# Antitrust and Corporate Taxation*

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**Abstract**

Although citizens value competitive markets and support small businesses, we observe substantial variation in market concentration. Why do politicians abstain from taking action to reduce concentration? We propose an often overlooked political benefit to concentrated markets: When concentration increases, competition is less pronounced and firms earn larger profits. These profits can be taxed for government revenue or used to reward business-friendly politicians. We expect politicians to impose more lenient competition policies toward firms that provide larger sources of revenue. Moreover, this relationship should be especially strong under authoritarian political institutions, where politicians only weakly value the free market and consumer outcomes and where institutional commitments to unbiased policies are weak. We derive our theoretical claims from a formal model. We draw on both cross-country evidence and evidence from Turkey at the firm- and industry-level to evaluate our claims. We find that as political institutions become less representative, firms that make higher tax payments tend to control more assets, operate in more concentrated industries, and engage in higher value M&As. Our study points to the weak provision of competition policies as a source of rent-seeking.

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Although citizens overwhelmingly value competitive markets and support small businesses (Menon and Osgood, 2024), market power remains concentrated in many countries. Concentrated markets pose economic and political challenges. Concentration may undermine competition and elevate prices (Philippon, 2019). Larger firms also have more political influence (Bombardini, 2008; Weymouth, 2012; Betz, 2017; Kim, 2017). And, because economic and political power often reinforce each other, economic concentration may create a cycle where concentration begets biased policy, which further increases concentration (Zingales, 2017; Callander, Foarta and Sugaya, 2022, 2024).

Governments can take many actions to curb concentration. Property rights encourage firms to enter markets, anticipating that their ownership rights will be protected. Antitrust or competition policies are used to limit market concentration and to ensure that new competitors can enter the marketplace. Antitrust typically prohibits anti-competitive behaviors, like monopolization and price setting. Antitrust authorities may also review and block mergers and acquisitions that would surpass certain levels of market concentration, and they may break up large companies. Through these processes, antitrust is designed to maintain competitive markets. In this paper, we question when governments take action to curb concentration and increase competition.

A growing literature explores when politicians strengthen antitrust. Democratic governments should provide more effective antitrust (Weymouth, 2016; Mitton, 2008), as consumers are thought to have more influence in democracies (Mansfield, Milner and Rosendorff, 2000; Nielson, 2003; Kono, 2006); democratic politicians value efficient and productive markets as public goods (Bueno de Mesquita et al., 2002; Lake and Baum, 2001); and authoritarian governments seek direct control over the marketplace (Koop and Kessler, 2021). Political competition in democracy may also lead to cycles in antitrust enforcement (Dove, 2014; Hofstadter, 1964), and variation in economic models could affect the development of antitrust, even among democratic countries (Foster, 2021). The enforcement record on antitrust poli-

cies is mixed, and the effects of antitrust for small firms are contested. Antitrust helps small firms where it prohibits entry barriers; it hurts small firms if it prevents coordination among them (Thelen, 2025; Foster and Thelen, 2024; Arslan, 2022; Whitman, 2007). In weakly institutionalized settings, antitrust policy can suffer from capacity constraints (Avdasheva and Shastitko, 2011) and over-zealous regulators (Zhang, 2022).

In this paper, we abstract away from much of the complexity surrounding the implementation of antitrust. We simply accept that politicians have policy tools at their disposal when seeking to foster competitive markets, and we question when they are likely to use these tools. Our objective is to introduce an important consideration into research on the politics of market concentration: corporate taxation. Around the world, corporate tax revenues remain an important share of total government revenue. Corporate taxes make up a larger share of government revenue than the personal income tax on average in Latin America, the Asia-Pacific region and in Africa.[1] Corporate revenues have also been eroded by international tax competition (Arel-Bundock, 2017) and trade liberalization (Bastiaens and Rudra, 2016; Betz and Pond, 2023*a*), and recent efforts like the Base Erosion and Profit Shifting agreement illustrate the shared emphasis on reclaiming these revenues.

We argue that taxation and competition policies are closely related to each other: While increasing competition in markets carries price benefits for consumers, it also reduces corporate profits. Reduced profits, in turn, leave a smaller pool of resources for governments to tap into – through formal transfers like taxation and campaign donations and informal transfers like bribes and kickbacks. Alternatively, weakening competition elevates firm profits. Politicians can then tap into these profits, leaving both firms and politicians with more resources. We thus expect that those firms, who provide important sources for government

[1]In 2019 in Latin America, corporate taxes were 15% of total taxation, while the personal income tax was only 9%; in the Asia-Pacific, it was 18% corporate to 16% personal income; and in Africa, it was 19% corporate to 17% personal income – social security, value added, and other taxes make up large shares as well). https://www.oecd.org/tax/tax-policy/global-revenue-statistics-database.htm

transfers, are less likely to be targeted by regulators who seek to increase market competition.

Our contention is not that this exchange of competition for transfers is always explicit. It might come about implicitly through repeated interactions between governments and firms: Firms seek reduced competition in order to earn larger profits. Those that provide politicians with transfers are better able to secure their preferred policies. Over time this leads to a stable empirical pattern where we see weaker competition policies for large firms who provide the government with substantial transfers. In short, governments select both corporate taxation and competition regulation. Divergence between these two – weakened competition in exchange for transfers – is a particularly attractive strategy combination.

We further expect that politicians are more willing to reduce competition for transfers under less representative political institutions. Limits to representation frequently privilege concentrated interests, like large firms, over the public or consumer interests. In democratic countries, there are institutional safeguards that prevent governments from intervening in the economy on behalf of specific firms; these safeguards are weaker or reversible in autocracies (North and Weingast, 1989; Schultz and Weingast, 2003; Bodea and Higashijima, 2017). Safeguards in democracy might also ensure that antitrust is faithfully executed, for example through the political independence of regulators (Koop and Hanretty, 2018; Koop and Jordana, 2022), and that antitrust is not captured by special interests. Autocrats alternatively may rely on intervention in the economy to reward political supporters (Menaldo, 2016). Authoritarian institutions should thus make the exchange of transfers for competition more attractive, as autocrats are less constrained by liberalized markets, impartial institutions, and consumer benefits.

Historical anecdotes help elaborate the theory: In the 19th century, the Mexican government under President Porfirio Díaz broke up the national market and granted monopoly bank charters in local markets. These charters limited competition and generated high rates of return. In exchange the bankers gave Díaz access to substantial resources (Calomiris

and Haber, 2014, Chapt 10). Similarly, in England the East India Company was granted lucrative, monopoly trading rights in India and China. The Charter, which granted these rights, was not permanent and instead was continuously renewed in exchange for payments to the government (Zingales, 2017, 115-116). In both cases, the authoritarian government cared little about consumer welfare but benefited directly from the monopoly profits earned by their chosen firms.

It is difficult to know when this exchange (competition for transfers) takes place, as politicians have an incentive to obfuscate costly policies (Kono, 2006). Nevertheless, it should still show up in market statistics. Drawing on the reverse Polity score as a measure of authoritarianism, as well as measures of taxation, firm-size, industry concentration, and competition, we present evidence that, in authoritarian contexts, firms grow larger and industries more concentrated when they are significant sources of tax revenue.

We then leverage data from Turkey, which provides an appropriate testing ground for our theory: Turkey has variation in political institutions, which have become more authoritarian in recent years. And, Turkey's competition authority releases data documenting competition cases at the industry level. Firms in Turkey also report both their tax payments and merger and acquisition activities. We show that the movement towards authoritarianism in Turkey was accompanied by (1) fewer competition policy investigations among industries that provide more tax revenue and by (2) mergers and acquisitions among larger firms, operating in concentrated industries, if they provide more tax revenue. Although the results are simple correlations, that they hold across several different measures and fine-grained data helps corroborate the theory.

The theory carries implications for several literatures. To make the argument and empirical analysis tractable, we have focused specifically on market competition, tax revenue, and antitrust as benefiting consumers. The paper has implications beyond these areas. Theoretically, elevated profits could come from many sources, including any policy that

creates a barrier to competitor entry (Perlman, 2019; Gulotty, 2020), which could include increased tariffs, the rationing of operating licenses, the under-provision of shareholder rights, or targeted financing. We expect that a similar pattern could emerge in any of these policy areas. We also focus narrowly here on tax revenue as transfers to governments. While this strategy facilitates measurement, it also narrows the scope of the argument. Politicians may also be willing to trade-off market competition for campaign contributions or bribes (Perotti and Volpin, 2004). These relationships may also link the political fate of politicians and their supporters, which could strengthen their political alliance. The theory therefore has implications for literatures on corruption, campaign donations, and economic regulation.

Second, many of the analyses reported here consider competition as an outcome of antitrust. Research has shown that antitrust can also be used to benefit influential domestic industries (Faith, Leavens and Tollison, 1982) and target foreign firms (Foster, 2022; Ro, 2021). It may be harder for governments to wield antitrust for political purposes when antitrust regulators are operationally independent (Koop and Hanretty, 2018; Koop and Jordana, 2022), and like other regulators this independence is plausibly more credible under democratic institutions (Bodea and Higashijima, 2017). That our study uses a combination of antitrust investigations and market outcomes reassures us that the divergence between antitrust aims and antitrust execution is unlikely to drive our results. Nevertheless, better understanding how antitrust is made and wielded remains an important research objective.

Finally, the paper complements a large and growing literature on the relative influence of special interests, particularly commercial, versus the public interest (Carey and Shugart, 1995). Most studies find that consumers, by virtue of being a large, diffuse group, with small individual benefits to organization, will be collective action disadvantaged. In the context of trade policy, consumer interests seem to have little effect on policy preferences and outcomes (Guisinger, 2009; Bearce and Moya, 2020; Betz and Pond, 2019).[2] Here we look to the

[2]For a counter argument, see Baker (2005).

broader policy environment to examine how consumer influence affects antitrust, market concentration, and corporate taxation. Although firms may seek out reduced corporate taxation (Garrett and Lange, 1999; Basinger and Hallerberg, 2004; Swank, 2006; Franzese and Hays, 2008), they may be willing to provide higher tax transfers if they are compensated with large profits in concentrated markets.

## Political incentives for corporate taxation and competition

In this section, we derive several theoretical insights from a simple model. We model the economy as a Cournot model of quantity competition.[3] The government in the model decides how to regulate the economy, selecting the rates of taxation and antitrust. We assume that authoritarian leaders value consumer welfare less than democratic leaders, and antitrust enters the model by affecting the number of firms operating in the market. As is always the case in these models, when the number of firms increases, consumer welfare increases, but firm profits decrease. This reduces the corporate revenue available for taxation. Thus, increasing antitrust has diverging effects from a public-minded perspective: it reduces corporate tax revenue but increases consumer surplus. The model makes these assumptions transparent and helps us adjudicate competing effects of taxation and competition policy and their relative value for different governments.

