

Competition and Political Power

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Abstract

A controversial debate in contemporary competition policy is over whether antitrust should be used to protect democracy by limiting the political power of large firms. We address this question by examining the relationship between firm size and political competition. We uncover a dynamic that is missing from this literature—an asymmetry in firm-government relations that facilitates the capture of large firms by politicians. We argue that attempts by antitrust regulators to fight this problem may make it worse.

1 Introduction

A controversial debate in contemporary competition policy is over whether antitrust should be used to protect democracy by limiting the political power of large firms (see Shapiro, 2018; Khan, 2017; Wu, 2018; Crane and Novak, eds, 2023).¹ We address this question by examining the relationship between firm size and political competition. We uncover a dynamic that is missing from this literature—an asymmetry in firm-government relations that facilitates the capture of large firms by politicians. We argue that attempts by antitrust regulators to fight this problem may make it worse.

Our argument has four parts. First, we clarify the scope of our argument by distinguishing the size of corporations from other determinants of political strength, such as market power, industry size, and individual wealth. We argue that “bigness”

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¹This question is not new; see: Chandler (1977); Letwin (1981); Amato (1997); Pitofsky (1979).

is conceptually distinct, and we describe conditions under which large firms are able to use their size to influence political decisionmaking.

Second, we argue that strong democracies are characterized by political competition. We use two game theoretic models of political behavior to provide insights into the kind of behavior that can strengthen and weaken democratic institutions. We then apply these insights to argue that increases in the political power of firms can, under some conditions, strengthen democracy.

Third, we explain how democracy can be threatened by the political power of large firms. This threat arises because an economy with large firms is more susceptible to capture by politicians. We argue that, for several reasons, this is a more severe risk than that of large firms controlling the political system. In part, our argument relies on an asymmetry in the industry-government relationship that we describe.

Fourth, we discuss the role of antitrust regulation, both as it exists now and how it may be changed, in forestalling this threat. We argue that any regulatory response should account of this threat as to minimize the threat of government capture. We discuss some specific alternatives that can be used to limit the threat of bigness. We do not, however, give a definite prescription for future policy, as the objective of this work is to center the debate around the concern of political competitiveness, and to highlight the threat of government capture of large firms.

2 The determinants of firm political power

The political power of a large firm does not necessarily come from its size. The firm may have market power that it can exploit for political ends. It may be part of (or dominate) an industry, the power of which is independent of the size of the firms that comprise it. And it may contribute to the personal wealth of individuals who use their resources for political ends.

Understanding these distinctions is important because our regulatory system is designed to control these determinants in different ways. The market power of firms is controlled, in part, by the antitrust laws, which are enforced by agencies such as the Federal Trade Commission and the Department of Justice. The wealth of individuals, meanwhile, is limited by the tax laws, enforced by the Internal Revenue Service. While there is room for debate as to the optimal structure of this system,² having some division among specialized agencies using technocratic expertise probably makes the regulatory system easier to administer and prevents abuse.

In this section, we discuss four major determinants of the ability of a firm to shape political ends: market power, industry strength, individual wealth, and firm size. For each of these four, we explain how the determinant contributes to political power and how it is currently regulated. We hope that by doing so, we can clarify when size is relevant to a firm's exercise of political power and get a better understanding of how

²If there were no room for debate, this paper would not exist.

the bigness of firms might be regulated.

Before we begin, we make one caveat. Certain forms of regulation are universal in that they apply directly to the exercise of political power and not to the determinant. Chief among these are campaign finance laws that limit the amount that individuals and firms can donate to political campaigns and laws that prohibit bribery and other forms of outright political corruption. Because these laws apply to all political activity, we leave them out of our analysis.

2.1 Market power

Market power is, for our purposes, the ability of firms to raise prices above the competitive level. There are at least two mechanisms through which market power can be leveraged to political advantage. The first of these is the ability to lobby government through the use of the firm’s supercompetitive profits. The second mechanism is through the threat of using its market power if political concessions are not granted; for example, the firm may threaten to withhold a service that it provides.

2.1.1 Lobbying

It has been claimed that firms can extend their market power to the political sphere by using their captured rents to lobby the government for business friendly laws.³ Zingales (2017) describes this phenomenon as the “Medici vicious circle:”

“firms that achieve some market power can lobby (in the broader sense of the term) in a way that ordinary market participants cannot. Their market power gives them a competitive advantage at the influence game: the greater their market power, the more effective they are at obtaining what they want from the political system.”

The extent to which market power translates, in practice, into lobbying is contested; Shahshahani and McCarty (2023), for example, test empirically for such a relationship and find none.

A firm’s investment into lobbying—that is, the expenditure of the costs needed to open an office in Washington, hire professional lobbyists, donate to the right causes, etc.—is like any other business project. The firm will make the investment if its expected advantage from doing so (a certain chance at receiving favorable treatment) is greater than the cost.

As with other business projects, the decision will not depend too much on whether the firm has the cash to make the investment. In a setting with efficient capital

³Firms can also lobby government for laws that align with the private personal needs or political leanings of their shareholders or managers. However, because the ability to engage in this form of lobbying does not generally arise from market power, it is discussed in subsection 2.3, and to a limited extent in subsection 2.4, below.

markets, a firm that is short on cash can, and will, borrow the money it needs for a profitable project. A firm that does not have a profitable project will return the money to shareholders rather than spend it on inefficient lobbying.

Market power changes this dynamic in two ways. First, firms may be more willing to spend cash on hand than to borrow. This is in part because capital markets are not perfectly efficient, and in part because a firm might find it undesirable to return cash to shareholders due to tax considerations. In such an environment firms that gain supracompetitive profits may find it easier to invest in lobbying activity.

