Dictators and Oligarchs:
A Dynamic Theory
of Contested
Property Rights

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Abstract

In an economy with weak economic and political institutions, the major institutional choices are made strategically by oligarchs and dictators. The conventional wisdom presumes that as rent-seeking is harmful for oligarchs themselves, institutions such as enforcement of the property rights will emerge eventually. We explicitly model a dynamic game between oligarchs and a dictator, who can contain rent-seeking. The oligarchs choose either a weak dictator (who can be overthrown by an individual oligarch) or a strong dictator (who can only be replaced via a consensus of oligarchs). In equilibrium, no dictator can commit to both: (i) protecting the oligarchs' property rights from the other oligarchs and (ii) not expropriating oligarchs himself. We show that a weak dictator does not limit rent-seeking. A strong dictator does reduce rent-seeking but also expropriates individual oligarchs. We show that even though eliminating rent-seeking is Pareto optimal, weak dictators do get appointed in equilibrium and rent-seeking continues. This outcome is especially likely when economic environment is highly volatile.

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"The appointment of a king is the resource of the better classes against the people, and he is elected by them out of their own number, because either he himself or his family excel in virtue and virtuous actions; whereas a tyrant is chosen from the people to be their protector against the notables, and in order to prevent them from being injured. History shows that almost all tyrants have been demagogues who gained the favor of the people by their accusation of the notables."

Aristotle, "Politics".

1 Introduction

From Adam Smith to Douglass North to Andrei Shleifer, economists have agreed that protection of property rights is the key precondition for investment and growth. The private property rights are vulnerable to several kinds of risks. While Adam Smith feared expropriation by the crown, political economists of the 20th century blamed democratic redistribution through over-taxation (Persson and Tabellini, 2000) or even an outright expropriation by the poor majority (Grossman, 1994, Acemoglu and Robinson, 2006). On the other hand, ever since Hobbes (1651) and the Federalist Papers (1788), economists and political scientists recognize that the lack of a strong central authority may also undermine property rights as private agents would expropriate each other and over-invest in rent-seeking rather than productive activities. Both issues remain highly relevant in modern economies. Many governments prey upon their subjects' property (see a discussion in Frye and Shleifer, 1997, and Robinson, 2001). At the same time, development of secure property rights was slowed down in several post-communist economies due to the weakness of the state and rent-seeking by a newly emerged class of so-called "oligarchs", the major impediment to protection of property rights (Hellman, 1998, Sonin, 2003, Polishchuk and Savvateev, 2004, Hoff and Stiglitz, 2004, Acemoglu, 2005, Gradstein, 2007).

A distinguishing feature of oligarchy—either the one of merchant clans in medieval Italy, that of robber-barons in the US in the late 19th century, the traditional one in East Asia or Latin America, or the one recently emerged in Russia—is that each oligarch is not only very rich and politically well-connected, but is also a strategic player in national politics. These oligarchs expropriate the poor majority by subverting institutions of property rights protection such as courts (Glaeser et al., 2003, Acemoglu, 2007). Yet, as oligarchs use their political power to expropriate the rest of the economy, they might get involved in a costly rent-seeking race against each other. In this case, it is in their collective interest to maintain a certain level of property rights protection.

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Boycko et al. (1995) and Shleifer and Vishny (1994) argued that private owners would lobby for market-supporting institutions. Does this mean that the secure property rights have to emerge endogenously? Polishchuk and Savvateev (2004) and Hoff and Stiglitz (2004) suggest that the oligarchs suffer from a coordination problem: while property rights would indeed benefit them collectively, each individual oligarch finds it optimal to deviate. A natural political response would be to bring up an arbiter (a podesta, a president, or a dictator) who would resolve the coordination problem and provide the desired level of property rights enforcement.