The game is between the government and several firms. The government moves first and selects the tax rate, $t$, and the level of antitrust. Antitrust affects the number of firms, $n$, operating in the economy. Although other factors also affect whether a firm enters or exits the market, the model focuses on the government's policy incentives. Stronger antitrust results in a larger $n$, while weaker antitrust reduces $n$.[4] The $n$ firms then engage in economic

[3]Callander, Foarta and Sugaya (2024) also draw on Cournot competition to derive expectations for antitrust law; their emphasis is on the long-term effects of early levels of concentration for both policy and future concentration. Our model unpacks the relationship between taxation and competition.

[4]Lax merger review for example would reduce $n$. Splitting up large firms would increase $n$.

activity, which we model as Cournot competition over quantity. The firms simultaneously select the quantity, $q_i$, that each firm $i$ produces to maximize its profits. The firms are assumed to be identical.

Each firm's maximization problem is:[5]

$$max_{q_i}\{\pi_i = (1 - \sum_{j=1}^{n} q_j - c)q_i\}$$

Which pins down the equilibrium quantities, prices, and per-firm profits:

$$q_i = \frac{1-c}{n+1} \qquad p_i = \frac{1+nc}{n+1} \qquad \pi_i = \frac{(1-c)^2}{(n+1)^2}$$

Profits in the full economy then are:

$$\Pi = \sum_{i=1}^{n} \pi_i = \frac{n(1-c)^2}{(n+1)^2}$$

And the consumer surplus is:

$$CS = \frac{1}{2}(1-p)q = \frac{n^2(1-c)^2}{2(n+1)^2}$$

The government selects $n$ and $t$ to maximize a combination of consumer surplus and tax revenue.

$$V_g(t,n) = BCS + t\Pi - kt^2$$

$k$ is a cost of taxation, which might deter future investment. This functional form ensures an interior solution for taxation. $B$ is the weight that the government attaches to consumer surplus, $CS$. We assume that more democratic countries, and within authoritarian countries

[5]Note that because corporate taxation is applied to firm profits, it does not affect the firm's maximization problem. Each firm keeps $(1-t)\pi_i$ of its profits. When taking the first order condition, divide both sides by $(1-t)$, and it falls out of the model.

those with more widespread political participation, have a larger weight on consumer surplus.

The government's first order conditions are:

$$\frac{\partial V_g(t,n)}{\partial t} = \Pi - 2kt = 0 \tag{1}$$

$$\frac{\partial V_g(t,n)}{\partial n} = B\frac{\partial CS}{\partial n} + t\frac{\partial \Pi}{\partial n} = 0 \tag{2}$$

In the taxation equation (1), the first term represents the marginal benefit of a tax increase, $t$, in that it increases government revenue proportional to firm profits. The second term represents the marginal costs of the tax increase, in that it discourages future investments. In the antitrust equation (2), the first term again represents the marginal benefit of increasing the number of firms, $n$, because consumer surplus is increasing in $n$. The second term represents the marginal cost of increasing the number of firms, because profits are decreasing as the number of firms increases.[6]

To see the full equation for antitrust, we can plug equation 1, $t = \frac{\Pi}{2k}$, into equation 2.[7]

$$\frac{\partial V_g(t,n)}{\partial n} = B + \frac{(1-c)^2(1-n)}{(n+1)^2} = 0 \tag{3}$$

The second order condition is:[8]

$$\frac{\partial^2 V_g(t,n)}{\partial n^2} = \frac{-(1-c)^2}{(n+1)^2} + \frac{2(1-c)^2(n-1)}{(n+1)^3} \tag{4}$$

To compute the effect of political institutions, $B$, on antitrust policy, $n$, we use the

[6]Profits converge to zero as the number of firms grow.

[7]That is, $\frac{\partial V_g(t,n)}{\partial n} = B\frac{n(1-c)^2}{(n+1)^3} + \frac{n(1-c)^4(1-n)}{(n+1)^5} = 0$. This simplifies to equation 3.

[8]This expression is less than 0 as long as $\frac{(1-c)^2}{(n+1)^2} > \frac{2(1-c)^2(n-1)}{(n+1)^3} \implies n < 3$. If $n > 3$, we would have a corner solution. In this case, the government's marginal cost to antitrust law is negative and increasing more quickly than the marginal benefit is decreasing. This means the marginal benefit overwhelms the marginal cost and the government would strengthen competition law and increase the number of $n$ as much as possible in this corner solution.

implicit function theorem.

**Proposition 1.** *Increasing the government's weight on consumer welfare has the following effects:*

*1. It increases the provision of antitrust policy, increasing $n$.*

*2. It reduces firm profits.*

*3. It reduces the optimal tax rate.*

*Proof.* For 1, use the implicit function theorem. The derivative of the government's antitrust FOC is $\frac{\partial^2 V_g(t,n)}{\partial n \partial B} = 1$. The SOC is negative, so the overall effect is positive. For 2, see the effect of an increase in $n$ on total profits. Profits are $\frac{n(1-c)^2}{(n+1)^2}$. The derivative of profits with respect to $n$ is negative ($\frac{(1-n)(1-c)^2}{(n+1)^3}$), as long as $n > 1$. For 3, the optimal tax policy is $t = \frac{\Pi}{2k}$, which decreases when $\Pi$ decreases. □

In sum, we should observe a weakening of antitrust policy accompanied by an increase in corporate taxation as countries become more authoritarian. Put simply, authoritarian governments are more willing than democratic governments to offer weak antitrust, especially as it allows them to raise revenue through taxation.

*Limitations.* The model is highly stylized and simplified, which induces several limitations. First, there are markets where firms form cartels and are able to elevate prices. Adding an additional firm to the cartel may not have competitive effects. Absent cartels or coordination of market strategies however, the expectation is that adding more firms to a market will make the marketplace more competitive.

Second, we model autocracies and democracies as differing only in their weights on consumer welfare. There are plausibly other differences that could be relevant here. Democracies may also place higher value on liberal market competition, and authoritarian governments may prefer to use intervention in the economy to pick winners and support their regime. Democratic governments may also have effective institutional protections in place that pre-

vent them from implementing biased policies, which would otherwise privilege individual firms with political connections. These alternatives are largely consistent with the logic of the formal model and would motivate similar insights. We retain the Cournot model in the text, as we want to display the microfoundations for competition, prices, and consumer effects.

In the Appendix, we formalize an alternative model that emphasizes the government's preference for biased policies. We assume that increasing antitrust policy improves economic performance overall but harms politically connected firms, as they would typically benefit from biased policies, which are ruled out by unbiased interpretations of antitrust law (which yields competition for all). In this model, authoritarian leaders value these politically-connected firms, relative to overall economic performance, more than democratic leaders do. The model in the Appendix emphasizes the tradeoff between revenue from growing markets versus from taxing politically connected firms, which is an alternative mechanism that provides an explicit connection to the seminal literatures on revenue and political institutions (Olson, 1965; Levi, 1988) and on particularist policy benefits for politically connected firms in autocracy (Menaldo, 2016; Betz and Pond, 2023*b*).

*Historical examples.* The historical record provides many examples of governments offering weak competition policies or even monopoly rights in exchange for revenue, especially in undemocratic settings. In 1600, the British government granted the East India Company monopoly rights over trade between England and modern India and China. When the monopoly was set to expire, the Company secured an extension by providing revenue to the government, as well as lobbying and bribes: "To seal the deal and prevent future competitive challenges, the East India Company extended a 3.2 million pound loan to the British Treasury, which, in exchange, again granted the monopoly of trade" (Zingales, 2017, 117).

Similar deals were struck in the banking sector in Mexico. Under President and General

Porfirio Díaz, bankers were offered high returns in exchange for agreeing to operate a bank and to provide loans to the government.[9] The bankers benefited from the large profits they enjoyed, politicians benefited from having a capital pool they could tap into when needed, and citizens paid the cost. In sum:

> *"Díaz and Mexico's financiers crafted a set of institutions designed to coaxe capital into the banking system by systematically limiting competition. The rents generated by this system of segmented monopolies were then split between the bankers..., bank minority shareholders..., the government (which obtained access to low interest loans), and the individuals in control of the government... Everyone outside this coalition—which is to say the vast majority of Mexican population—was left out in the cold, with no political voice, no credit, and limited opportunities for economic mobility."* (Calomiris and Haber, 2014, 332)

These examples are consistent with several assumptions and findings in the model. First, the absence of antitrust policy – and indeed the active creation of monopolies – increased profits for those with political connections, while consumers and the aggregate economy suffered. Second, these heightened profits benefited both the politically connected bankers and the politicians, who were able to finance their expenditures. Third, the policy exchange, competition for transfers, took place under authoritarian institutions.

While historically these sorts of agreements are common, they are hard to locate in the contemporary period. This is plausibly because politicians have an incentive to hide unpopular and inefficient policies. Citizens widely recognize the benefits of a competitive market, so politicians must obscure their support for non-competitive policies (Kono, 2006). Accordingly, although we do not expect to observe politicians loudly proclaiming their support for un-competitive policies, their support should nevertheless be captured in contemporary

[9]Monopoly rights for the bank also ensured that the government could not selectively steal from banks. A concentrated banking industry could punish the government for expropriation.

market outcomes. In the next section, we examine the extent to which this pattern endures in the present era and the extent to which it is reflected beyond trade and financial sector policies. We assess whether politicians, especially those who come to power under undemocratic political institutions, create barriers to competition and in exchange receive increased revenues.

## Cross-national Data

The theory anticipates that governments trade-off transfers for market competition. They are more willing to make this trade in authoritarian countries, as governments are thought to value consumer welfare and competitive markets less. To assess the theoretical predictions, we first draw on firm-level, cross-national, time-series data to capture competition, corporate tax revenue, and the level of representation. We expect to observe competitive markets where governments introduce and enforce pro-competition policies.

Our dependent variable is the extent of competition and antitrust in the country. We draw on two different measures. We first use the Herfindahl–Hirschman index (HHI) of market concentration, calculated for each industry. The index is calculated by summing up the value of the market share for each firm operating in each industry, at the 4-digit NACE level.[10] We log the HHI to reduce the effect of extreme values. We expect that industries will be allowed to grow more concentrated when firms, operating in the industry, provide substantial tax revenue – particularly in more authoritarian countries. The HHI and all firm-level variables detailed below are calculated using data from the Orbis Historical Database.[11] Concentration varies at the industry-level.