Second, firms with market power may get a greater advantage from lobbying. It may be easier to lobby government to protect and extend a monopoly than it is to create it.⁴ Furthermore, market power makes it easier for a business to capture the benefits of a favorable law or regulation. After all, a firm will not lobby for a business friendly rules if the benefits of doing so will be competed away by the firms.⁵

2.1.2 Refusal to provide service if (or unless) law is changed.

A firm may also threaten to cut supply or withhold service if political concessions are not granted. The firm must have market power for the tactic to work; otherwise the threat is unlikely to be particularly effective (as the firm's counterpart will simply buy from another supplier).

For example, a drug company may threaten not to provide a drug unless a certain regulation is enacted. A union may engage in a general strike to prevent the passing of a bill. A large employer may threaten to close a plant unless given a tax credit.⁶ An online communications platform might refuse to share news links to encourage repeal of a law forcing them to compensate news publishers.⁷

It can be difficult to know whether a firm is engaging in this tactic. A firm that threatens to withhold service will often claim that it would be unprofitable to do so, in the absence of the political concessions. The relevant benchmark would be to compare the firm's actions with what it would have done had there been no chance of

⁴See Baker (2017), which states that “firms and industries can secure long-lasting political power through their size and lobbying influence,” and “market power may give firms the resources to create and exploit political power, which they may use to protect or extend their economic advantages and then invest some of the resulting rents to extend their political power.”

⁵Some empirical evidence for this claim is provided by Cowgill et al. (2023), which provides a testable model in which monopolists have stronger incentives to lobby than do duopolists due to the problem of free riding. The authors find that mergers have led to increased spending on political influence in the United States. Callander et al. (2022) show, however, that the monopolist's incentives to seek political influence are bounded.

⁶The large employer may be a local monopsonist.

⁷Recently, Alphabet and Meta threatened to withhold service after the Canadian parliament passed a bill that required them to compensate news publishers. Alphabet eventually agreed to provide the service; as of this writing, Meta has not. (Bill C-18, “An Act respecting online communications platforms that make news content available to persons in Canada,” 44th Parliament, 1st session, June 22, 2023.) A similar controversy emerged in Australia (see Heylen, 2023).

receiving any political concession. But this benchmark is often unknowable without access to the firm's private information.

2.1.3 How is this currently regulated?

Antitrust laws limit the ability of firms to gain and use market power. These laws, for example, allow regulators to block mergers that will increase the firms' market power. The laws also forbid firms from engaging in certain acts considered to be abuses of market power, such as tying agreements.

Aggressive enforcement of these laws may weaken the ability of firms to use market power as a source of political power. It is important to note, however, that the antitrust laws operate by placing limits on certain types of conduct. These laws do not regulate market power directly, and they are not designed to stop its use in its entirety. For example, it is legal for firms to use market power to charge a monopoly price.

2.2 Industry strength

The next determinant of political power is the strength of the industry. A large industry that provides a vital service may be more powerful than a small industry that produces a product that can be ignored. In such a setting, the industry may be able to influence politics regardless of whether the firms that comprise it are large or have any market power of their own.

The mechanism by which firms in an industry exert their political influence is the industry or trade association (see Stigler, 1971; Moshary and Slattery, 2023).

Taxicabs are one example. Individual taxi drivers have no market power, but they may collectively lobby and strike against proposed legislation that would allow ride-hailing platforms to operate in their geographic area. The industry collectively has market power, and its political influence likely increases with the size of the industry. The political threat is also real because of the short-term nature of the threat. In the taxicab story, the risk is complete lack of service until law is passed and new providers are established.

2.2.1 How is this currently regulated?

Industry strength is largely unregulated. There are, of course, limits to coordination.⁸

⁸While the *Noerr-Pennington* doctrine permits the lobbying of government even if the goal of the lobbying is to enact anticompetitive legislation, the doctrine is subject to a fairly narrow exception for shams. See *Eastern R. Presidents Conference v. Noerr Motor Freight, Inc.*, 365 U.S. 127 (U.S. February 20, 1961), *United Mine Workers v. Pennington*, 381 U.S. 657 (U.S. June 7, 1965), *California Motor Transport Co. v. Trucking Unlimited*, 404 U.S. 508 (U.S. January 13, 1972), *Prof'l Real Estate Investors, Inc. v. Columbia Pictures Indus.*, 508 U.S. 49 (U.S. May 3, 1993).

The firms in the industry can ask the government to institute a price schedule. But they cannot directly coordinate on prices without violating the antitrust laws.

An industry is also subject to direct regulation by the legislature. Just as the Congress may pass laws favorable to the industry, it may pass unfavorable laws as well. It may choose to lower or eliminate regulatory barriers to entry by allowing a close substitute to enter the marketplace (e.g. ridesharing services) or to nationalize an industry as Congress did with aviation security in 2001.⁹

2.3 Individual wealth

The wealthy, by definition, have access to and control over resources. These resources can be translated into political power in several ways. Wealthy individuals can donate to political candidates and issue groups. They can lobby government with the aim of securing their preferred policies.

These abilities can have a significant affect on the political process. By donating to political campaigns they make it possible for politicians to run and get their message out. Not surprisingly, they tend to fund politicians whose views are similar to their own.

Extremely wealthy individuals have more options. They can wage independent campaigns in support of individual candidates. For example, they may pay for commercials that attack the candidate's opponent. They can run for office with their funds. They can buy newspapers. They can pay to squelch news stories inconvenient to for preferred candidate.

2.3.1 How is this currently regulated?

Tax laws limit the ability of individuals to become and stay wealthy. In particular, a progressive income tax system can reallocate resources from the wealthy to the poor, thus discouraging the accumulation of wealth. Wealth taxes, such as those levied on real property, make it harder for individuals to retain wealth over time. In addition, laws that further economic growth and prosperity will affect the level of wealth in society. Laws that facilitate the capture of rents may do so as well (but see Posner, 1975, for an argument that these rents will be competed away).

