregate imports, exports, the cumulative market shares of state-owned and foreign-owned firms, entry regulation, dependence on external finance, and asset tangibility. Appendix A defines all the variables. Standard errors are clustered at the industry level and presented in parentheses. \* indicates significance at the 10 percent level, \*\* - at the 5 percent level, and \*\*\* - at the 1 percent level.

**Figure C5.1. Impact of Political Turnover on Competition – time varying industry characteristics**



*Note:* The figure depicts annual variation in the estimated impact of the market share of Suharto family firms on the outcome of interest. The dots depict the coefficient estimates  $\alpha_{1993}, \alpha_{1994}, \dots, \alpha_{1999}$ , estimated using the regression:  $Y_{jt} = \sum_{t=1993, \dots, 2009} \alpha_t PC(MS)_j * D(Year = t) + \sum_{t=1993, \dots, 2009} \gamma_t S_{jt} * D(Year = t) + \pi_j + \tau_t + \varepsilon_{jt}$  which are presented in Table C5.2, with 1996 as the omitted year, where  $S_{jt}$  represent industry characteristics that are allowed to vary over time.  $PC(MS)_j$  measures the aggregate market share of Suharto family firms (the average of their aggregate market share in 1996 and 1997).  $\pi_j$  is a vector of industry fixed effects, and  $\tau_t$  is a vector of year fixed effects. The vertical bars indicate the 95% confidence interval associated with the estimates.

**Figure C5.2: Evolution of the premium on industry-level Suharto family connectedness – competition index – controlling for time varying industry characteristics**



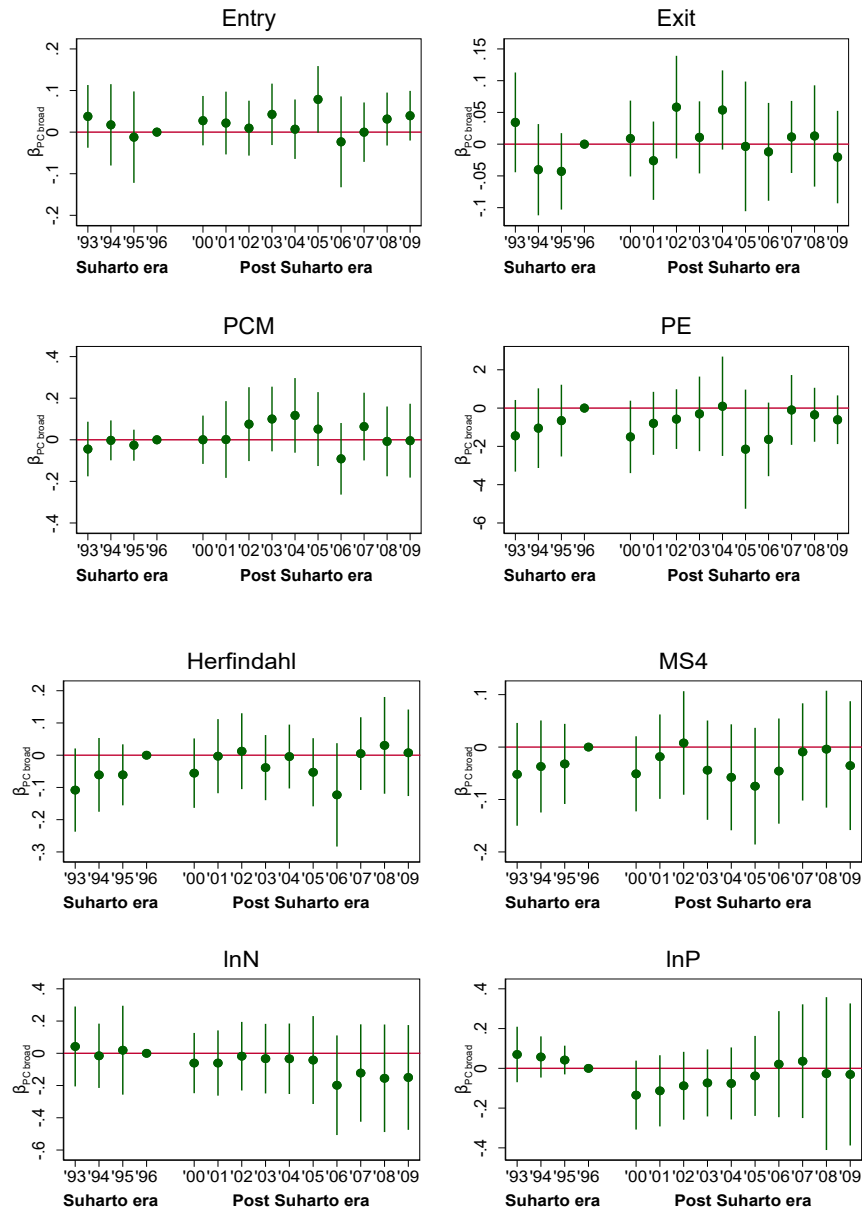
*Note:* The figure depicts annual variation in the estimated impact of the market share of Suharto family firms on the competition index  $Z$ . The dots depict the coefficient estimates  $\alpha_{193}, \alpha_{194}, \dots, \alpha_{109}$ , estimated using the regression:  $Z_{jt} = \sum_{t=1993, \dots, 2009} \alpha_t PC (MS)_j * D(Year = t) + \sum_{t=1993, \dots, 2009} \gamma_t S_{jt} * D(Year = t) + \pi_j + \tau_t + \varepsilon_{jt}$  which are presented in Table C5.2, with 1996 as the omitted year, where  $S_{jt}$  represent industry characteristics that are allowed to vary over time.  $PC (MS)_j$  measures the aggregate Suharto-era market share of Suharto family firms (the average of their aggregate market share in 1996 and 1997).  $\pi_j$  is a vector of industry fixed effects, and  $\tau_t$  is a vector of year fixed effects. The vertical bars indicate the 95% confidence interval associated with the estimates.