In selecting a new leader, the oligarchs face the very same political commitment problem described above. As North (1981) put it, the government which is strong enough to enforce property rights may find it difficult to commit not to use its strength to expropriate private owners. The oligarchs need to find a ruler (a "dictator") who should be able both to suppress individual oligarchs' temptation to rent-seek against each other and to commit not to expropriate individual oligarchs himself. We consider a dynamic game between the oligarchs and the dictator and show that no dictator can deliver on both counts. The dictator's behavior depends crucially on his ability to withstand the oligarchs' pressure. We distinguish between weak and strong dictators. Weak dictators are the ones without popular support; they can be overthrown by any individual oligarch. A strong dictator is a charismatic leader with substantial popular support and therefore requires a consensus of oligarchs to be removed from the office. We show that a weak dictator cannot expropriate the oligarchs; but neither can he resolve the rent-seeking problem. As any individual oligarch can remove him from office, the dictator cannot prevent rent-seeking by either oligarch. When appointing a strong dictator, oligarchs solve this problem: the dictator's decisions are protected by the oligarchs' inability to coordinate. Thus, a strong dictator can contain the rent-seeking. However, he will also collude with some oligarchs to expropriate others. Therefore, even though the weak dictator cannot enforce the property rights and is therefore Pareto suboptimal, the oligarchs may still prefer him in equilibrium.

The other distinction between the weak dictators and the strong ones is the flexibility of regime to changes in economic environment. Suppose the oligarchs have appointed a weak dictator but then situation has changed so that a weak dictator is no longer optimal. Oligarchs can easily replace him with a stronger one. However, once the situation changes back and a weak dictator is preferred by the oligarchs, they cannot remove the dictator. The latter uses divide-and-rule tactics and successfully defends his position. This asymmetry implies that the oligarchs will always be cautious about bringing in the strong dictator – by doing so, they give up the option of replacing

him. The irreversibility of appointing a strong dictator implies a relationship between uncertainty and the choice of the ruler. The theory of investment under uncertainty (Dixit and Pindyck, 1994) suggests that the more volatile the environment, the less inclined the parties are to make an irreversible investment. Therefore in the more volatile economies, the oligarchs are more likely to "wait-and-see" and appoint a weak ruler even if a strong ruler would be better on average. This logic implies that weak property rights may well be a steady state in a dynamic game even if the oligarchs would benefit from secure property rights and could potentially bring a dictator who could enforce them.

The risks of appointing a strong dictator are best illustrated by the fate of Russian oligarchs (see an early discussion in Glaeser et al., 2003, and Hoff and Stiglitz, 2004). These oligarchs were certainly strategic: according to a non-academic estimate of infamous tycoon Boris Berezovsky (Financial Times, 1996), seven bankers controlled half of the economy in 1996 and directly influenced economic policy; Guriev and Rachinsky (2005) estimated that 22 groups controlled 40% of the economy in 2003; in recent years, Forbes magazine estimated the total wealth of 30-50 richest Russians at 25-30% of Russia's GDP. As argued in Boone and Rodionov (2002), the oligarchs initially benefited from rent-seeking as they diluted the stakes of the government and outside owners. Once they consolidated ownership and saw the huge benefits to limiting the rent-seeking (due to high resource prices), they switched from rent-seeking to investment. This is why most oligarchs supported Vladimir Putin's bid for presidency on a law-and-order platform. Yet, Putin soon became too strong and independent of the oligarchs and expropriated quite a few of them. Out of the Berezovsky's Group of Seven, one has lost influence before Mr. Putin came to power, but two more (including Berezovsky himself) went into exile, while another one was imprisoned. This story is not unique; one could also easily find similarities to podesteria in medieval cities in Italy (Greif, 2007), Porfirio Diaz' Mexico (Robinson, 2003), and to robber barons in the Gilded Age (Glaeser et al., 2003), when the Progressive movement eventually came to power and introduced tough antitrust regulation.[1]

Our work is related to three strands of recent research in economics and political science. First, there is a newly emerged "oligarchs" literature. A few papers discuss the issue of (non-)emergence of property rights in oligarchic economies, both theoretically (Sonin, 2003, Polishchuk and Savvateev,

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[1] The institutional subversion by the rich has started in the US as early as in 1820s. In his Veto Message on the Second Bank, 1832, President Andrew Jackson said "It is to be regretted that the rich and powerful too often bend the acts of government to their selfish purposes."