Shareholders and managers, in particular, may become wealthy through their relationship with the corporation. To some extent this can be controlled through corporate and securities law. Rules that instruct managers to prioritize shareholder value, for example, may increase the wealth of shareholders but decrease that of managers.

⁹Aviation and Transportation Security Act, Pub. L. No. 107-71, 115 Stat. 597 (2001).

2.4 Firm Size.

We turn now to the relationship between firm size and political power. As we have mentioned, that large firms may have political power does not necessarily imply that the political power is a result of their size. It may derive, instead, from market power, industry strength, or the wealth of its owners.

To understand the role of firm size, it will be helpful to envision a large widely traded and publicly held conglomerate firm. Such a firm may have little to no market power, may not operate in a strong industry, and may have no large shareholders. As a consequence, none of the determinants we have up until now discussed will apply.

What this firm does have, however, is resources as a function of its large size. These firm resources are, in of and of themselves, a source of political power, as the firm can use these resources to lobby and otherwise attempt to influence politics and policy making. For example, the firm may choose to donate to political campaigns of friendly politicians (or of politicians whom they wish to be friendly). Or it may ask the Securities and Exchange Commission for rules that makes it easier for the firm to raise capital.

Some of the costs of political influence may be thought of as fixed, or at least discrete. For example, to lobby one must open an office in Washington, and one must prepare materials. Once these resources are expended, a firm with a small budget may only have enough funds left to approach a few legislators. A firm with twice the budget, by contrast, may have enough resources left to approach a few hundred legislators. For this reason, we may conjecture that there are increasing returns to scale in the ability of a firm to exert political power. This implies that the level of concentration of industry can matter; the total political power of business may increase as the economy becomes more concentrated.

It may be difficult, in practice, to recognize the source of a firm's political power. For example, consider a firm that threatens to move its factory if certain political concessions are not granted. Such an employer is locally a labor market monopsonist; its political power derives, effectively, from a refusal to provide service as described in section 2.1.2. But antitrust law does not cover this sort of monopsony problem, and so there is nothing to prevent the employer from making this threat.¹⁰

The correlation between size and market power, combined with the difficulty of combating some market power issues with current antitrust laws, may lead to some confusion these issues. If large firms tend to have market power, it can seem sensible to tie these things together, and to use size as a proxy for market power. But to best understand them, we must keep them distinct, because size comes with its own set of risks, and size and market power (and industry power and individual wealth) may be best dealt with using different tools.

¹⁰The dangers of labor market monopsony has received much more attention from antitrust enforcers in recent years.

2.4.1 How is this regulated?

We do not have any clear mechanism for controlling the size of firms. Merger review in antitrust deals with size. For example, notification requirements are generally based on revenue and value of assets. However, these notifications use size as a proxy to trigger an initial review; size alone is not a reason for blocking a merger.

In some industries there may be specific regulation related to size. For example, the Federal Communications Commission has historically placed limits on the number of broadcast stations one may own. Financial regulators may choose to limit the size of banks for reasons to do with the stability of the banking system.

2.5 Conclusion

The political power of firms, including large firms, can come from several sources, including market power, industry strength, individual wealth, and the size of the firm. It can often be difficult to distinguish between these determinants in practice, and to know the source of a specific firm's political power. Understanding these sources of power remains important because each contributes to political power in specific ways, and each demands regulation through different policy instruments and institutions.

3 The importance of political competition

When analyzing the impacts of large businesses on the political system, it is important to begin with a picture of a healthy political system. Without such a picture, we cannot begin to understand the effects that changes in the business landscape may have on democratic rule. And without this understanding, we cannot hope to predict whether a regulation proposed as a remedy will succeed at its task.

We claim that a healthy political system is one that it is competitive, and that a political system is competitive if no small group of individuals can block access to an important resource needed to partake in the political system. That is, no small group of individuals should be able to block a candidate from running, or getting access to campaign funds, or from appearing in the news. No small group of individuals should be able to limit the spread of political information.

This concern is conceptually distinct from other concerns that may arise from the relationship between business and politics. For example, a firm may lobby with the goal of capturing rents, say, by being given monopolistic control of a resource. Whether this rent-seeking behavior threatens political competition will depend on the tactics used: providing information to regulators will often not (as it need not block others from participation in the political process), while supporting a coup attempt will. A firm that succeeds in capturing rents without threatening political competition will harm the economy, but will not necessarily threaten the democratic system. While we do not suggest that the economic harms that come from rent-seeking are insignificant, they are of a separate kind from the democratic harms that we describe, and as such are not the focus of this paper.

To illustrate the nature of political competition, we draw upon two game theoretic models. We first describe the spatial model of Black (1948). We then use this model to explain the nature of a competitive electoral system.

Next, we use the Shapley-Shubik power index from cooperative game theory to study the relationship between resources and voting power. We start with the assumption that an individual becomes more powerful as they gain resources. We then construct an example that shows that, while making one individual rich will make that individual more powerful, doing so can, in some circumstances, make the poor more powerful as well. This suggests that level of political competition can be increasing in the level of inequality. The implication of this claim is that, up to a limit, the existence of politically powerful actors—that is, individuals and entities with the access to significant resources that can be purposed to political ends—is not necessarily a danger to democracy. On the contrary, the existence of these actors can increase the competitiveness of a political system.

We finish the section by providing examples that illustrate this (arguably) paradoxical relationship.

3.1 The Median Voter Theorem.

The most well known model of political competition is the spatial model of Black (1948).¹¹ In Black’s model, there is a set of policies that can be chosen; conveniently, these alternatives can be placed along line. There is a set of voters who have preferences over these alternatives.¹² The voters’ preferences are “single-peaked”; this means that they satisfy the following two conditions: first, each voter has an ideal policy; that is, a policy that the voter would most prefer to see implemented, that the voter prefers over all alternative policies, and second, the voter prefers alternatives closer to the ideal to alternatives further away.