**Table C5.2: Impact of Political Turnover on Competition – controlling for time varying industry characteristics**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Entry	Exit	PCM	PE	HHI	MS4	lnN	lnP	Z
PC family*1993	0.122*	0.023	-0.031	0.871	-0.036	0.001	0.152	0.065	1.380
	(0.072)	(0.046)	(0.096)	(0.981)	(0.101)	(0.080)	(0.197)	(0.081)	(1.846)
PC family*1994	0.133	-0.046	-0.065	0.220	-0.048	-0.063	0.118	0.044	1.447
	(0.097)	(0.065)	(0.085)	(0.965)	(0.073)	(0.074)	(0.158)	(0.071)	(2.021)
PC family*1995	0.022	-0.093	-0.024	1.523*	-0.017	-0.032	0.122	0.008	-1.728
	(0.124)	(0.065)	(0.054)	(0.884)	(0.050)	(0.045)	(0.118)	(0.046)	(1.672)
PC family*2000	0.154**	-0.020	-0.105	-1.699*	-0.019	-0.066	0.013	-0.306	3.927**
	(0.064)	(0.075)	(0.130)	(1.027)	(0.061)	(0.064)	(0.163)	(0.242)	(1.697)
PC family*2001	0.092**	-0.008	-0.135	-1.389	0.026	-0.098	-0.050	-0.302	3.350**
	(0.045)	(0.057)	(0.159)	(0.991)	(0.067)	(0.078)	(0.151)	(0.266)	(1.395)
PC family*2002	0.110*	-0.014	-0.169	-0.491	0.059	-0.058	-0.029	-0.196	2.563
	(0.060)	(0.087)	(0.172)	(1.330)	(0.075)	(0.103)	(0.149)	(0.236)	(1.664)
PC family*2003	0.145**	0.016	-0.026	-1.337	0.035	-0.075	0.005	-0.134	3.020*
	(0.070)	(0.057)	(0.115)	(1.340)	(0.086)	(0.109)	(0.198)	(0.204)	(1.727)
PC family*2004	0.110**	0.027	-0.133	0.870	0.074	-0.123	-0.067	-0.114	2.037
	(0.055)	(0.051)	(0.174)	(2.048)	(0.095)	(0.102)	(0.171)	(0.212)	(2.514)
PC family*2005	0.072	-0.073	-0.146	-0.422	0.023	-0.117	-0.146	-0.104	1.288
	(0.064)	(0.080)	(0.173)	(1.347)	(0.079)	(0.101)	(0.195)	(0.224)	(2.599)
PC family*2006	0.063	-0.061	-0.259**	-2.213*	0.089	-0.004	-0.162	0.065	2.268
	(0.148)	(0.078)	(0.105)	(1.227)	(0.079)	(0.094)	(0.310)	(0.230)	(1.955)
PC family*2007	0.100*	0.012	-0.217*	-1.815	0.042	0.023	-0.161	-0.020	3.469*
	(0.061)	(0.085)	(0.125)	(1.441)	(0.085)	(0.079)	(0.317)	(0.237)	(1.977)
PC family*2008	0.152**	0.023	-0.225*	-0.666	0.061	0.006	-0.244	-0.275	3.713**
	(0.068)	(0.043)	(0.117)	(1.230)	(0.101)	(0.113)	(0.347)	(0.277)	(1.797)
PC family*2009	0.122*	0.016	-0.194	-2.109*	0.080	-0.077	-0.338	-0.324	4.305**
	(0.063)	(0.049)	(0.120)	(1.276)	(0.112)	(0.133)	(0.314)	(0.252)	(2.012)
Observations	2,800	2,800	2,800	2,800	2,800	2,800	2,800	2,800	2,800
Industries	200	200	200	200	200	200	200	200	200
R-squared	0.550	0.138	0.098	0.093	0.128	0.098	0.279	0.934	0.318