2004, Hoff and Stiglitz, 2004, Acemoglu, 2007, Braguinsky and Myerson, 2007, Gradstein, 2007), and empirically (e.g., Boone and Rodionov, 2002, Claessens et al, 2000, Guriev and Rachinsky, 2005). Our analysis is particularly close to that of Acemoglu (2007) and Braguinsky and Myerson (2007). Acemoglu (2007) analyzes the trade-off between property rights for oligarchs and the rest of the society (while we focus on the interaction of property rights of individual oligarchs). Also, in Section 4.1, Acemoglu discusses the effect of heterogeneity of oligarchs and the possibility of regime change through a coalition of low-skilled oligarchs and the poor against the high-skilled oligarchs. This scenario is similar to the collusion between a dictator and an oligarch to expropriate another oligarch, and to the divide-and-rule tactics that help a strong dictator to remain in power in our paper. Yet, our setup and the regime change mechanisms are very different. Braguinsky and Myerson (2007) develop a truly dynamic model of capital accumulation in an oligarchic economy allowing for expropriation of some oligarch by the others. Both Acemoglu (2007) and Braguinsky and Myerson (2007) model oligarchs as infinitesimal and non-strategic players.

The literature on oligarchs is also related to the work on selective protection of property rights. Both Greif (2006) and Haber et al. (2003) show how the medieval Mediterranean rulers and the 19th century Mexican presidents enforced property rights as a *private* good. These rulers used divide-and-rule strategies trading protection of property rights of individual owners for political support. Robinson (2003) and Treisman (2003) show how the reformers in modern Russia, Argentina, and Brazil have made similar deals with specific interest groups to promote their reforms. Bueno de Mesquita et al. (2003) provide other examples and build a theory of a non-democratic government that is accountable to a *selectorate,* a group that is sufficiently strong to maintain an incumbent in office. Acemoglu et al. (2004), Padro i Miguel (2006), and Besley and Kudamatzu (2007) build formal theories of such regimes by explicitly modelling the divide-and-rule game (see also a dynamic model of leadership turnover in Gallego and Pitchik, 2004). This literature identifies a few solutions to the political commitment problem above; in particular, Greif (2007) shows how it can be resolved through reputation or collective reputation; Haber et al. (2003) focus on the third-party enforcement. In this paper, we assume that these mechanisms do not function, and there is no external source of commitment. There are also no sunk investments that can be used as a hostage.

Second, we contribute to the "new comparative economics" (Djankov et al, 2003). The trade-off faced by the oligarchs in our model is very similar to the main trade-off in this literature, the one between disorder (weak property rights, rent-seeking, expropriation by each other), and dictatorship

(strong property rights, expropriation by the dictator). The analysis of costs of disorder and dictatorship has also been carried out by students of political history from Aristotle and Machiavelli to Finer (1997). Machiavelli (1515, ch. IV) compares principalities with and without strong barons (using the examples of Turkey vs. France, ch. IV and XIX, and the use of divide-and-rule tactics by Alexander VI against Orsini and Colonna clans in Rome, ch. VII). He argues that principalities with a weak central ruler cannot be run effectively; they are also an easy prey for an external enemy to capture. Finer (1997) considers many examples of Palace/Nobility polities comparing regimes with different degrees of Palace's strength relative to that of the Nobility. He also emphasizes the disadvantages of the regimes with utter weakness of central authority, especially the eighteenth century Poland, where each magnate could veto any decision or Tokugawa Japan (which Finer call 'anarchy institutionalized').

Our contribution to the new comparative economics is to show how the dictatorship-disorder trade-off is resolved in a dynamic game between oligarchs and dictators, why disorder may emerge even when it is clearly inefficient; we also develop a comparative statics analysis with regard to the degree of uncertainty and volatility. In this sense, our paper is similar to Acemoglu (2005) who studies the effect of a state's strength on economic performance. Acemoglu's "strong" state is the one capable of imposing high taxes; this state is effective at providing public goods but also stifles private agents' incentive to invest. If the private agents have an efficient tax evasion technology, the state is labelled "weak." The weak state does not overtax returns to private investments but fails to collect taxes to provide public goods. In Section 3, Acemoglu (2005) replaces the notion of the state's "strength" with that of "political power" which is similar to ours: the ruler is politically powerful if it is hard to replace him. In Section 4, Acemoglu also studies "consensually-strong states". Here the ruler and the citizens can commit to a deal where the ruler collects high taxes and invests them efficiently in public goods. While our analysis focuses on similar issues, we analyze the interactions between strong/weak rulers and strategic oligarchs; we also allow for an endogenous choice of the ruler's strength by the oligarchs.