For example, if my ideal policy is a 10% tax hike, then I prefer a 10% tax hike to one of 15%, because that is the nature of an ideal: I prefer it to all else. Furthermore, I must also prefer an increase of 15% to one of 20%, because 15% is closer to 10% than is 20%.¹³

However, voters do not vote for alternatives directly. Instead, they vote for one of two candidates. The candidates know their voters, and their preferences. Each chooses a platform, which is the policy the candidate will implement if elected. The candidates, however, care only about one thing—winning the election; the platform is a means to reach the end of political office, the chosen policy is immaterial to them.

The voters vote for the candidate whose platform they like better.¹⁴ If they are indifferent between the candidates, they vote randomly. The winner is the candidate who receives the largest number of votes.

To understand Black’s result, start by lining up the voters’ ideal points, from left to right. Next, choose the median point—that is, the one in the middle. If there are three voters, that is the second point (from either direction); if there are nine voters, that is the fifth. Black’s discovery, known as the “median voter theorem,” is that, in such a setting, the platform of the winner is always identical to the ideal point of *the median voter*.

The logic underlying Black’s result is simple. First, suppose that the first candidate chooses the median point (which we will call ‘point m ’) and the second candidate does not. To keep things simple, let’s assume that the second candidate chooses a point further to the right (which we will call ‘point r ’). In this case, the median voter clearly prefers the first candidate, because point m is the best this voter can possibly hope for. Now, consider a voter whose ideal point is to the left of point m ; clearly, this voter prefers the first candidate because that voter’s ideal point is closer to point m than it is to than point r . Because the median voter is the voter in the middle,

¹¹For a more general introduction see Ordeshook (1986).

¹²It will be easiest to assume that the number of voters is odd.

¹³We know that 15% is closer because it is in between 20% and my ideal point of 10%. The single-peakedness assumption does not say anything about what I must prefer when comparing an increase of 20% to one of 9%. This is because my ideal policy of 10% is in between these alternatives.

¹⁴These voters may be naïve in believing the candidate to be sincere, or the candidates may be incentivized to keep promises.

this implies that the first candidate gets a majority of votes, and therefore wins the election.

When the first candidate chooses point m , the second candidate will lose whenever she chooses a platform to the left or right of point m . The only chance that the second candidate has to win is to choose point m as her platform. In this case, the voters will be in different between the two candidates (as they have identical platforms) and will vote randomly. And then each has a chance to win.

So, if one candidate chooses the median point, the other will as well. What happens if neither chooses the median point? In this case, one will win and one will lose.¹⁵ But the losing candidate can do better; that candidate can win by choosing point m .

So what do we learn from this model? First, the most important implication of the model is that the chosen platform is determined entirely by the will of the voters. The elected candidate implements a the ideal policy of the median voter. In some sense this policy is the objective choice.

Second, individual voters have equal power *ex ante*. The median voter's policy gets chosen because of the positions of the other voters, and not because the median is an individual with special rights. A consequence of voters having equal power is that the voters each have very little power. The median can shift the implemented policy only in so far as she remains the median. That is, the policy can be shifted to the left only as far as the ideal point of the next left-most voter; after that she will no longer be the median. If there are a large number of voters; there may be multiple individuals at the median point, and no voter will have unilateral power to shift the outcome of the vote.¹⁶

What happens if the system becomes uncompetitive? There would also be a decrease in competitiveness if individuals could be blocked from voting, as this would shift the identity of the median voter, and consequently the outcome of the election. Or if individuals could block news about candidates from being released, as this would make it harder to identify the candidates' platforms. If the candidate's platforms cannot be identified by the voters, the candidate's incentives to choose the median point would shift.

For example, if the small group is composed of party leaders, we might only have candidates from the extremes. This may be happening in some primary elections, in which the political party blocks centrist candidates from running (see Atkinson and Ganz, 2024). Here, the political party behaves like a monopolist; it lowers it's chances of winning the election in exchange for a higher payoff (a more left-wing or right-wing policy conditional on winning).¹⁷

¹⁵They may both have a chance to lose if some voters vote randomly; fortunately this does not affect the argument.

¹⁶In this setting, the median voter also has no incentive to change or misrepresent her preferences, for more see Moulin (1980).

¹⁷This leads to the effect that politicians try to run to the extremes in the primary elections and

In the Black model, all political opinions must be ordered on a single dimension, and all voters must have single-peaked preferences with respect to this dimension. This is a very strong assumption, and in practice is often not true. Voters, for example, may care about both taxes and abortion. In such a case, there is unlikely to be a median voter,¹⁸ and in the absence of a median voter there is no objectively correct policy outcome (McKelvey, 1976, 1979; Schofield, 1978).

In this sense, the political competition story becomes much more complicated than that of economic competition. If we evaluate a failure of competitiveness in, say, the lumber industry, we can try, in principle, to estimate the quantity and price of lumber that will be produced and sold. But here, there is no meaningful benchmark; as there need not be a correct answer as to what would occur in the absence of restraints on political competition. Instead, the focus must be on these restraints; the ability to block others from full participation in the system.

3.1.1 The Shapley-Shubik Index.

Now, suppose that some voters have more power than others. This is a very difficult thing to study, because there are lots of different kinds of power.

In our system all individuals formally have an equal vote. But money is still thought to buy power. Does money buy votes? Or influence? Or the ability to coordinate? Or the ability to be heard?

We think the answer is probably closer to the latter of these. Rich individuals who have run for president have often failed. Michael Bloomberg, with his phenomenal wealth, was not able to buy the presidency. It is plausible, though, that he would not have been able to run (or be discussed as a candidate) had he not been wealthy. He had been mayor of New York, and his wealth certainly made the campaign easier. It made him prominent in his own right, and he did not need the support of other wealthy or powerful individuals to get the funds needed to run.