Our second dependent variable is logged firm size, as captured by the firm's total

[10]This level of aggregation differentiates for example between (2331) the manufacture of ceramic tiles and flags and (2332) the manufacture of ceramic bricks, tiles and construction products, in baked clay.

[11]We thank Timm Betz for essential help in collecting and cleaning the data. The data was accessed through the license purchased by the Technical University in Munich.

assets. We expect that firms, which provide substantial revenue, will be allowed to grow larger, especially in more authoritarian countries. This variable varies at the firm-level.

Our independent variables of interest must capture corporate taxation and the extent of autocracy. To measure corporate taxation, we use the logged total taxes paid by businesses. The variable is larger for firms that are more important sources of government revenue. Because we expect the effect of corporate taxation on competition and antitrust to depend on political institutions, we also require a measure of authoritarianism in each country. We draw on the Polity2 data from Marshall, Jaggers and Gurr (2017). Since our theory is about less representative institutions, we use the inverted Polity2 score, the autocracy score. We interact the autocracy score with tax revenue, as we expect to observe a stronger, negative association between tax revenue and competition in more authoritarian countries.

We control for several, potentially confounding factors. First, we include the profit margin and the logged number of employees of the firms, as larger firms plausibly earn higher profits and pay more tax revenue. We also control for state capacity, using the Quality of Government indicator from the International Country Risk Guide (ICRG), as a stronger state has a greater ability to tax firms and to enforce regulations, and democracies frequently have more state capacity. Third, we control for domestic economic conditions: market size (logged GDP), wealth (GDP per capita), the annual growth rate, and unemployment (all economic variables are from the World Bank, World Development Indicators). We expect that a wealthier state has more resources to enforce regulations. We also expect that economic conditions affect tax revenue and antitrust, as governments may approve mergers or refrain from antitrust enforcement to stave off business failure and stimulate economic activity (Hylton and Lin, 2010).

We also include country fixed effects, which account for time-invariant, country specific effects, and industry fixed effects at the 4-digit level (NACE). Industry fixed effects account for differences in industry, like returns to scale, which could be related to firm size, market

concentration, profits, and tax revenue. Moreover, if democracy affects industrial development (Nunn, 2007), industry could be related to political institutions. We also include year fixed effects, which provide for a flexible time trend and control for shared shocks to antitrust, political institutions, and taxation over time. We cluster standard errors by country.

Once merged, our data includes over 22 million observations from 127 countries from 1992 to 2017. Our theory anticipates that governments may be more willing to accept weak competition if they are compensated through revenue. This trade-off should be more pronounced in countries with less representative institutions. To evaluate our theoretical expectations, we conduct linear regression and interact corporate taxation with autocracy.

**Results**

Table 1 reports the estimates of the relationship between taxation and antitrust conditional on regime type. Odd columns include firm-level controls, while even columns add the set of country-level controls. In columns (1) and (2), the dependent variable is log industrial concentration. In (3) and (4), the dependent variable is log firm size (total assets).

From columns (1) to (4), the taxation measure and its interaction with the autocracy variable are statistically significant and positive. The results suggest that an increase in corporate tax revenue is associated with an increase in industrial concentration and an increase in firm size *and* the effects increase in countries with more authoritarian political institutions. Drawing on column (2) and (4), we illustrate the marginal effects of corporate tax revenue across the autocracy scores in Figure 1. Consistent with our expectations, the marginal effects on industrial concentration and firm size increase in more authoritarian countries.

In democratic countries where the autocracy score is smaller than -8.5, an increase in corporate tax revenue is associated with a decrease in industrial concentration. This effect reverses as political institutions become more autocratic, and corporate tax revenue is associated with more concentrated industries. In countries with the autocracy score larger than

Table 1: Corporate Taxation and Competition Policy Enforcement

| | Concentration | | Firm Size | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Log tax | .0042*** | .0023** | .59*** | .59*** |
| | (.0016) | (.0012) | (.10) | (.10) |
| Log tax × autocracy score | .00062*** | .00037*** | .021** | .021** |
| | (.00019) | (.00013) | (.011) | (.011) |
| Autocracy score | -.012 | -.012 | -.16* | -.16* |
| | (.016) | (.012) | (.083) | (.095) |
| State capacity | | .093 | | .39 |
| | | (.14) | | (.24) |
| Log GDP | | -.088 | | 1.88*** |
| | | (.23) | | (.60) |
| GDP per capita | | -.024 | | -1.26** |
| | | (.22) | | (.52) |
| Growth | | .0046*** | | .016* |
| | | (.0016) | | (.0085) |
| Unemployment | | .0020 | | .010* |
| | | (.0018) | | (.0052) |
| Profit margin | -.000083 | -.000098* | -.0055*** | -.0055*** |
| | (.000056) | (.000053) | (.0019) | (.0019) |
| Log number of employees | .0016** | .00094 | .59*** | .59*** |
| | (.00079) | (.00070) | (.033) | (.033) |
| Constant | 11.2*** | 12.4*** | 5.30*** | -27.6*** |
| | (.13) | (3.62) | (.79) | (10.0) |
| Number Obs. | 22774046 | 22587047 | 22760676 | 22573764 |
| Number Countries | 127 | 111 | 127 | 111 |
| Country fixed effects | yes | yes | yes | yes |
| Year fixed effects | yes | yes | yes | yes |
| Industry fixed effects | yes | yes | yes | yes |

Robust standard errors in parentheses, clustered by country: $^{*}$ $p < 0.05$, $^{**}$ $p < 0.01$, $^{***}$ $p < 0.001$. The level of analysis is the firm-year. In columns (1) and (2), the dependent variable is log industrial concentration at the 4-digit level. In (3) and (4), it is log firm size (total assets).

0, an increase in corporate tax revenue significantly correlates with an increase in industrial concentration. The results in more authoritarian countries accord with our theoretical expectations, but our theory did not predict the negative association between tax revenue and concentration in democratic countries. This negative association could be explained by policy motives in democracy: In democracy, the political opposition has an incentive to identify unpopular policies (like policy privileges for large firms), and democracies may also be better at preventing biased policies and extracting revenue. The result is theoretically and empirically related to state capacity, as democratic countries may be more capable of extracting revenue and limiting market concentration. Indeed the size of the coefficient on tax revenue decreases by over 40 percent when we add the control for state capacity to the model.

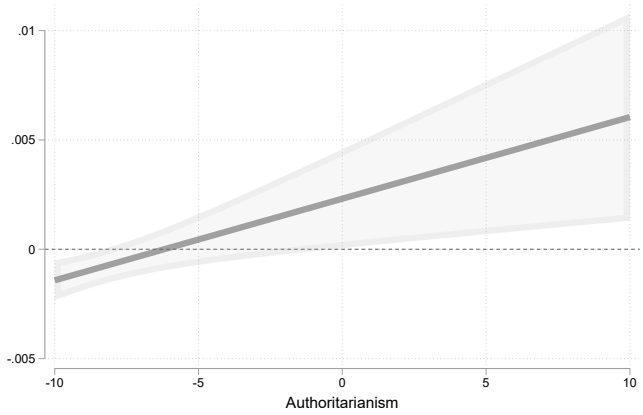
The results for firm size accord more closely with our theoretical expectations. Across countries with democratic and authoritarian political institutions, firms that provide more tax revenue are larger on-average, and the association between revenue and size becomes larger still in more authoritarian countries.

**Robustness**

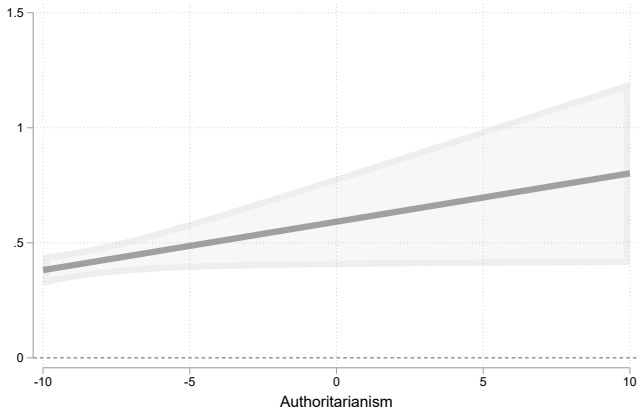
*Errors clustered by industry.* We report results in the Appendix with standard errors clustered by industry. The results remain statistically significant. We leave the errors clustered at the country-level in the main analysis, because this is more conservative and the autocracy score is measured at the country-level.

*Dichotomous autocracy.* We report results drawing on a dichotomous autocracy score. The dummy variable takes a value of one if Polity2 is under six, and it takes a value of zero otherwise. The results are less stable but overall similar. In democracy, tax revenue is associated with less concentrated industries, but the relationship reverses itself in the expected way in autocracies. The results for firm size are similar when using the dichotomous and continuous autocracy measures.

Figure 1: Marginal effects of corporate tax revenue from Table 1




(Column 2) on industry concentration




(Column 4) on firm size

*Within autocracy.* Our argument assumes that autocratic regimes are more willing to trade competition for revenue than democracies. This can be more true for some types of autocracy (multi-party autocracy) than others (military and one-party autocracies). In the Appendix, we report the heterogeneous interaction effects depending on the types of autocracy.

*National measures.* Our main results relied on firm-level taxation and market outcomes to measure concentration and firm size. In the Appendix, we report the results of similar empirical models in Table 1 but replace the variables with country-level measures of the extent of antitrust. We report associations with both the Effectiveness of Antimonopoly Policy (EAP) from the World Economic Forum and Competition Law Index (CLI) from Bradford et al. (2019).[12] The direction of the associations is consistent with the theory but fails to consistently reach statistical significance.

The association with the CLI is only significant without country fixed effects in the model. This is a de jure measure of legal competition or antitrust law. Like many other legal measures it lacks substantial within country variation over time, and thus country fixed effects explain much of the variation in the index. The EAP measure alternatively gains significance when country fixed effects are in the model, suggesting that there are many differences between how countries implement antimonopoly policy, which are not captured by the polity score. However, within countries, firm executives plausibly take notice when the government's policy stance changes (even if the laws have changed little).

[12]See https://reports.weforum.org/global-competitiveness-index-2017-2018/downloads/ for the WEF measure. We use one of the survey questions to capture the Effectiveness of Antimonopoly Policy (EAP): "In your country, how effective are anti-monopoly policies at ensuring fair competition?" The respondents rate the effectiveness from 1 (not effective at all) to 7 (extremely effective).