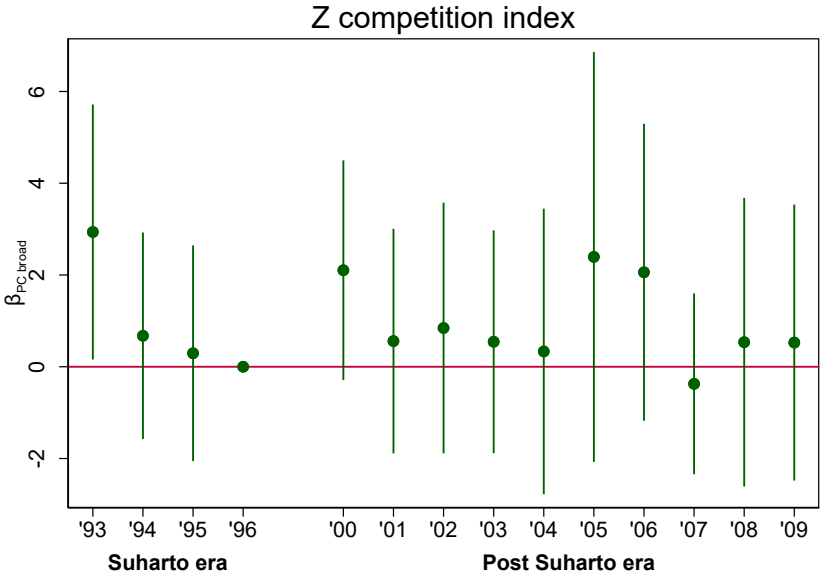
*Note:* Table reports results of estimation of specification (3) for the dependent variables specified. PCM=price cost margin, PE=profit elasticity, HHI=Herfindahl index of market concentration, MS4=cumulative market share of 4 largest firms, lnN=natural logarithm of the number of firms, lnP=natural logarithm of price, Z is a summary competition index. PC family measures the aggregate Suharto-era market share of Suharto family firms (the average of their aggregate market share in 1996 and 1997). The sample period spans 1993–96 and 2000–03. All specifications include industry and year fixed effects and industry controls interacted with year dummies. Industry controls include imports, exports, the cumulative market shares of state-owned and foreign-owned firms, entry regulation, dependence on external finance, and asset tangibility. Appendix A defines all the variables. Standard errors are clustered at the industry level and presented in parentheses. \* indicates significance at the 10 percent level, \*\* - at the 5 percent level, and \*\*\* - at the 1 percent level.