The costs of disorder are also explicitly studied in the "lawlessness and economics" literature. Dixit (2004) analyzes costs and benefits of private enforcement of contracts and property rights. Our analysis is especially related to the results best described by a quote from Gambetta (1993, p.198): "protectors, once enlisted, invariably overstay their welcome". In other words, similarly to our dictators hired by oligarchs to resolve their conflicts, private enforcers may abuse their authority and expropriate their clients.

The third related strand of the literature is the political economy of non-democratic regimes. This literature raises an empirical question whether or not an oligarchic regime might be sustainable politically in the long run. The Latin American experience demonstrates that a country with a small rich elite (though not exactly few strategic oligarchs) and a poor majority often oscillates between an elitist dictatorship and populist democracy.[2] Existing dynamic models of such processes assume exogenous economic shocks as the main underlying cause of coups and revolutions (Acemoglu and Robinson, 2001, 2006). A paper which comes closest to ours is Robinson (2001) where the governing elites are more likely to be predatory if better institutions may threaten their hold on power and the benefits that come with the power. The aim of our analysis is to go beyond Acemoglu and Robinson (2001, 2006), and Robinson (2001) by analyzing the mechanisms of interaction not only between the poor and the rich, but also of a strategic interaction within the ruling elite.

The rest of the paper is organized as follows. Section 2 contains the setup, and Section 3 provides the analysis of the choice of the dictator and the equilibrium level of property rights protection. In Section 4, we discuss the path dependence and the effect of uncertainty on the choice of the property rights. Section 5 discusses extensions, and Section 6 concludes.

2   Setup

We consider a repeated game between two oligarchs $O_{1,2}$ and a dictator D. In each period, oligarchs choose whether to produce or engage in rent-seeking. Given the other oligarch's choice, rent-seeking is a dominant strategy. Yet, the rent-seeking equilibrium is inefficient. In other words, the oligarchs play a prisoner's dilemma:[3]

$$
\begin{array}{c|c|c}
 & \text{rent-seek} & \text{produce} \\
\hline
\text{rent-seek} & r; r & R; \pi \\
\hline
\text{produce} & \pi; R & \Pi; \Pi
\end{array}
\tag{1}
$$

We assume $\pi < r < \Pi < R$. Clearly $(r; r)$ is a unique Nash equilibrium but $(\Pi; \Pi)$ is Pareto-optimal.

The oligarchs would benefit from an external enforcer of property rights who could rule out the

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[2] The theory of political transitions between oligarchy, democracy, and tyranny also dates back to Aristotle and Plato. Aristotle already argued that oligarchy is almost a precondition for the rise of dictators. Yet, the recent formal analysis of political transitions is still restricted to comparing oligarchy vs. democracy or dictatorship vs. democracy.

[3] This prisoner's dilemma can be formally microfounded in a general equilibrium model, see, for example Murphy et al. (1991), Sonin (2003), Polischuk and Savvateev (2004).

rent-seeking equilibrium. We assume that the oligarchs may appoint a ruler who can choose one of two levels of property rights protection $p = 0, 1$. The high level of property rights protection $p = 1$ incurs prohibitively high costs of rent-seeking so that the oligarchs choose the $(\Pi; \Pi)$ outcome. If the protection is weak $p = 0$ then both oligarchs rent-seek in equilibrium.

The oligarchs can choose whether to appoint a strong or a weak dictator. We proxy the dictator's strength by his political support base independent of oligarchs. A *weak* dictator is one that each individual oligarch can remove from office unilaterally. A *strong* dictator can withstand the pressure of a single oligarch; it takes two oligarchs to remove him. A *very strong* dictator is one that two oligarchs cannot overthrow even if they coordinate. In the Sections 2-4, we will study a trade-off between choosing weak vs. strong dictator; we shall discuss the very strong ones in Section 5.