# Within Country Analysis from Turkey

We now turn to a within-country analysis that allows us to explore variation in antitrust and competition, as it relates to political institutions. Looking at competition within a single country holds many potentially confounding factors constant. This is important, as enforcement can vary dramatically across countries, even among those with similar legal institutions (Arslan, 2021).

We select Turkey as our country of interest for various reasons. First, Turkey has substantial variation in its political institutions in recent years. Its authoritarianism score (the reversed Polity2 score) decreased from negative seven to negative nine in 2011, indicating movement towards greater democratization. Then, Turkey experienced a dramatic increase in authoritarianism moving from negative nine to negative three in 2014 and then moving further from negative three to positive four in 2016, as Turkey's President Recep Tayyip Erdogan suppressed dissent. In terms of the binary concept, these authoritarianism scores correspond to movement from democracy to autocracy in 2014. Figure 2 displays Turkey's authoritarianism score over time.

Second, recent reforms in Turkey demonstrate the political importance of antitrust enforcement (Arslan, 2021, 265-266). Although the competition authority had previously been relatively independent of political oversight, President Erdogan has reformed the structure of the agency to increase his influence on policy. In 2005, he reduced the number of commissioners. In 2011, he increased the share of commissioners that he appoints, and in 2018, he took the power to appoint all commissioners. He also increased the oversight of the authority by the central ministries (2011), and reduced the independence of the authority by levelling salaries (2012) and allowing less autonomy in hiring (2013). Looking for evidence of political influence in Turkey's antitrust enforcement therefore seems plausible. Increasing political influence with the competition authority may allow politicians to interfere in

competition policy on behalf of politically connected firms, and interference may be facilitated by authoritarian institutions, where there are fewer institutional limits on government authority.

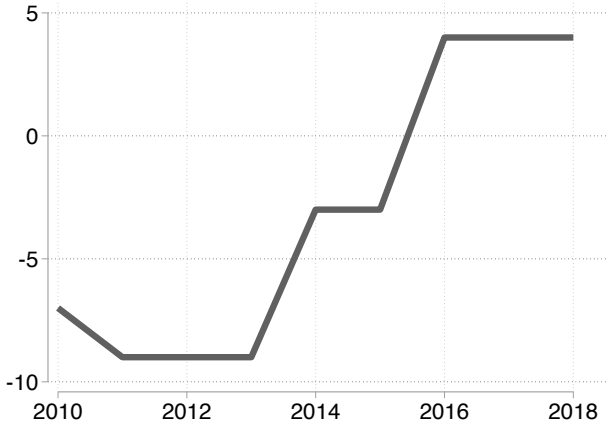


Figure 2: Authoritarianism Score in Turkey

Third, Turkey makes data on the enforcement of antitrust publicly available at the sector level. Turkey reports the number of concluded antitrust investigations in each sector of the economy. Finally, Turkey also has a relatively large economy with detailed firm-level information – including tax data and data on mergers and acquisitions (M&As) – available from Bureau van Dijk's Orbis Database.[13] Looking at M&As is appropriate in Turkey, because the competition authority is explicitly tasked with investigating and approving mergers (Bradford et al., 2019). The law states that firms must notify the competition authority of planned mergers *prior* to the sale. The law also directs the agency to prohibit mergers that would create a dominant position (which is relatively broad and does not require that the prohibition be based on abusive acts by the firm) or that would restrict competition. Based on these legal provisions, we expect that – if the competition authority sought to enforce antitrust laws – stricter enforcement of antitrust law would result in fewer M&As and in M&As that produce less concentration. Turkey thus allows us to assess how antitrust and

[13]www.bvdinfo.com Orbis provides data used commonly in studies using firm-level data. See Beazer and Blake, 2018; Betz, Pond and Yin, 2021; Cory, Lerner and Osgood, 2021.

taxation respond to changes in political institutions, holding many other factors constant.

We collect detailed data from Orbis reporting the completed number of M&A deals, the characteristics of the M&A, and the participating firm characteristics for each firm from 2010 to 2018. We merge the M&A data with the Turkish firm-level database using company name and year as an identifier.[14] We construct two distinct datasets: one at the firm-level and another at the M&A deal-level. The firm-level dataset includes Turkish firms, while the deal-level dataset compiles information on M&A transactions. For the firm-level data, the unit of observation is a firm in a given year, and it is a deal in a given year for the deal-level data. To measure the tax revenue, profits, and employees at stake in the M&A deals for each firm, we take an average of the values reported by the acquirer and target firms. Averaging the firm data helps improve missingness (for example, we have data on the operating revenue of both acquirer and target firms for only 167 firms - see column (6) in Table 3).

We draw on several measures of antitrust and the competitiveness of the market. First, we conduct a firm-level analysis in Turkey. We code a count variable that captures the number of M&A deals that each firm participated in during each year. Second, we look at the character of M&A deals in the deal-level analysis. For each deal, we code a set of variables capturing characteristics of the M&A transaction. Our first dependent variable is the deal size. We then code dummy variables capturing whether the acquiring and target firms are located in the same industry and whether the acquiring firm gains at least 50 percent ownership. We also code the average level of industrial concentration of the acquiring and target firms' industries, and the size difference, which we square, between the acquiring and target firm. We expect that as Turkey became more authoritarian, we should observe weaker antitrust and thus a stronger association between tax revenue and the number of M&As. We should also observe larger M&As, M&As where the acquiring firm gains majority ownership,

[14]The names often do not align perfectly. After cleaning the data and removing common identifiers (e.g., "corp", "inc", "ltd", etc), we use the Stata matchit fuzzy matching package to link the M&A and balance sheet data. We retain observations with a similarity score of over .76.

and M&As in more concentrated industries. We might also observe more M&As with larger size differentials, as regulators do not prevent [hostile] takeovers.

Figure 3 presents the average number of completed M&As (as a share of the total number of firms) and the average number of investigations (as a share of all divisions).[15] Figure 4 presents the share of competition cases by each NACE Section.[16] Our data is at the division level, which is more fine-grained than the section but would be difficult to include in a single figure.

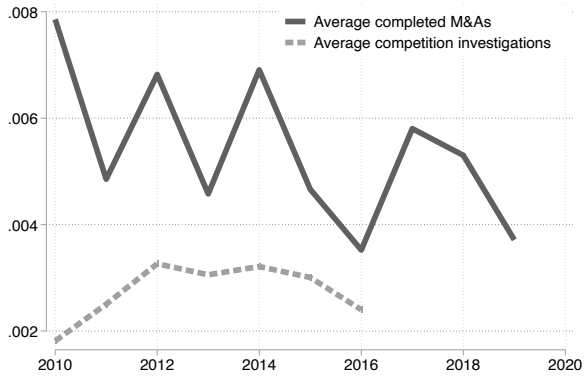



Figure 3: antitrust Enforcement and Firm Activity in Turkey

Figures 3 and 4 demonstrate that M&A activity fluctuates considerably but has probably declined on-average, over time in Turkey. The decline in M&As as Turkey became more authoritarian is on its face inconsistent with a weakening of antitrust. However, the decline could plausibly be explained by the increased difficulty of access to financing. Table 2 reports indicators capturing the availability of finance in Turkey over the period between 2008 and 2019. The table shows that fewer firms are taking out bank loans and using banks to finance investments, and that the value of collateral needed to access loans increased since 2008. In addition, our theory makes nuanced predictions about M&As. The theory anticipates more M&As between firms that provide substantial revenue, as well as differences in the character

[15]Many firms did not engage in M&As and are in industries with no competition cases, making the reported shares low.

[16]Some Sections are omitted for display purposes.

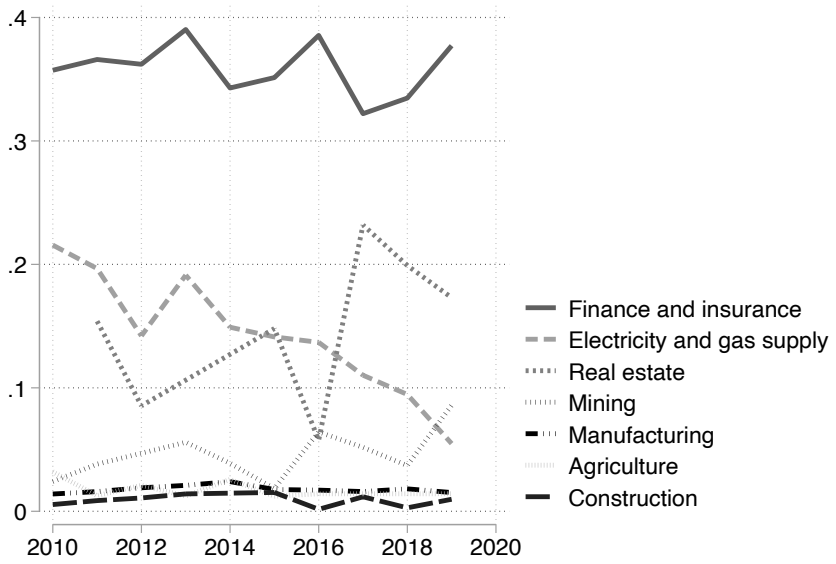



Figure 4: Share of Competition Cases by NACE Section

Table 2: Access to financing in Turkey

| Years | 2008 | 2013 | 2019 |
|---|---|---|---|
| Percent of firms with a bank loan (Indicator code GFDD.AI.03) | 56.8 | 40.4 | 34.8 |
| Percent of firms using banks to finance investments (Indicator code GFDD.AI.28 ) | 51.9 | 45.3 | 28.7 |
| Percent of loan value needed for collateral (Indicator code GFDD.AI.31) | 89.9 | 206.1 | 174.5 |

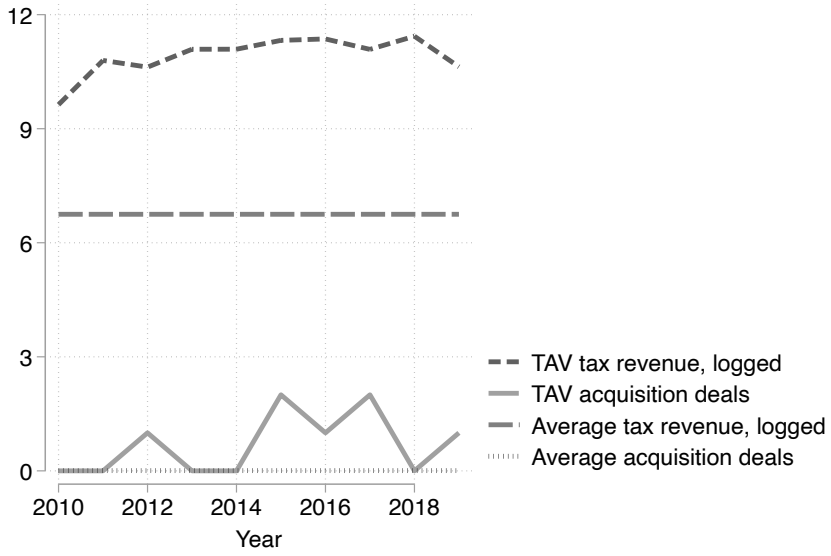
Data are from the Global Financial Development Database.

of M&As. We expect regulators to be more permissive toward firms with substantial revenue benefits, especially allowing M&As that increase market concentration or where the firms are from the same industry. Evaluating these more nuanced predictions allows us to assess whether the character of competition enforcement has changed as Erdogan strengthened his control over politics, over regulators and over the economy.