**Figure C5.3: Evolution of the premium on industry-level Suharto connectedness — broad connections**



*Note:* The figure depicts annual variation in the estimated impact of the market share of broadly defined politically connected firms on the outcome of interest. The dots depict the coefficient estimates  $\alpha_{193}, \alpha_{194}, \dots, \alpha_{199}$ , estimated using the regression:  $Y_{jt} = \sum_{t=1993, \dots, 2009} \alpha_t PC(MS)_j * D(Year = t) + \sum_{t=1993, \dots, 2009} \gamma_t S_{jt} * D(Year = t) + \pi_j + \tau_t + \varepsilon_{jt}$  which are presented in Table C5.3, with 1996 as the omitted year.  $S_{jt}$  represent industry characteristics.  $PC(MS)_j$  measures the aggregate Suharto-era market share of firms with broad connection to Suharto (the average of their aggregate market share in 1996 and 1997).  $S_{jt}$  represent Suharto-era industry characteristics.  $\pi_j$  is a vector of industry fixed effects, and  $\tau_t$  is a vector of year fixed effects. The vertical bars indicate the 95% confidence interval associated with the estimates.

**Figure C5.4: Evolution of the premium on industry-level Suharto connectedness – competition index – broad connections**



*Note:* The figure depicts annual variation in the estimated impact of the market share of broadly defined politically connected firms on the competition index  $Z$ . The dots depict the coefficient estimates  $\alpha_{1993}, \alpha_{1994}, \dots, \alpha_{1999}$ , estimated using the regression:  $Z_{jt} = \sum_{t=1993, \dots, 2009} \alpha_t PC(MS)_j * D(Year = t) + \sum_{t=1993, \dots, 2009} \gamma_t S_{jt} * D(Year = t) + \pi_j + \tau_t + \varepsilon_{jt}$  which are presented in Table 8, with 1996 as the omitted year.  $PC(MS)_j$  measures the aggregate Suharto-era market share of firms with broad connections to Suharto (the average of their aggregate market share in 1996 and 1997).  $S_{jt}$  represent Suharto-era industry characteristics.  $\pi_j$  is a vector of industry fixed effects, and  $\tau_t$  is a vector of year fixed effects. The vertical bars indicate the 95% confidence interval associated with the estimates.