Though Bloomberg's presidential ambition failed, that does not mean that he has not been influential. He created, for example, a network to coordinate anti-gun efforts, as a counter to the NRA. Money makes politics easier. Wealthy people can decide to do these things. At the same time: he could not silence the NRA; but only add another voice to the conversation.

Even if resources could buy voting power directly, though, that does not mean that more money in politics necessarily leads to more inequality in bargaining power. To illustrate, we will consider one of the most widely used measurements of voting power used in economics and political science, the Shapley-Shubik index from cooperative game theory (Shapley, 1953; Shapley and Shubik, 1954). To understand the index, let's start by ordering all of the voters, in, say, alphabetical order of their first names.

then back to the center in general elections (Hummel, 2010).

¹⁸The median voter will exist only in the knife-edge case of a "median in all directions" (Plott, 1967; McKelvey et al., 1980).

First Aaron, then Abigail, then Albert, then Alexa, then Andrew. We add up their votes, and we look to see whose vote puts us over the threshold (to keep it simple, let's keep this the majority). For example, if each of our five voters has one vote, then it will be the third voter (Albert) who puts us over the threshold, as three votes is a majority of five. Alternatively, if Aaron has three votes, then the second voter (Abigail) will put us over the threshold, as four votes (Abigail's one vote plus Aaron's three) is a majority of seven. With apologies to George W. Bush, we call the person who puts us over the threshold the 'decider'.

Of course, the choice of alphabetical order of first names is arbitrary. We could use last names. Or any other order. There are a lot of these: if there are five individuals, then there are 120 orders.¹⁹ If the number of individual grows, this quickly becomes a very big number.²⁰ The idea of Shapley and Shubik was to look at the probability that someone is the decider. That is, the proportion of orderings in which that individual puts us over the threshold.

If we have a hundred individuals, each with equal resources, and it takes a majority of resources to win the election, the Shapley-Shubik index gives each individual a score of 1%. The reason for this is straightforward. Because individuals are equal, it is always the person in the 51st place who decides the election. And each person has, on average, an equal probability of being in the 51st place. This is intuitive, in a society of 100 equal individuals, it makes sense that each voter should have a voting power of 1%.

Next, what if we make someone rich? Suppose that we give the first individual more resources, say, eighty times what each of the others have. In the model, that is equivalent to giving this person 80 votes, and the others one apiece. Now, the election is decided by the person who casts the 90th vote. The probability that this wealthy person casts that vote is 80%, and probability of the non-wealthy citizens drops to $\frac{1}{495} \approx 0.2\%$ each. The voting power of the regular citizens—the non-rich—is now nearly one-fifth of what it would have been in an equal society.

Suppose that we want to minimize discrepancies in voting power. Does it follow that we would necessarily want to minimize inequality? As we show, not necessarily. We showed that in an otherwise unequal society, the creation of one rich person can weaken the voting power of the others in society. But what happens if we have two rich people?

Suppose that we have two individuals with eighty votes, and ninety eight with one vote apiece. This is more unequal society (at least through traditional measures like variance or the Gini coefficient). But now, the probability that either of the wealthy citizens is the decider drops to $\frac{50}{99}$ ($\frac{25}{99} \approx 25\%$ each), and power of the non-wealthy goes back up to $\frac{1}{198} \approx 0.5\%$ each. This is about half as much power as they would have in a purely equal society, but two-and-a-half times as much as they would have

¹⁹To calculate this, we simply take $5! = 5 \cdot 4 \cdot 3 \cdot 2 \cdot 1 = 120$.

²⁰With sixty individuals there are more possible orders than there are atoms in the observable universe.

had with only one rich person. The wealthy can work together, but they can also counteract each other, too.

3.2 Examples.

3.2.1 The purely equal state.

So the ideal may be a perfectly competitive state, where each individual has equal power. The problem, however, is that pure equality may be a fiction. We would like the government to be chosen through a competitive system. But, in practice, we need a government to implement a policy.²¹ And the person, or group, that controls that government will have a lot of resources at its disposal. In the extreme, they may become a political monopolist, with the ability to obtain a monopoly political rent.

In practice, there are states where individuals have relatively equal political power, apart from that which comes through control of government resources. These states, however, do not tend to be very desirable places to live. And their political systems are not widely considered worth emulating. A clear example is Russia (as of 2023), in which the control of the government enables Vladimir Putin to maintain near absolute control of the decisionmaking in the country. Not only does Putin have control of decisionmaking within the government; no actor within is able to challenge his political control. Even (or perhaps especially) oligarchs have very little political power; fealty to Putin is the cost of retaining their power.

We can, of course, envision an alternative to single-party or single-person control of the government: two-party control. Two party control can exist whenever the parties are sufficiently strong to guarantee that the other will respect the rules of the two-party system. While this is preferable to a state run by a political monopolist, those in control of the party-institutions may still be able to extract duopoly political rents. That is, those in control of the party institutions may be able to choose candidates whose views align with their own.²² Or they may be able to extract a financial benefit.

As with a duopoly in any other market, political duopoly also facilitate collusion. The difference, of course, is that political duopoly is generally legal and goes under the name ‘bipartisanship.’ Bipartisan gerrymandering, for example, is a tool used by political parties to limit the parties’ need to campaign and to be responsive to the voters needs and interests. Concentrated political power may also enable politicians to raise salaries and perks of elected representatives.²³

²¹Perhaps not; but even if possible, this would require a very large departure from our current system, and this is outside the scope of this paper.

²²This is one potential reason why the elected politicians may have platforms that differ from the ideal points of the median voter.

²³Keep in mind, of course, that this is not always easy to detect; salaries and perks can be too low.

3.2.2 The wealthy individual.

The billionaire candidate.