In a second analysis, we measure the extent of antitrust using the number of investigations into antitrust infringements reported by the Turkish Competition Authority. The Authority provides the sectoral information about investigations from 2010 to 2017.[17] We

[17] rekabet.gov.tr/en/Sayfa/publications/statistics/decision-statistics

Figure 5: TAV Havalimanlari tax and acquisition activities




hand-code the sectoral information from the Authority to match the widely used 2-digit NACE division code, available from Orbis. We expect industries that are more important sources of tax revenue to have fewer investigations, especially as Turkey's political institutions became more authoritarian. Importantly, we assume here that the investigations represent genuine competition investigations, and we expect political influence to result in fewer investigations of those firms that are important tax revenue sources. If Erdogan is able to wield policy to target his political opposition, we might actually observe more investigations as Turkey became more authoritarian. We thus interpret these regressions as largely suggestive. That said, we do observe a positive association between concentration and competition cases (see column 2 of Table 4), suggesting that on-average more concentrated industries are more likely to be investigated.

Our independent variables of interest again measure the level of tax revenue and the extent of representation. We use taxation, logged (all data from Orbis). In the industry-level analysis of competition authority investigations, we use the average tax revenue from each industry. As before, we use the authoritarianism score (the inverted Polity2 score) to

measure the extent of representation.

To test our theoretical expectations, we again interact the measures of corporate taxation with the authoritarianism score variable. We anticipate that Turkey supervised more competitive markets in years when its political institutions were more democratic. As Turkey's institutions became more authoritarian, we expect to observe that antitrust weakens and competition is less pronounced for firms and industries that provide larger tax payments, indicated by more and larger M&A deal completions in more concentrated industries and fewer antitrust investigations.

We control for potential confounders, including the average profits of the firms that participated in M&As[18] and the average number of employees, logged. We also include year and industry fixed effects to account for trends over time and stable industry effects (e.g., returns to scale).

Two examples provide an illustration of the sorts of activities captured in the data. In the case of the TAV Havalimanlari (airport) Holding Company, we observe high levels of tax revenue and elevated numbers of acquisitions, both relative to the industry average for holding companies.[19] Figure 5 plots the tax revenue and acquisitions of TAV over time. TAV is a Turkish aviation company. The aviation, transportation, and construction industries are thought to be closely connected to Erdogan and have been 'mired in corruption' in recent years.[20] TAV acquired several transport and airport development companies between 2012 and 2019. Importantly, aviation is a sector with high fixed costs, which could pose entry barriers for competitor firms. Traditionally, M&As in industries with high fixed costs are closely scrutinized by regulators. TAV does not seem to have been subject to this scrutiny.

[18] When one firm was missing, we used the values of the other firms participating in the same deal.

[19] This is the industry-average for NACE code 6420.

[20] https://turkishdemocracy.com/news/tdp-asks-fraport-ag-to-clarify-business-operations-in-turkey/ TAV specifically has been associated with providing Erdogan with bribes in exchange for airport concessions: https://nordicmonitor.com/2023/06/insiders-revelation-put-a-spotlight-on-erdogans-huge-wealth-accumulated-through-bribes-and-kickbacks/

Another firm in our sample that engaged in a large number of M&As is Sise ve Cam Fabrikalari (or simply Sisecam). Sisecam is a glass manufacturer and an important source of tax revenue. Sisecam also increasingly pursued M&A deals over the course of Erdogan's rise. Sisecam is owned by Isbank,[21] one of the largest banks operating in Turkey. Isbank in turn is owned about a third by the main opposition party.[22] Erdogan has tried to takeover ownership, but has not yet been successful.[23] The size and importance of Isbank and Sisecam plausibly make them attractive targets. At the same time, Erdogan would not want to jeopardize their functioning – and the tax revenue they provide – by doing anything too disruptive. Tax revenue may thus provide some cover to firms, even those who are not owned by Erdogan supporters.

These examples are merely illustrative of how incentives could play out with respect to a specific firm. We now turn to the data to examine whether these firm's experiences show up in a broader cross-section of firms and industries.

**Results**

Table 3 reports the estimates of the relationship between corporate taxation and antitrust conditional on regime type in Turkey. Column (1) reports the results of the firm-level analysis, and columns (2) to (6) report the deal-level analysis results. The dependent variable in column (1) is the number of M&As that each firm participated in; in column (2), it is the deal size; in column (3), it is the dummy capturing whether the acquirer and target are in the same industry; in column (4), the dependent variable is the dummy for the transfer of majority ownership; in column (5), it is the average industrial concentration of the acquiring and target firms, and in column (6), the dependent variable is the size difference between the acquirer and the target, squared. Note that the constitutive effect of the autocracy score is absorbed by the year fixed effects, as there is no variation in the autocracy score in each

[21] https://www.sisecam.com.tr/en/about-us/history
[22] https://www.isbank.com.tr/en/about-us/ownership-structure
[23] https://www.reuters.com/article/turkey-isbank-erdogan-idUSL8N1WW34D/

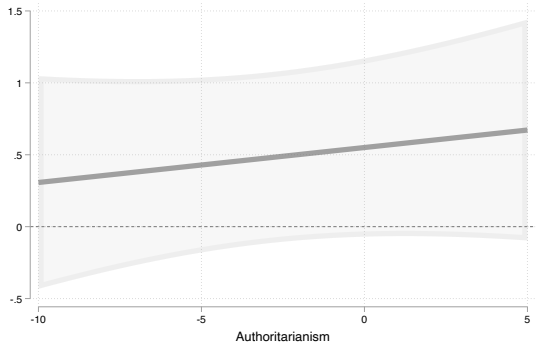
year. We can nevertheless estimate the interactive effect of autocracy and tax revenue.

Although the effects of tax revenue are insignificant on the M&As within the same industry and acquisitions leading to new majority ownership (columns 3 and 4), the coefficients are statistically significant for the number of M&As that the firm engages in (at the 10 percent level), the value of the M&A transaction, the average industrial concentration, and the average size difference (at the five percent level). Furthermore, the estimates of the interaction term are statistically significant in columns 2, 4, and 5. For the remaining results, despite their insignificance, the directions of the coefficients align with our theoretical expectations.

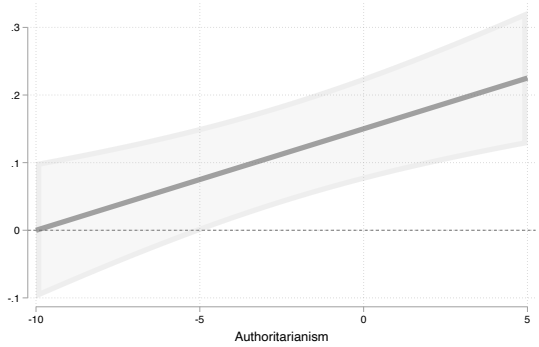
Drawing on these results, we plot the marginal effects of tax revenue in Figure 6. The associations between corporate taxation and different M&A activities become larger as the regime becomes more authoritarian. Especially, in more authoritarian years, the marginal effects of tax revenue become significantly positive for the deal value (column 2), the average industrial concentration (column 5), and the average size difference between acquiring and target firms (column 6). The results suggest that, as Erdogan consolidated his power, firms that provided more tax revenue engaged in higher value transactions, in M&As in concentrated industries, and in deals with counterparts with larger size differences. Additionally, the marginal effects of tax revenue on the acquisition leading to new majority ownership are statistically significant and negative under democratic institutions (column 5): Thus, before Erdogan's presidency, firms with higher tax payments were less likely to make acquisitions to gain new majority ownership. Taken together the results help corroborate the idea that antitrust authorities scrutinized M&As from firms that are important sources of tax revenue less, as Turkey became more authoritarian. The results are consistent with politicians foregoing the benefits of market competition in exchange for tax revenue in countries with less representative political institutions.

Table 4 presents the results for antitrust investigations. The level of analysis is the

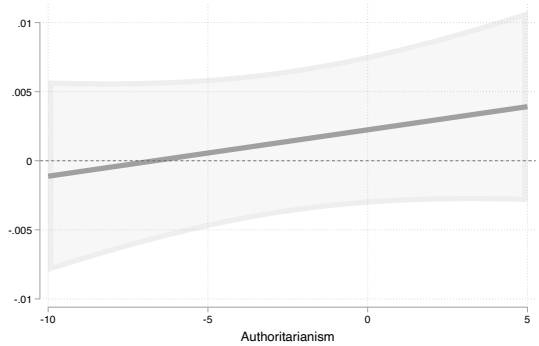
Figure 6: Marginal effects of corporate tax revenue from Table 3