**Table C5.3: Impact of Political Turnover on Competition – broad connections**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Entry	Exit	PCM	PE	HHI	MS4	lnN	lnP	Z
PC (broad)*1993	0.017 (0.041)	0.015 (0.042)	-0.067 (0.058)	-1.158 (1.001)	-0.031 (0.049)	-0.010 (0.041)	0.022 (0.084)	0.015 (0.040)	1.862 (1.254)
PC (broad)*1994	0.006 (0.056)	-0.059 (0.043)	-0.008 (0.041)	-1.053 (1.250)	-0.017 (0.043)	-0.003 (0.034)	-0.013 (0.065)	0.013 (0.030)	0.000 (1.121)
PC (broad)*1995	-0.023 (0.057)	-0.062* (0.033)	-0.024 (0.034)	-0.430 (0.960)	-0.006 (0.029)	0.002 (0.030)	-0.019 (0.055)	0.011 (0.013)	-0.712 (0.912)
PC (broad)*2000	0.043 (0.039)	-0.022 (0.031)	-0.004 (0.060)	-1.389 (1.147)	-0.045 (0.053)	-0.031 (0.038)	0.001 (0.120)	-0.172* (0.092)	1.697 (1.349)
PC (broad)*2001	0.010 (0.038)	-0.033 (0.037)	-0.020 (0.095)	-0.623 (1.029)	0.036 (0.063)	0.004 (0.050)	-0.007 (0.135)	-0.146* (0.086)	0.157 (1.440)
PC (broad)*2002	-0.017 (0.031)	0.023 (0.040)	0.066 (0.085)	-0.472 (0.955)	0.090 (0.067)	0.053 (0.060)	-0.032 (0.143)	-0.131 (0.081)	-0.522 (1.508)
PC (broad)*2003	0.020 (0.039)	-0.008 (0.030)	0.109 (0.075)	-0.148 (1.208)	0.056 (0.061)	0.016 (0.056)	-0.052 (0.147)	-0.122 (0.078)	-0.850 (1.522)
PC (broad)*2004	-0.015 (0.038)	0.026 (0.034)	0.104 (0.088)	-0.424 (1.489)	0.077 (0.063)	-0.006 (0.061)	-0.094 (0.154)	-0.149 (0.090)	-0.465 (1.933)
PC (broad)*2005	0.087** (0.043)	-0.036 (0.054)	0.037 (0.086)	-2.514 (1.816)	0.019 (0.064)	-0.012 (0.064)	-0.035 (0.171)	-0.112 (0.097)	1.773 (2.619)
PC (broad)*2006	-0.054 (0.065)	-0.043 (0.045)	-0.083 (0.081)	-1.491 (1.213)	-0.017 (0.072)	0.019 (0.060)	-0.185 (0.195)	-0.019 (0.119)	0.336 (1.769)
PC (broad)*2007	-0.008 (0.041)	0.011 (0.032)	0.035 (0.084)	0.049 (1.091)	0.083 (0.071)	0.055 (0.056)	-0.169 (0.193)	-0.028 (0.122)	-0.994 (1.330)
PC (broad)*2008	0.025 (0.035)	0.004 (0.044)	-0.082 (0.085)	-0.414 (0.831)	0.065 (0.088)	0.049 (0.070)	-0.194 (0.215)	-0.107 (0.150)	0.599 (1.890)
PC (broad)*2009	0.029 (0.034)	-0.031 (0.040)	-0.009 (0.090)	-0.609 (0.768)	0.050 (0.078)	0.021 (0.073)	-0.194 (0.215)	-0.102 (0.145)	-0.087 (1.670)
Observations	2,800	2,800	2,800	2,800	2,800	2,800	2,800	2,800	2,800
Industries	200	200	200	200	200	200	200	200	200
R-squared	0.546	0.148	0.069	0.089	0.080	0.083	0.284	0.934	0.303

*Note:* Table reports results of estimation of specification (3) for the dependent variables specified. PCM=price cost margin, PE=profit elasticity, HHI=Herfindahl index of market concentration, MS4=cumulative market share of 4 largest firms, lnN=natural logarithm of the number of firms, lnP=natural logarithm of price, Z is a summary competition index. PC (broad) measures the aggregate Suharto-era market share of firms with broad connections to Suharto (the average of their aggregate market share in 1996 and 1997). The sample period spans 1993–96 and 2000–03. All specifications include industry and year fixed effects and Suharto era (averaged over 1993-1996) industry controls interacted with year dummies. Industry controls include aggregate imports, exports, the cumulative market shares of state-owned and foreign-owned firms, entry regulation, dependence on external finance, and asset tangibility. Appendix A defines all the variables. Standard errors are clustered at the industry level and presented in parentheses. \* indicates significance at the 10 percent level, \*\* - at the 5 percent level, and \*\*\* - at the 1 percent level.