Wealthy people have often used their resources to run for political office. If we just focus on races for President: H. Ross Perot ran as a third party candidate in 1992. Donald Trump spent \$66 million in 2016 (nearly 20% of the cost of running).. Michael Bloomberg and Tom Steyer ran President in 2020. Steyer spent \$341 million, Bloomberg spent over \$1 billion.

Neither Bloomberg nor Steyer received their party's nomination, nor did they come close. Perot ran as a third-party candidate. Trump was elected, of course, but it is not clear that he was elected because his resources made it possible for to self-fund the campaign. Trump had plenty of name recognition prior to his run, due to his prior political activities, due to his television show, and due to his general existence as a lifestyle brand (Trump Steaks).

What their wealth enabled was the ability to enter the market—to mount the campaign. It did not guarantee, or even get themselves close, to a win. Something similar may be said of large political donors—they make it possible for other people to run. People who share their interests. But whom otherwise would not be able to enter the market.

The political donor.

There are complaints, of course, that one needs to get the support of a particular donor to mount a campaign. Sheldon Adelson has long been mentioned as an example. But this can only be true if Adelson has political market power; that is, if one cannot run without his support. This seems unlikely given the large number of Republican donors. The more likely story is that Adelson's views were fairly close to those of the electoral base, so the marginal political cost to trying to get his support was low. Otherwise, some politicians would have simply found other donors and pushed other views, and become quite successful. (If you have money to run and you have a different point of view which is politically popular, you'll do well.)

The takeaway from this is that wealth can increase competition, unless individuals become so wealthy that they have the power to limit it. Though it has been alleged, it is not clear that there is any evidence that this is a problem in the United States.

The newspaper owner.

Amazon.com founder Jeff Bezos bought the Washington Post in 2013. Bezos has been able to use the newspaper to push his interests and his personal views.²⁴ It may have benefited Amazon, politically. Or it may have made Amazon more popular among readers and supporters of the Washington Post.

Has Bezos' ownership of the Washington Post been bad for democracy?

The first thing we would want to know is whether the Washington Post would have had more 'benevolent' management, and whether it would have existed, at all.

²⁴Whether he has is less clear, because it is less obvious what are his political views.

The newspaper industry was not exactly doing well in 2013. Bezos' extreme wealth allowed him to pay both the \$250 million price tag and the cost of keeping the paper afloat, as it not been profitable since.

The second question is whether the Washington Post led to control of the news, so as to limit democratic competition. This seems unlikely. A story ignored by the Washington Post would likely have been picked up by a competing news organization. There were complaints from Donald Trump that he was not covered enough, but given the resources of the White House this seems hard to believe.

Under Bezos' ownership, the Washington Post was clearly influential enough to make enemies in DC. It attacked the president (who was more powerful than Bezos), to the point that he may have responded by illegally denying Amazon government contracts. This reinforces the lesson that power can counteract power; having an alternative news source may increase the level of political competition.

3.2.3 The powerful corporation.

Large corporations are known to engage in lobbying. Every industry and nearly every large corporation maintains offices in Washington, DC with the goal of lobbying government decisionmakers. Energy producers, defense contractors, big tech, etc.

This enables them to influence government decisionmaking through several channels. They can affect the decisionmaking of legislators and bureaucrats through the strategic provision of information. They can make direct threats. And they can provide support, both to (a) incentivize politicians (or bureaucrats) to be responsive to their needs, and to (b) affect the selection of politicians and bureaucrats in decisionmaking role.

The levers of power will be discussed more in the next section. For now we want to make two points. First, the power of these firms is limited. They get further if they have support from voters. Second, these firms often work against each other.

Tech firms lobby government on privacy rules. But they have different business models. Google and Facebook have business models that depend on acquiring and making use of user data. Apple has a business model that relies on Apple's competitive advantage in privacy. (Note: the difference in business models might only make sense if at least one party operates at scale.)

4 The fundamental asymmetry

Consider a stylized example of the taxi industry. In a particular city, there are three thousand taxi licenses, each of which gives the holder the right to operate a single taxi at a pre-specified price. These licenses also come with a catch—they also require the license holder to operate the taxi; that is, the licensee cannot choose to sit on the license without providing the taxi service. There is a rule that the pre-specified price cannot be raised above the point that guarantees constant demand. In addition, we

will assume that, at least initially, the price is high enough to make the taxi business profitable.

Now, we will consider two scenarios. In scenario A, there are three taxi companies, each of which owns one thousand licenses and one thousand cabs, and which employs one thousand drivers. In scenario B, there are three thousand companies, each of which owns one license and one cab, and which employs a single driver. We will assume that, under both scenarios, none of the firms has any market power.

It is an inexorable rule of human nature that people want other people to do things for them. The taxi drivers want the politicians to raise prices (up to the fixed upper limit), to refrain from issuing new licenses, and to keep ride-sharing services from operating in the city. They like higher prices because these prices lead to an increase in their profits. They do not want more licenses or ride-sharing services because the added competition will lead to a decrease in the upper limit—the price schedule that guarantees constant demand.

The politicians also want taxi drivers to do things for them. In particular, the politicians want the taxi drivers to campaign for them, by putting signs on their taxis and by talking to riders about the upcoming election. (After all, everyone listens to their taxi driver’s opinion. They even nod their heads.) The politicians also want donations, and they want the taxi drivers to broadcast news from a news channel that makes the politicians look good.

The taxi drivers and the politicians each tools at their disposal. The taxi drivers can lobby the politicians. They can go to the politicians and state their case. They can also try to influence the election, by taking their case to the public and by donating to friendly politicians.

The politicians, on the other hand, are not generally supposed to make decisions based on the level of support from they receive from the firms. But they can use informal means. For example, they may get the police to inspect or harass firms that do not comply.