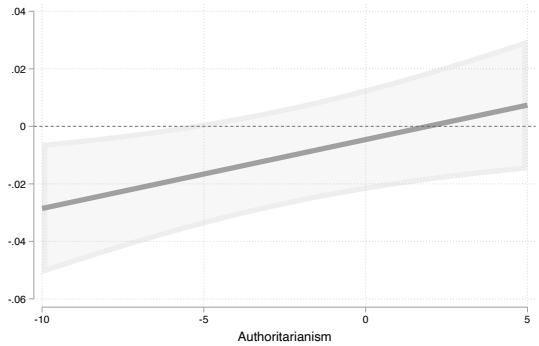

(Column 1) on number of M&As



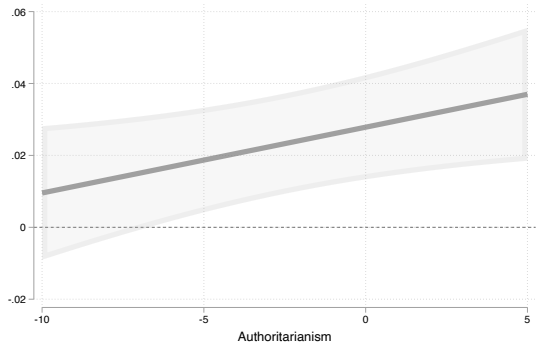

(Column 2) on M&A size



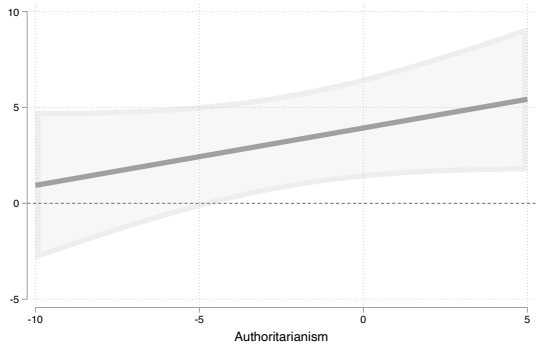

(Column 3) on same industry




(Column 4) on new majority owner




(Column 5) on industry concentration




(Column 6) on size difference

Table 3: Corporate tax revenue and M&As

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| Log tax | .55* | .15*** | .0022 | -.0046 | .028*** | 3.93*** |
| | (.32) | (.039) | (.0028) | (.0091) | (.0074) | (1.34) |
| Log tax × autocracy score | .024 | .015*** | .00034 | .0024** | .0018** | .30 |
| | (.032) | (.0046) | (.00031) | (.0010) | (.00083) | (.20) |
| Log profits | -.58 | .33*** | -.0033 | .034*** | .0078 | -13.8*** |
| | (.45) | (.057) | (.0038) | (.013) | (.010) | (1.50) |
| Log number of employees | -.40 | .13** | .0063 | .0063 | .00060 | .15 |
| | (.44) | (.060) | (.0042) | (.014) | (.011) | (1.65) |
| Constant | 8.93 | 5.46*** | -.012 | -.29 | 7.87*** | 95.6*** |
| | (14.7) | (.82) | (.055) | (.18) | (.15) | (32.8) |
| Number Obs. | 1,535 | 903 | 982 | 982 | 982 | 167 |
| Year fixed effects | yes | yes | yes | yes | yes | yes |
| Industry fixed effects | yes | yes | yes | yes | yes | yes |

Standard errors in parentheses: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. In column (1), the data is run at the firm-level and the dependent variable is the number of M&As. In all other columns, the data is at the M&A deal-level, and the dependent variables by column are: (2) the deal size, (3) a dummy indicating that the acquirer and target are in the same industry, (4) a dummy indicating that the deal was an acquisition leading to a new majority owner, (5) the average industrial concentration of the acquirer and target, and (6) the operating revenue of the acquirer minus the target, squared.

industry-year level. While the coefficient for tax revenue is negatively correlated with investigations, this association does not reach statistical significance. However, the interaction effect is statistically significant and in the expected direction, and its significance persists even after controlling for industrial concentration. This pattern is consistent with tax revenue preventing Turkey's authorities from investigating specific firms. Additionally, the positive association between concentration and investigations suggests that at least on-average the investigations are being pursued for competitive purposes. To further explore this relationship, we graph the marginal effects of corporate tax revenue on competition cases in Figure 7. The marginal effect of tax revenue becomes statistically significant when the authoritarianism score exceeds 1. This implies that as Turkey's political institutions grew more authoritarian, authorities were less inclined to investigate industries that generated higher tax revenues. Taken together, the results suggest that Turkey's authority is neither entirely politicized nor

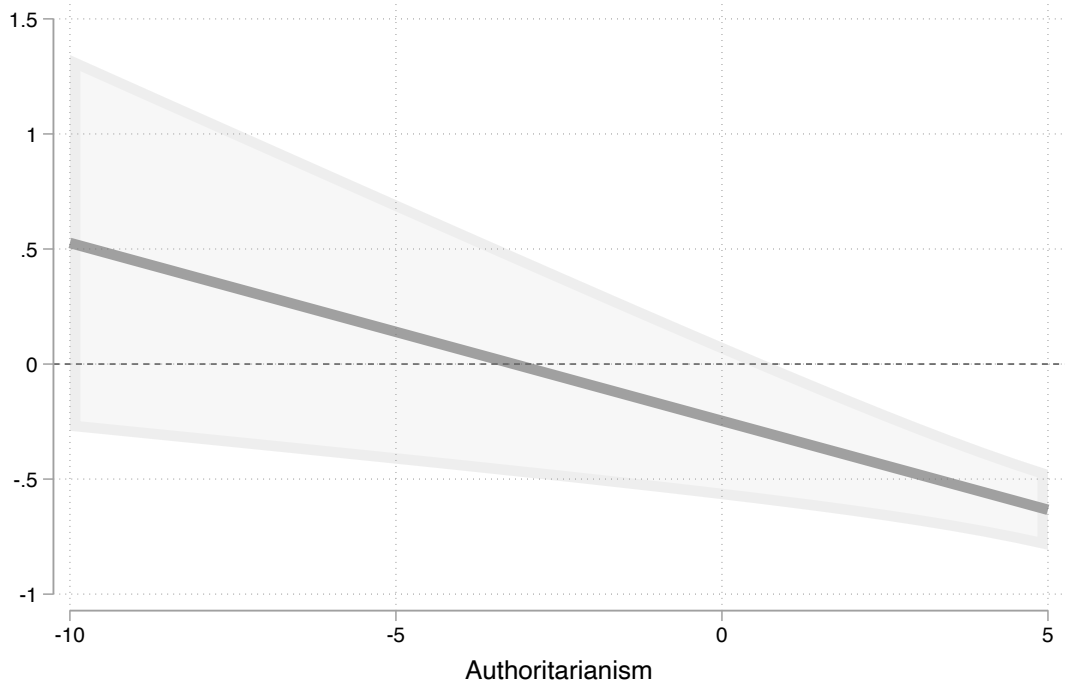
Table 4: Corporate tax revenue and competition cases

| | (1) | (2) |
|---|---|---|
| Log tax | -.17 | -.25 |
| | (.37) | (.37) |
| Log tax × autocracy score | -.070*** | -.077*** |
| | (.025) | (.026) |
| Log profits | -.60 | -.88 |
| | (.62) | (.64) |
| Log number of employees | -.080 | -.22 |
| | (.34) | (.35) |
| Log concentration | | 1.21* |
| | | (.70) |
| Constant | 8.47* | 3.30 |
| | (4.48) | (5.37) |
| Number Obs. | 347 | 347 |
| Year fixed effects | yes | yes |
| Industry fixed effects | yes | yes |

Standard errors in parentheses: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. The dependent variable is the number of competition investigations in each industry-year. Tax, profit, and employee variables are industry averages.

entirely motivated by programmatic objectives: Turkey pursues cases on-average in more concentrated industries. At the same time, it is less likely to investigate firms that provide important sources of tax revenue, and this pattern has become more pronounced as Turkey became more authoritarian.

Figure 7: Marginal effects of corporate tax revenue on cases from Table 4, Column 2




# Conclusion

We argue here that governments are willing to accept lower levels of market competition for firms that provide more important revenue sources. We further argue that this pattern is more pronounced in countries with less representative political institutions, as they plausibly have a greater ability to ignore consumer interests and to intervene in the market in ways that reward their political supporters.

We report three sets of evidence that are consistent with the theory. First, drawing on firm-level datasets across countries and over time, we show that increases in tax revenue are associated with firms operating in more concentrated industries and with larger firms – in non-democratic contexts. Second, drawing on data from Turkey, we show that tax revenue is associated with more M&As, with larger M&As, and with M&As that increase concentration, when Turkey became more authoritarian. Third, we report that Turkish

regulators became less likely to investigate industries that are important sources of tax revenue, as it became more authoritarian. Although merely correlational, these findings are consistent with weaker antitrust and less competition for firms that provide more tax revenue in authoritarian countries.

The results suggest several avenues for future research. First, we stress the need for increased research into the political incentives for antitrust and the broader context in which antitrust policy is made. For example, antitrust was created not only to ensure free and fair markets but also to ensure the persistence of democratic institutions (Wu, 2018). Because large firms operating in concentrated industries have more political influence (Olson, 1965; Hart, 2003; Bombardini, 2008; Osgood, 2018), the risk that firm pressures will dominate politics increases as firms grow. Understanding when politicians will respond to market concentration with increased antitrust emerges as an important question for predicting the durability of political institutions. While some scholars are not optimistic that regulators will be able to wrest political control away from concentrated special interests (Zingales, 2017; Callander, Foarta and Sugaya, 2022, 2024), others expect strengthened antitrust enforcement when it is most needed (Hofstadter, 1964).

Second, revenue considerations are relevant in many policy areas, including antitrust. To the extent that antitrust is studied in political science, we often consider antitrust from the standpoint of competitive markets versus targeted benefits for politically connected firms (Weymouth, 2016). Antitrust also has important revenue effects. Although declining in importance as a share of total revenue, corporate revenue remains an important revenue source, particularly as governments seek to restore lost revenues from international tax competition (Arel-Bundock, 2017) and trade liberalization (Queralt, 2015; Bastiaens and Rudra, 2016; Betz and Pond, 2023*a*). Because market competition may reduce firm profits, it can also undermine revenue collection from corporate taxation. We thus join a broader movement to incorporate revenue considerations into models of policy choice in diverse areas (Flores

and Nooruddin, 2016). The paper also has implications for the literature on the 'middle income trap' (Doner and Schneider, 2016; Goenaga and Hanson, 2024). If a country's inability to grow out of middle income is caused by economic favoritism and limited competition (Acharya, Haber and Lee, 2024), the revenue costs of competitive markets discussed here may further reinforce the trap.

Third, the paper uncovers how the absence of competition allows some firms to grow larger, to earn elevated profits, and to provide larger transfers to the government. However, we do not have clear expectations about which firms receive these benefits. A large literature on political connections would suggest that connected firms may be more likely to receive these benefits (Fisman, 2001; Earle and Gehlbach, 2015; Markgraf and Rosas, 2019; Resimic, 2021; Betz and Pond, 2023*b*). At the same time, the literature on asset mobility suggests that firms may gain influence from their characteristics (Bates and Lien, 1985; Oatley, 1999; Boix, 2003; Kerner and Lawrence, 2014; Pond and Zafeiridou, 2020; Johns and Wellhausen, 2020), and providing revenue may be a lever for gaining political influence – separate from political connections. We leave to future research considerations about which firms receive preferential treatment and the extent to which firms can gain influence from revenue.