The dictator chooses p and asks oligarchs for contributions t_i. If he is weak, he needs to make sure that both oligarchs are happy. If the dictator is strong, he only has to keep one oligarch satisfied and can afford to expropriate the other one.

Weak property rights protection $p = 0$ is costless but strong property rights protection $p = 1$ costs the dictator c.

Whenever the oligarchs manage to replace the dictator, each oligarch incurs a cost of regime turnover K.

2.1 Notation and assumptions

We model the game in discrete time. The discount rate is ρ. The distribution of bargaining power between the dictator and the two oligarchs is $1 - \alpha$, $\alpha/2$, $\alpha/2$. The dictator's expected payoff is U_D where $D \in \{S, W\}$ is the type of dictator for the next period, strong or weak, respectively. Similarly, each oligarch's expected payoff is V_D : V_S if the dictator is strong, V_W if the dictator is weak, and V_N, if the dictator is new.

Let us also introduce the social returns to protecting property rights:

$$\Delta = 2\Pi - 2r - c. \tag{2}$$

If this gain is very high, all dictators will protect property rights; if it is negative, neither ruler ever would. We will therefore focus on the intermediate case: we will assume that enforcing property rights is efficient but the efficiency gains are not too high. This assures that a strong dictator chooses $p = 1$ and a weak dictator chooses $p = 0$; otherwise the two would choose the same property rights protection.

Assumption. The efficiency gains from property rights enforcement are positive but are not very large

$$0 \leq \Delta \leq R - r. \tag{3}$$

2.2 Timing

The timing within each period is as follows:

- Bargaining on a contract $\{p, t_1, t_2\}$ where $p = \{0, 1\}$ is the level of property rights protection, $t_i \geq 0$ is the payment by each oligarch. With probability $1 - \alpha$, the dictator makes it a take-it-or-leave offer to both oligarchs. With probability $\alpha/2$ each oligarch makes a take-it-or-leave-it offer to the other oligarch and the dictator.

  - The offer is accepted, and the game continues.
  - If the offer is rejected, the dictator is removed from office. The oligarchs select a new dictator for the next period.

- The dictator implements p. Each oligarch O_i pays t_i.

- Oligarchs produce or rent-seek.

- Payoffs Π, R, r, π are realized.

- Next period begins.

3 The equilibrium choice of property rights

We first solve the within-period game given the dictator's type and expected payoffs from the continuation subgames. Then we will describe the choice of the dictator.

3.1 Strong dictator

We model the bargaining between the dictator and the oligarchs by considering the contingencies where the dictator gets to make a take-it-or-leave-it offer (this takes place with probability $1 - \alpha$) and the contingencies where the oligarchs make an offer (probability $\alpha/2$ each). If the parties disagree, the dictator is removed from office and gets 0; each oligarch gets $r + \rho V_N$.

Let us start with the case where the dictator makes an offer. Since the dictator is strong, he offers $r + \rho V_N$ to O_1 and zero to O_2. We shall now compare the dictator's payoffs for the different levels of property rights protection.

- The dictator offers $p = 1$, and t_1, t_2. O_1 gets $\Pi - t_1 + \rho V_S = r + \rho V_N$. O_2 gets $\Pi - t_2 + \rho V_S = 0$. The dictator's payoff is

$$-c + t_1 + t_2 + \rho U_S = 2\Pi - r - c + \rho U_S + 2\rho V_S - \rho V_N. \tag{4}$$

- The dictator offers $p = 0$, and $\widetilde{t}_1, \widetilde{t}_2$. O_1 gets $r - \widetilde{t}_1 + \rho V_S = r + \rho V_N$. O_2 gets $r - \widetilde{t}_2 + \rho V_S = 0$. The dictator's payoff is $\widetilde{t}_1 + \widetilde{t}_2 + \rho U_S = r + \rho U_S + 2\rho V_S - \rho V_N$.

Comparing the two payoffs we establish that a strong dictator offers $p = 1$ whenever $\Delta = 2(\Pi - r) - c > 0$ (as assumed by (3)).

Now we should check what happens if O_1 makes an offer (this happens with probability $\alpha/2$). As the dictator is strong, this oligarch is happy to give zero rent to both the dictator and the other oligarch. Let us now compare O_1's payoffs for different levels of property rights protection.