**Table C5.4: Impact of Political Turnover on Competition – Robustness Checks**

	Dependent variable: Z (competition index)					
	(1)	(2)	(3)	(4)	(5)	(6)
	Baseline	OLS	More stringent outlier cleaning	Extra financial crisis controls	3-digit industry*year FE	Exclude top 3 and bottom 3 industries with largest changes in market share of connected firms
PC family*1993	1.452 (1.650)	-0.479 (2.653)	1.267 (1.586)	1.055 (1.788)	0.020 (1.515)	1.724 (1.530)
PC family*1994	1.633 (1.735)	-0.298 (2.248)	2.112 (1.824)	1.447 (1.675)	1.316 (1.797)	0.625 (1.411)
PC family*1995	-1.949 (1.636)	-3.880 (2.497)	-1.564 (1.531)	-2.251 (1.706)	-1.658 (1.682)	-3.657 (2.468)
PC family*1996		-3.223 (2.964)				
PC family*2000	4.013** (1.599)	2.083 (1.900)	4.504*** (1.637)	3.520** (1.486)	4.206** (1.789)	3.818** (1.602)
PC family*2001	3.493** (1.601)	1.563 (2.070)	4.607*** (1.314)	3.288* (1.675)	3.841** (1.657)	3.126 (1.934)
PC family*2002	2.439 (2.165)	0.508 (2.427)	3.418* (1.846)	2.074 (2.280)	3.315 (2.032)	1.385 (2.721)
PC family*2003	2.662 (1.987)	0.732 (2.689)	3.648** (1.666)	2.442 (2.099)	2.979 (1.885)	1.818 (2.595)
PC family*2004	1.898 (2.970)	-0.032 (3.486)	2.463 (2.771)	1.638 (3.165)	1.968 (3.050)	2.239 (3.410)
PC family*2005	0.814 (3.022)	-1.116 (3.424)	0.890 (2.921)	0.813 (3.065)	0.887 (2.785)	0.568 (3.621)
PC family*2006	1.152 (2.868)	-0.779 (2.969)	2.835 (2.224)	0.499 (3.056)	2.224 (2.516)	0.429 (3.116)
PC family*2007	3.151* (1.823)	1.220 (2.421)	2.812* (1.452)	2.706 (1.868)	2.217 (1.933)	1.774 (1.927)
PC family*2008	3.857* (2.121)	1.927 (2.239)	4.859** (1.890)	3.504 (2.178)	4.388** (1.925)	3.381* (1.973)
PC family*2009	4.263* (2.201)	2.333 (2.190)	5.294*** (2.035)	3.798* (2.230)	4.182** (2.113)	2.816 (2.364)
Observations	2,800	2,800	2,759	2,800	2,800	2,716
Industries	200	200	200	200	200	194
R-squared	0.302	0.310	0.330	0.306	0.430	0.307

Note: Table reports results of estimation of specification (3). Appendix A defines all the variables. The sample period spans 1993–96 and 2000–03. Industry controls include aggregate imports, exports, the cumulative market shares of state-owned and foreign-owned firms, entry regulation, dependence on external finance, and asset tangibility. PC family measures the aggregate Suharto-era market share of Suharto family firms (the average of their aggregate market share in 1996 and 1997). Specifications include industry fixed effects, except for column 2. All specifications include year fixed effects and Suharto era (averaged over 1993-1996) industry controls interacted with year fixed effects. Column 1 reports a baseline specification; column 2 presents OLS specification without firm fixed effects; in column 3 outliers, defined as observation for whom the studentized residuals exceed 3 in absolute value, are excluded; in column 4 crisis output loss variable interacted with post Suharto dummy is included; in column 5, 3-digit industry fixed effects interacted with year fixed effects are included (and year effects are dropped since they cannot be separately identified); in column 6 top three and bottom three industries with largest changes in market share of connected firms are excluded. \* indicates significance at the 10 percent level, \*\* - at the 5 percent level, and \*\*\* - at the 1 percent level.