Finally, we joined others in arguing that democratic governments value public goods like consumer welfare more highly than authoritarian governments (Mansfield, Milner and Rosendorff, 2000; Lake and Baum, 2001; Bueno de Mesquita et al., 2003; Baker, 2005). Recent evidence has brought this claim into question (Betz and Pond, 2019), especially as individual consumer costs are small and spread throughout the population and citizens are unlikely to vote on consumer costs alone (Guisinger, 2009; Naoi and Kume, 2011; Bearce and Moya, 2020). Moreover, firm influence is likely to counter consumer influence, and democratic governments provide firms with many avenues of political influence (Ehrlich, 2011; Bearce and Roosevelt, 2022). Indeed, citizens in democracy value outcomes like jobs beyond consumer welfare (Short, 2022), and authoritarian governments value consumer welfare, as

consumption affects protest behavior (Ballard-Rosa, 2016). Consistent with this latter argument, antitrust policy has targeted price increases of outward facing consumer goods in Russia and China (Avdasheva and Shastitko, 2011; Zhang, 2021). Understanding how political institutions affect consumer and producer influence, especially in the face of inflation and price instability, remains a pressing question for political scientists.

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# Appendix

The following descriptive statistics and robustness checks are reported below for the cross-national data.

1. Table A.1 reports the Summary Statistics for the variables used in Table 1.

2. Table A.2 reports results from the main model with errors clustered at the 4-digit industry level.

3. Table A.3 replicates the main results using a dichotomous measure of democracy.

4. Table A.4 replicates the main results using a categorical measure of different types of autocracy. We use the measurement of autocratic regime types from Hadenius and Teorell (2007); Wahman, Teorell and Hadenius (2013). Democracy is the excluded category. Multi-party regime shows consistent findings with our expectations: An increase in corporate tax revenue in multi-party regime is associated with higher levels of industrial concentration and firm size than democracy. On the contrary, corporate tax revenue is negatively associated with industrial concentration in military regime, and negatively correlates with firm size in one-party autocracy. The interaction results for anti-monopoly index achieve statistical significance in the model without the country-level control variables with the expected direction.

5. Table A.5 reports results from the analysis using cross-national data and national measures of competition policy. In columns (1) through (3), the dependent variable is the EAP measure of perceptions of anti-monopoly index, and the tax variable captures de facto (realized) tax revenue from the World Bank WDI. In columns (4) through (6), the dependent variable is the competition law measure, and the tax variable captures de jure (legal) tax rates from KPMG.

The following descriptive statistics are reported below for the data from Turkey.

1. Table A.6 reports the Summary Statistics for the variables used in column 1 of Table 3.

2. Table A.7 reports the Summary Statistics for the variables used in columns 2 to 5 of Table 3.

3. Table A.8 reports the Summary Statistics for the variables used in Table 4.

Table A.1: Summary statistics

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Year | 22774046 | 2009.65 | 5.83 | 1980 | 2017 |
| Log HHI | 22774046 | 4.9 | 1.22 | 2.02 | 10.98 |
| Log total assets | 22760676 | 13.53 | 2.72 | 0 | 28.61 |
| Log tax | 22774046 | 9.09 | 2.79 | 0 | 25.09 |
| Autocracy score | 22774046 | -8.59 | 2.62 | -10 | 10 |
| Profit margin | 22774046 | 6.85 | 17.62 | -100 | 100 |
| Log number employees | 22774046 | 2.4 | 1.71 | 0 | 20.29 |
| State capacity | 22639203 | .66 | .19 | .19 | 1 |
| Log GDP | 22730297 | 27.56 | 1.34 | 21.14 | 30.78 |
| GDP per capita | 22730297 | 10.2 | .39 | 6.19 | 11.77 |
| Growth | 22742870 | 1.77 | 2.98 | -30.15 | 33.74 |
| Unemployment | 22721593 | 8.1 | 4.1 | .12 | 37.25 |

Table A.2: Taxation and competition, errors clustered at 4-digit industry level

| | Concentration | | Firm Size | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Log tax | .0042* | .0023 | .59*** | .59*** |
| | (.0022) | (.0020) | (.012) | (.012) |
| Log tax × autocracy score | .00062*** | .00037* | .021*** | .021*** |
| | (.00024) | (.00021) | (.0011) | (.0011) |
| Autocracy score | -.012 | -.012 | -.16*** | -.16*** |
| | (.014) | (.012) | (.010) | (.012) |
| State capacity | | .093 | | .39*** |
| | | (.13) | | (.065) |
| Log GDP | | -.088 | | 1.88*** |
| | | (.20) | | (.12) |
| GDP per capita | | -.024 | | -1.26*** |
| | | (.19) | | (.12) |
| Growth | | .0046** | | .016*** |
| | | (.0020) | | (.0013) |
| Unemployment | | .0020 | | .010*** |
| | | (.0020) | | (.0012) |
| Profit margin | -.000083 | -.000098 | -.0055*** | -.0055*** |
| | (.000089) | (.000089) | (.00045) | (.00045) |
| Log number of employees | .0016 | .00094 | .59*** | .59*** |
| | (.0011) | (.0011) | (.014) | (.014) |
| Constant | 11.2*** | 12.4*** | 5.30*** | -27.6*** |
| | (.11) | (3.22) | (.14) | (1.86) |
| Number Obs. | 22774046 | 22587047 | 22760676 | 22573764 |
| Number Countries | 127 | 111 | 127 | 111 |
| Year Dummies | yes | yes | yes | yes |
| Country Dummies | yes | yes | yes | yes |
| Industry Fixed Effects | yes | yes | yes | yes |

Robust standard errors in parentheses, clustered by 4-digit NACE industry code: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. In columns (1) and (2), the dependent variable is log industrial concentration (Herfindahl Index), at the 4-digit level. In (3) and (4), the dependent variable is log firm size (total assets).

Table A.3: Taxation and competition, dichotomous measure of autocracy

| | Concentration | | Firm Size | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Log tax | -.0019*** | -.0015*** | .38*** | .38*** |
| | (.00053) | (.00043) | (.031) | (.031) |
| Log tax × autocracy dummy | .0047*** | .0032*** | .19*** | .19*** |
| | (.00060) | (.00080) | (.027) | (.027) |
| Autocracy dummy | -.15*** | -.10*** | -1.41*** | -1.48*** |
| | (.032) | (.040) | (.20) | (.26) |
| State capacity | | .060 | | .35 |
| | | (.14) | | (.26) |
| Log GDP | | -.060 | | 1.94*** |
| | | (.22) | | (.65) |
| GDP per capita | | -.0074 | | -1.33** |
| | | (.20) | | (.53) |
| Growth | | .0038** | | .013 |
| | | (.0017) | | (.0081) |
| Unemployment | | .0022 | | .0085* |
| | | (.0018) | | (.0050) |
| Profit margin | -.000071 | -.000088* | -.0053*** | -.0053*** |
| | (.000053) | (.000052) | (.0019) | (.0019) |
| Log number of employees | .0015* | .0010 | .59*** | .59*** |
| | (.00076) | (.00066) | (.032) | (.032) |
| Constant | 11.3*** | 11.7*** | 7.01*** | -26.5** |
| | (.030) | (3.52) | (.28) | (10.6) |
| Number Obs. | 22774046 | 22587047 | 22760676 | 22573764 |
| Number Countries | 127 | 111 | 127 | 111 |
| Year Dummies | yes | yes | yes | yes |
| Country Dummies | yes | yes | yes | yes |
| Industry Fixed Effects | yes | yes | yes | yes |

Robust standard errors in parentheses, clustered by 4-digit NACE industry code: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. In columns (1) and (2), the dependent variable is log industrial concentration (Herfindahl Index), at the 4-digit level. In (3) and (4), the dependent variable is log firm size (total assets).

Table A.4: Taxation and competition, categorical measures of different types of autocracy

| | Concentration | | Firm Size | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Log tax | -.0024*** | -.0018** | .36*** | .36*** |
| | (.00083) | (.00081) | (.030) | (.030) |
| Log tax × Military | -.0036 | -.0047* | .041* | .044* |
| | (.0022) | (.0027) | (.024) | (.023) |
| Log tax × One-party | .00038 | .00012 | -.055* | -.057* |
| | (.0034) | (.0037) | (.031) | (.032) |
| Log tax × Multi-party | .0031*** | .0016* | .17*** | .17*** |
| | (.00063) | (.00090) | (.021) | (.021) |
| Log tax × Other | -.018*** | -.018*** | -.015 | -.014 |
| | (.0033) | (.0031) | (.022) | (.023) |
| Military | .10*** | .11*** | -.33 | -.31 |
| | (.013) | (.014) | (.37) | (.42) |
| One-party | .33*** | 0 | 1.05** | 0 |
| | (.12) | (.) | (.48) | (.) |
| Multi-party | -.00024 | -.017 | -1.35*** | -1.32*** |
| | (.030) | (.029) | (.18) | (.18) |
| Other | .45*** | .45*** | .61** | .68** |
| | (.060) | (.061) | (.24) | (.26) |
| State capacity | | .12 | | .53*** |
| | | (.12) | | (.19) |
| Log GDP | | -.16 | | 2.08*** |
| | | (.26) | | (.54) |
| GDP per capita | | .029 | | -1.44*** |
| | | (.26) | | (.53) |
| Growth | | .0036** | | .0058 |
| | | (.0015) | | (.0062) |
| Unemployment | | .0021 | | .0062 |
| | | (.0023) | | (.0055) |
| Profit margin | -.000029 | -.000049 | -.0049** | -.0049** |
| | (.000079) | (.000076) | (.0022) | (.0022) |
| Log number of employees | .0026*** | .0019** | .61*** | .61*** |
| | (.00094) | (.00096) | (.033) | (.033) |
| Constant | 11.6*** | 13.8*** | 7.19*** | -28.8*** |
| | (.047) | (3.95) | (.27) | (8.20) |
| Number Obs. | 17090197 | 16915629 | 17083634 | 16909109 |
| Number Countries | 137 | 113 | 137 | 113 |
| Year Dummies | yes | yes | yes | yes |
| Country Dummies | yes | yes | yes | yes |
| Industry Fixed Effects | yes | yes | yes | yes |

Robust standard errors in parentheses, clustered by country: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. In columns (1) and (2), the dependent variable is log industrial concentration (Herfindahl Index), at the 4-digit level. In (3) and (4), the dependent variable is log firm size (total assets).