- O_1 offers $p = 1, t_1, t_2$. The dictator's payoff is $-c + t_1 + t_2 + \rho U_S = 0$. O_2 gets $\Pi - t_2 + \rho V_S = 0$. O_1 gets

$$2\Pi - c + \rho U_S + 2\rho V_S. \tag{5}$$

- O_1 offers $p = 0, \widetilde{t}_1, \widetilde{t}_2$. The dictator's payoff is $\widetilde{t}_1 + \widetilde{t}_2 + \rho U_S = 0$. O_2 gets $r - \widetilde{t}_2 + \rho V_S = 0$. O_1 gets

$$2r + \rho U_S + 2\rho V_S.$$

Again, the choice of property rights is efficient: $p = 1$ whenever Assumption (3) holds.

Notice that the parties reach an agreement if (4) is positive (which is equivalent to (5) exceeding $r + \rho V_N$).

Claim 1 *A strong dictator chooses $p = 1$ whenever Assumption (3) holds and (4) is positive. Otherwise $p = 0$ or the dictator is removed.*

We shall assume that the dictator's choice of whom to expropriate is random. Therefore, if the dictator makes an offer, each oligarch is expropriated with probability $1/2$. Each oligarch's payoff is

$$V_S = \frac{1-\alpha}{2}(r + \rho V_N) + \frac{\alpha}{2}(2\Pi - c + \rho U_S + 2\rho V_S)$$

while the dictator gets

$$U_S = (1-\alpha)(2\Pi - c + \rho U_S + 2\rho V_S - r - \rho V_N).$$

Solving this system, we find the joint surplus $J_S = U_S + 2V_S = \frac{2\Pi - c}{1-\rho}$. Therefore

$$U_S = -(1-\alpha)(r + \rho V_N) + (1-\alpha)\frac{2\Pi - c}{1-\rho} \tag{6}$$

$$V_S = \frac{1-\alpha}{2}(r + \rho V_N) + \frac{\alpha}{2}\frac{2\Pi - c}{1-\rho}$$

It only remains to check that (4) is positive:

$$\frac{2\Pi - c}{1-\rho} \geq r + \rho V_N. \tag{7}$$

We will show below (as we solve for V_N) that this inequality does hold.

3.2 Weak dictator

As the dictator is weak, he needs to satisfy each oligarch's participation constraint. Otherwise, each oligarch can deviate unilaterally and remove the dictator from the office.

First, consider the case where the dictator makes the take-it-or-leave-it offer (again, this happens with probability $1 - \alpha$).

- The dictator offers $p = 1$, and $t_{1,2} = t$. Each oligarch's payoff is $\Pi - t + \rho V_W$. The dictator gets $-c + 2t + \rho U_W$.

  - Now either oligarch can deviate unilaterally and remove the dictator. This oligarch would get $R + \rho V_N$, while the dictator would get 0. To rule this out, the dictator has to offer $t = \rho(V_W - V_N) - (R - \Pi)$.

- The dictator offers $p = 0$, and $\widetilde{t}_{1,2} = \widetilde{t}$. Each oligarch gets $r - \widetilde{t} + \rho V_W$. The dictator's payoff is $2\widetilde{t} + \rho U_W$.

  - If an oligarch deviates and removes the dictator, the oligarch gets $r + \rho V_N$. Hence, $\widetilde{t} = \rho(V_W - V_N)$.

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The dictator compares his payoffs $-c + 2\rho\left(V_W - V_N\right) - 2\left(R - \Pi\right) + \rho U_W$ and $2\rho\left(V_W - V_N\right) + \rho U_W$. Apparently, the dictator always chooses weak property rights protection $p = 0$ and gets

$$\rho U_W + 2\rho V_W - 2\rho V_N. \tag{8}$$

(which must be positive). Each oligarch receives $r + \rho V_N$.

Now consider the contingency where O_1 makes an offer. The offer includes transfers $t_{1,2}$, and either strong or weak property rights protection $p = 0, 1$.