Both the ability of a single taxi company to pressure the government, and the ability of the government to pressure that taxi company, depends on that company’s size. A small firm has a very limited ability to influence a politician. It can only put a sign on a single taxi, and it can only broadcast the politician-friendly news in one taxi. It can only talk to one passenger at a time. It can only make small donations.

The politician, by contrast, has more power over a small firm. This is because that small firm has fewer resources with which it can defend itself against harassment. The police may only need to impound a single taxi to get its owner to fall into line.

To evaluate these scenarios, we make three assumptions *ad hoc*. First, we posit that the political power of the firms and the capture costs of the politician are functions $p(x)$ and $c(x)$ of the size of the firm x . This is a simplification that allows us to abstract away details of the firm apart from the size. Second, we assume that the political power function exhibits increasing returns to scale; that is $p(a \cdot x) > a \cdot p(x)$ for every $a > 1$. Third, we assume that the capture cost function exhibits decreasing

returns to scale; that is $a \cdot c(x) > c(a \cdot x)$ for every $a > 1$.

The assumption that the political power function exhibits increasing return to scale represents the idea that in some way it can be easier for a large firms to turn their resources into political power. This may be because there are many fixed costs of lobbying, such as the need to get to know the politicians and to generate the information needed to explain the firm's position. By combining, two firms could avoid duplicating their work and exert more political power than they would working separately. This assumption underlies much of the current concern with bigness; without increasing returns, small firms would be as much of a threat as large ones.

The assumption that the capture cost function exhibits decreasing return to scale represents the idea that there are economies of scale for a politician who wants to co-opt a firm. This would make sense if some of the techniques used to co-opt the firm involved targeting the management. The CEO of a very large firm may be harder to threaten than the CEO of a small firm, because the former could have better lawyers or security precautions. But the cost of threatening that CEO need not rise linearly in firm size as the marginal benefit of extra precautions (a good legal team or a security guard) will be declining in the expenditure.

Now, let us examine what will happen in the absence of an industry association. It follows (trivially) from these assumptions that the large firms in scenario A will (collectively) have more political power than the many small firms will in scenario B. This is because, if x is the size of a small firm, the lobbying power is $3 \cdot p(1000 \cdot x)$ in scenario A and $3000 \cdot p(x)$ in scenario B, and $3 \cdot p(1000 \cdot x) > 3000 \cdot p(x)$ by our second assumption. It also follows (again, trivially) from these assumptions that politicians will have an easier time capturing the large firms in scenario A than the small firms in scenario B. This is because the cost of capturing the firms is $3 \cdot c(1000 \cdot x)$ in scenario A and $3000 \cdot c(x)$ in scenario B, and $3 \cdot c(1000 \cdot x) < 3000 \cdot c(x)$ by our third assumption.

Hence the firms have more political power and are more subject to the risk of capture by politicians in scenario A, when the firms are more concentrated. In this sense, scenario A, with a concentrated industry, seems worse than scenario B. After all, we are concerned both with firms having too much political power and with politicians having too much power over firms.

Now, let us consider what happens when the firms can form an industry association. The simplest way to think about this is to allow them to combine their resources, so that the collective political power of the firms becomes $p(3000 \cdot x)$. Because the political power function is assumed to exhibit increasing returns to scale, it follows that $p(3000 \cdot x) > 3 \cdot p(1000 \cdot x)$. An industry association allows the firms to exercise their political power as one. Furthermore, because the industry association is available to the firms regardless of the level of concentration, the industry association political power is the same under both scenarios.

The industry association, however, is an asymmetric tool. Firms can use it to lobby the politicians. But the politicians cannot use it to threaten the firms. The

politician needs to capture individual members. And so, its existence does not change the politicians' cost of capturing the firms, which remains lower in scenario A than in scenario B.

The lesson here is that large firms can be a threat, but not necessarily for the reasons generally discussed. Holding market power constant, the level of the concentration of an industry may not matter that much in terms of how it affects the ability of firms to exert political power. Firms in unconcentrated industries can combine their strength through industry associations (see Stigler, 1971). But politicians will have trouble capturing them.

This matters, because our task is not only to ask whether firm size is a concern, but also to determine how (if at all) it should be regulated. Weapons in a regulators arsenal that can be used to fight bigness can also be used to threaten and capture a firm. So a more careful understanding of the threat from firm size may make it easier to design the right tool for the job.

Why does this matter?

Now, why does this matter? Mega firms such as Amazon, Apple, Facebook, Google, Microsoft, Tesla, and Walmart have a lot of power. Some of this is market power. Some of this comes from industry strength. Some of this comes from the wealth of their owners (because much of that wealth is stored within the firm). And some of this comes from the size of the firms.

But at the scale at which these firms operate, it does not seem likely that they can threaten the political system, in the sense of being able to block people from being able to run for office or be heard, or have access to the news, etc.

They could, perhaps, have more of an effect if they were to merge together. However, this will not happen, as the antitrust regulators would be able to stop the merger.

But now imagine that a powerful politician were to threaten their managers, and that, as a consequence, get them to all cooperate. In this way, the politician would effectively have control of the firms, at least for a limited purpose, such as to use their political power for the politicians' benefit. At that point, the combined resources might be enough to cause harm to the democratic system.

This is not a purely a theoretical idea. There were allegations that, as President, Donald Trump caused the Pentagon to steer a large contract away from Amazon.²⁵ Threats of this sort of behavior may be sufficient in some contexts to get business leaders to do the politicians' bidding.

²⁵<https://www.reuters.com/technology/pentagon-scraps-jedi-award-microsoft-will-rebid-2021-07-06/>

5 The limited role of antitrust in limiting bigness.

There are two problems with using antitrust agencies to fight the problem of ‘bigness’ explored in this paper.