Table A.5: Taxation and competition, cross-national measures of competition policy

| | Anti-monopoly | | | Competition Law | | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Corporate tax × autocracy score | -.0040*** | -.0023*** | .00030 | -.00040 | -.00012 | -.00078*** |
| | (.0010) | (.00076) | (.00071) | (.00037) | (.00040) | (.00026) |
| Corporate tax, actual | -.016** | -.0049 | .0086 | | | |
| | (.0071) | (.0060) | (.0061) | | | |
| Corporate tax, legal | | | | -.0025 | -.0051 | -.0047*** |
| | | | | (.0035) | (.0034) | (.0017) |
| Autocracy score | .029* | .037*** | .012 | -.0092 | -.014 | .015 |
| | (.017) | (.011) | (.025) | (.013) | (.014) | (.0096) |
| State capacity | | 3.33*** | 1.19 | | .044 | .097 |
| | | (.22) | (.79) | | (.20) | (.17) |
| Log GDP | | .064** | 1.48*** | | .047*** | .098 |
| | | (.029) | (.35) | | (.018) | (.072) |
| GDP per capita | | -.073 | -.65 | | .0100 | .017 |
| | | (.050) | (.41) | | (.040) | (.11) |
| Growth | | .0049* | .0038* | | -.0065 | -.00077 |
| | | (.0029) | (.0019) | | (.0053) | (.0011) |
| Unemployment | | -.0010 | -.019** | | -.00040 | .00016 |
| | | (.012) | (.0093) | | (.0061) | (.0031) |
| Constant | 3.99*** | 1.24* | -28.2*** | .48*** | -.74 | -2.13 |
| | (.15) | (.65) | (6.19) | (.12) | (.56) | (1.72) |
| Number Obs. | 1,457 | 1,254 | 1,254 | 777 | 731 | 731 |
| Number Countries | 141 | 121 | 121 | 100 | 93 | 93 |
| Year Dummies | yes | yes | yes | yes | yes | yes |
| Country Dummies | no | no | yes | no | no | yes |

Robust standard errors in parentheses, clustered by country: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. The analysis is at the country level. In columns (1) through (3), the dependent variable is the EAP Anti-monopoly Policy Score. In columns (4) through (6), the dependent variable is the Comparative Competition Law Index (Bradford et al., 2019).

Table A.6: Summary statistics

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Year | 1535 | 2014.18 | 2.55 | 2010 | 2018 |
| Number of M&A deals | 1535 | 1.44 | 14.49 | 0 | 450 |
| Log tax | 1535 | 6.91 | 2.22 | -1.33 | 13.18 |
| Autocracy score | 1535 | -2.79 | 5.5 | -9 | 4 |
| Log profits | 1535 | 9.82 | 2.09 | .52 | 15.48 |
| Log number of employees | 1535 | 5.86 | 1.95 | 0 | 10.53 |

Table A.7: Summary statistics

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Year | 982 | 2014.14 | 2.52 | 2010 | 2018 |
| Deal size | 903 | 7.75 | 2.13 | -.11 | 14.53 |
| Deal in the same industry | 982 | .01 | .12 | 0 | 1 |
| Acquisition for a new onwership | 982 | .23 | .42 | 0 | 1 |
| Average industrial concentration | 982 | 7.44 | 1 | 5.24 | 9.2 |
| Average size difference (squared) | 167 | 24.5 | 33.01 | 0 | 156.04 |
| Log tax | 982 | 6.44 | 2.69 | -.69 | 13.16 |
| Autocracy score | 982 | -3.16 | 5.49 | -9 | 4 |
| Log profits | 982 | 9.24 | 2.41 | 1.57 | 15.48 |
| Log number of employees | 982 | 5.43 | 2.32 | 0 | 10.53 |

Table A.8: Summary statistics

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Year | 347 | 2013.48 | 2.27 | 2010 | 2017 |
| Competition investigation | 347 | 2.41 | 5.23 | 0 | 48 |
| Log tax | 347 | 5.45 | 1.66 | 1.07 | 11.07 |
| Autocracy score | 347 | -4.08 | 5.14 | -9 | 4 |
| Log profits | 347 | 8.77 | 1.31 | 6.31 | 13.35 |
| Log number of employees | 347 | 6.3 | 1.67 | 1.79 | 9.42 |
| Log concentration | 347 | 6.73 | 1.23 | 3.85 | 9.21 |

# Model Appendix

## Alternative model where the mechanism works through growth

We assume that the government's utility function takes the following form,

$$U = (1 - B)y(a) + Bv(a), \tag{5}$$

where $a$ is the government's selection of antitrust policy. The government values aggregate economic performance, $y(a)$, but also the performance of politically connected firms, $v(a)$. In theory, antitrust policy grows the economy, as it facilitates firm entry, increases competition, and allows more products to be produced.[24] Consistent with this interpretation, the value of the economy is positive and increasing in antitrust policy at a decreasing rate, $y(a) > 0$, $\frac{\partial y}{\partial a} > 0$ and $\frac{\partial^2 y}{\partial a^2} < 0$.[25] $B \in [0, 1]$ is the government's bias toward politically connected firms relative to the overall economy. We assume that $B$ is larger in autocracy where governments value firms more than public goods like aggregate economic performance (Lake and Baum, 2001; Bueno de Mesquita et al., 2003).

We define the utility of politically connected firms in the following way, $v(a) = (1 - t)\pi(a)$, where $\pi(a)$ are their profits and $t$ is the tax rate. The profits of politically connected firms, $\pi(a)$, are assumed to be part of (and thus smaller than) the total economy, $\pi(a) \in (0, y(a))$. We further assume that stronger antitrust policy harms those firms with political connections, who can no longer be protected from competition and cannot be privileged relative to other firms; accordingly, $\frac{\partial \pi}{\partial a} < 0$. We also assume $\frac{\partial^2 \pi}{\partial a^2} < 0$.

In sum, although the economy is harmed on-average by weak antitrust policies where market competition is limited and profits are captured by relatively few firms, those firms that have political connections are likely to benefit.

To capture the government's need for revenue, we simply assume that the government must maintain some level of services to remain in power, which requires a fixed amount of revenue, $R$. Revenue comes from taxation, $t \in [0, 1]$,[26] in the following way $R = ty(a)$.

This is a decision theoretic model, where we explore the decision of the government over both the level of antitrust policy, $a$, and the level of corporate taxation, $t$. The government selects these policies to maximize its utility, given that the revenue constraint is satisfied.

[24] In practice, antitrust policy could shrink the economy if it is implemented in a biased manner; theoretically, we focus on welfare-enhancing antitrust.

[25] We can conceptualize the total economy as the activities of the politically connected firms, $\pi(a)$, and the politically unconnected firms. If so, we assume the benefits of antitrust policies for the unconnected firms overwhelm the costs for connected firms.

[26] This functional form could be motivated by a simple game. For example it would follow if the political opposition only supports the government as long as political transfers are at least as larger as their value from supporting the opposition, $R$. In this case, $R \geq ty(a)$. Because the government will not provide larger transfers than necessary, $R = ty(a)$ in equilibrium. The model abstracts from the negative effects of taxation on investment and assumes that increases in the tax rate increase government revenue.

## Solution

In order to make the maximization problem easier, we plug the performance of politically connected firms and the necessary level of taxation into the government's objective function, $U = (1-B)y(a)+B(1-\frac{R}{y(a)})\pi(a)$. This simplifies the government's problem: the government selects antitrust policy, $a$, to maximize utility, yielding the following first order condition.[27]

$$\frac{\partial U}{\partial a} = \underbrace{\left[1 - B + \frac{BR\pi}{y^2}\right]\frac{\partial y}{\partial a}}_{\text{Marginal benefit}} + \underbrace{B\left[1 - \frac{R}{y}\right]\frac{\partial \pi}{\partial a}}_{\text{Marginal cost}} = 0. \tag{6}$$

The first term captures the marginal benefit of antitrust policy, both for economic growth and for tax revenue, which is a function of economic growth (recall that $\frac{\partial y}{\partial a} > 0$). The second term captures the marginal cost of antitrust policy, which harms politically-connected firms that would benefit from limited competition and market power ($\frac{\partial \pi}{\partial a} < 0$). An interior solution requires that the second order condition be less than zero, which is met given the above assumptions about second derivatives.[28] The associated level of taxation is:

$$t^* = \frac{R}{y(a)}. \tag{7}$$

Because the aggregate economy, $y(a)$, is increasing in antitrust policy, $a$, the equilibrium level of taxation, $t^*$, decreases when antitrust policy is increased.

## Insights

Consistent with existing findings, authoritarian governments have weaker antitrust regulations than democratic governments (Weymouth, 2016), which provides our first result.

**Proposition 2.** *As institutions become less representative, we observe weaker provision of antitrust policy.*

*Proof.* Reductions in representative institutions indicate an increase in $B$. The proof relies on the implicit function theorem. The derivative of the first order condition is always negative: $\frac{\partial U^2}{\partial a \partial B} = \left[-1 + \frac{R\pi}{y^2}\right]\frac{\partial y}{\partial a} + \left[1 - \frac{R}{y}\right]\frac{\partial \pi}{\partial a}$, as $\frac{\partial \pi}{\partial a} < 0$, $\frac{R}{y} < 1$, $\frac{R\pi}{y^2} < 1$ The second order condition is also negative. This results in an overall negative effect of less representative institutions on the equilibrium level of antitrust policy. □

The lower level of antitrust regulation in autocracies also has implications for corporate taxation. Because weaker antitrust policy reduces the size of the aggregate economy, the government also receives smaller aggregate tax payments. For this reason and in order to

[27] For ease of notation, we suppress the argument of the functions, $(a)$, and simply write, $\pi$ and $y$.

[28] SOC is: $\frac{\partial^2 U}{\partial a^2} = \left[1 - B + \frac{BR\pi}{y^2}\right]\frac{\partial^2 y}{\partial a^2} - \left[\frac{BR\pi}{y^3}\right]\left(\frac{\partial y}{\partial a}\right)^2 + B\left[1 - \frac{R}{y}\right]\frac{\partial^2 \pi}{\partial a^2}$. All terms are negative.

nevertheless satisfy the revenue constraint, a reduction in antitrust policy enforcement must be accompanied by an increase in the tax rate.

**Proposition 3.** *As institutions become less representative, we observe increases in the tax rate.*

*Proof.* Because this reduction in antitrust also reduces the size of the economy (recall that $\frac{\partial y}{\partial a} > 0$), it must be accompanied by an increase in taxation to nevertheless meet the political constraint ($R = ty(a)$). □