The first problem is that antitrust is enforced by regulators with a lot of power, and if left unchecked this power can be used to coopt the firms. The danger of regulators coopting the firms is far greater than the danger of firms exerting their political power. Individual firms are (at least individually) too small to block individuals from participating in the political process or accessing the resources needed to do so. However, if these firms were to be under the thumb of a politician, they might be able to do so collectively.

The second problem is that the antitrust agencies lack technocratic knowledge that can be used to regulate these firms. A significant part of the problem is that some use of political power by these firms is desirable. These firms, for example, have a constitutional right to lobby. While that right can (and often is) used with the goal of distorting competition, it often has other uses as well. Lobbyists provide vitally needed information to policymakers about the needs of their industry. For example, a firm may support laws that strengthen a local labor market, to the extent that by doing so it can obtain a competitive advantage in labor costs. Of course, it can be difficult to distinguish between pro-social and anti-social lobbying efforts; and this difficulty is probably part of the reason that this lobbying is permitted to persist.

One solution to this problem would be to use a bright line rule. If we are concerned with firms becoming too large, we might enact a law that, for example, forbids the merger of a firm if it becomes too large, e.g. if its total assets would be greater than 1% of those contained in the United States. An agency could have the skills needed to evaluate the size of the assets relative to those in the country. Furthermore, we could allow for private enforcement, so as to take away the discretion of the agency. This way, the threat of government capture of the firms would be removed, and at the same time we could reduce the risk that firms would get to the size where capture would be feasible.

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Appendix

Here we prove the claims about voting power.

Let $N = \{1, \dots, n\}$ be a set of agents, and let $\mathbf{w} \in \mathbb{R}_+^N$ be a vector denoting power, where \mathbf{w}_i is the voting power of agent i . Let Π be the set of permutations of N . Note that $|\Pi| = n!$. For a permutation $\pi \in \Pi$ let $d_\pi(\mathbf{w}) \in N$ be the agent such that $\sum_{i \in N: \pi(i) < d_\pi(\mathbf{w})} \mathbf{w}_i \leq \frac{1}{2} \sum_i \mathbf{w}_i < \sum_{i \in N: \pi(i) < d_\pi(\mathbf{w})} \mathbf{w}_i + \mathbf{w}_{d_\pi(\mathbf{w})}$. For $i \in N$ let

$$\phi_i(\mathbf{w}) \equiv \frac{|\{\pi \in \Pi : i = d_\pi(\mathbf{w})\}|}{|\Pi|}.$$

Consider three power vectors. First, let \mathbf{w}^e be the vector such that $\mathbf{w}_i^e = 1$ for all $i \in N$. Second, let \mathbf{w}^1 be the vector such that $\mathbf{w}_1^1 = 80$ and $\mathbf{w}_i^1 = 1$ for all $i \in N \setminus \{1\}$. Third, let \mathbf{w}^2 be the vector such that $\mathbf{w}_1^2 = \mathbf{w}_2^2 = 80$ and $\mathbf{w}_i^2 = 1$ for all $i \in N \setminus \{1, 2\}$.

We make three claims.

Claim 1. For all i , $\phi_i(\mathbf{w}^e) = \frac{1}{100}$.

Claim 2. $\phi_1(\mathbf{w}^1) = \frac{4}{5}$ and $\phi_i(\mathbf{w}^1) = \frac{1}{495}$ for all $i \in N \setminus \{1\}$.

Claim 3. $\phi_1(\mathbf{w}^2) = \phi_2(\mathbf{w}^2) = \frac{25}{99}$ and $\phi_i(\mathbf{w}^2) = \frac{1}{198}$ for all $i \in N \setminus \{1, 2\}$.

Proof of Claim 1: Shapley (1952) shows that ϕ is symmetric and efficient. It follows from this that $\phi_i(\mathbf{w}^e) = \frac{1}{100}$. \square

Proof of Claim 2: To show that $\phi_1(\mathbf{w}^1) = \frac{4}{5}$, note that player 1 is decisive if and only if $\pi(1) > 10$ and $\pi(1) < 91$; this occurs in 80% of permutations. Because for $\mathbf{w}^1 = 1$ for all $i > 1$, it follows from symmetry and efficiency that $\phi_i(\mathbf{w}^1) = \left(\frac{1}{5}\right) \left(\frac{1}{99}\right) = \frac{1}{495}$ for $i > 1$. \square

Proof of Claim 3: Third, to show that $\phi_1(\mathbf{w}^2) = \phi_2(\mathbf{w}^2) = \frac{25}{99}$, consider the case of player 1, who is decisive if either (a) $\pi(1) < \pi(2)$ and $\pi(1) \geq 51$ or (b) $\pi(2) < \pi(1)$ and $\pi(1) \leq 51$. Note that the number of permutations for which $\pi(2) < \pi(1)$ and $\pi(1) \leq 51$ is the same as the number of permutations for which $\pi(1) < \pi(2)$ and $\pi(1) \geq 50$.

For n individuals, the number of permutations π such that $\pi(1) \geq k$ and $\pi(1) < \pi(2)$ is given by

$$\sum_{\ell=k}^{n-1} \frac{(n-2)!}{(n-1-\ell)!} (n-\ell)! = (n-2)! \binom{n-k+1}{2}.$$

Consequently, the number of permutations under which player 1 is decisive is $98! \binom{50}{2} + 98! \binom{51}{2} = 98! \left(\binom{50}{2} + \binom{51}{2} \right) = 98! 50^2$. Because $|\Pi| = 100!$, $\phi_1(\mathbf{w}^2) = \frac{98! 50^2}{100!} = \frac{25}{99}$. By symmetry, $\phi_2(\mathbf{w}^2) = \phi_1(\mathbf{w}^2)$. Consequently, symmetry and efficiency together imply that $\phi_i(\mathbf{w}^2) = \frac{1}{198}$ for all $i > 2$. \square