- O_1 offers a contract $p = 1, t_1, t_2$. The other oligarch O_2 gets $\Pi - t_2 + \rho V_W$ which must be at least as high as $R + \rho V_N$. Hence $t_2 = \Pi + \rho V_W - R - \rho V_N$. The dictator receives $-c + t_1 + t_2 + \rho U_W = 0$. O_1's payoff is $\Pi - t_1 + \rho V_W = 2U - c + \rho U_W + 2\rho V_W - R - \rho V_N$.

- O_1 offers $p = 0, \widetilde{t}_1, \widetilde{t}_2$. The other oligarch O_2 gets $r - \widetilde{t}_2 + \rho V_W = r + \rho V_N$. The dictator gets $\widetilde{t}_1 + \widetilde{t}_2 + \rho U_W = 0$. Hence O_1's payoff is $r - \widetilde{t}_1 + \rho V_W = r + \rho U_W + 2\rho V_W - \rho V_N$

The oligarch O_1 compares the payoffs and chooses $p = 0$ whenever $2\Pi - R - r > c$.

Claim 2 *Weak dictator prefers $p = 0$ iff assumption (3) holds and (8) is positive.*

Each oligarch gets

$$V_W = \left(1 - \frac{\alpha}{2}\right)(r + \rho V_N) + \frac{\alpha}{2}\left(r + \rho U_W + 2\rho V_W - \rho V_N\right).$$

The dictator's payoff is as follows

$$U_W = (1 - \alpha)(\rho U_W + 2\rho V_W - 2\rho V_N).$$

Solving this system, we find the joint surplus:

$$J_W = U_W + 2V_W = \frac{2r}{1 - \rho}.$$

Therefore

$$
\begin{aligned}
U_W &= -2(1 - \alpha)\left(r + \rho V_N\right) + (1 - \alpha)\frac{2r}{1 - \rho} \tag{9}\\
V_W &= (1 - \alpha)\left(r + \rho V_N\right) + \frac{\alpha r}{1 - \rho}
\end{aligned}
$$

3.3 The choice of a new dictator

In this section, we solve for the oligarchs' payoff V_N in case the dictator is removed. In this contingency, the oligarchs are to choose a new dictator, either a weak one or a strong one. Comparing the oligarchs' payoffs (6) and (9) for either type of dictator, we find that the choice of the new dictator depends on V_N : a strong dictator is chosen whenever

$$(1 - \alpha)(r + \rho V_N) < \frac{\alpha \Delta}{1 - \rho}. \tag{10}$$

where Δ is the social return to enforcing property rights (2). The left-hand side is the cost of the having a strong dictator (the loss due to expropriation of one of the oligarchs). The right-hand side is the benefit of property rights protection enforced by a strong dictator.

Let us now find V_N. The cost of changing a dictator is K hence

$$V_N = -K + \max\{V_S, V_W\}. \tag{11}$$

Solving the system of equations (6), (9), (11), (10) we arrive at the following

Proposition 1 *There is a unique subgame perfect equilibrium. The oligarchs will choose a strong dictator whenever*

$$\Delta \geq \bar{\Delta} \equiv \frac{1 - \alpha}{\alpha} \left[r - K \frac{\rho(1 - \rho)}{1 - \rho(1 - \alpha)} \right]. \tag{12}$$

Otherwise they will choose a weak dictator.

Proof. Let us assume that $V_S > V_W$. Substituting (11) into (6), (9), and (10) we find $V_S - V_W =$ $\left(\Delta - \bar{\Delta}\right) \frac{\alpha}{1-\rho} \frac{1 - \rho(1-\alpha)}{2 - \rho(1-\alpha)}$.

The case $V_S < V_W$ is similar: $V_S - V_W = \left(\Delta - \bar{\Delta}\right) \frac{\alpha}{2(1-\rho)}$. Therefore $V_S - V_W > 0$ if and only if $\Delta > \bar{\Delta}$. ∎

The condition (12) is intuitive. The greater the return to enforcing property rights Δ, the more likely a strong dictator is chosen. The greater the payoff to rent-seeking r (compared to the complete expropriation by a strong ruler), the more likely the weak ruler is to emerge. One can also interpret this result as comparative statics with regard to external threat. Suppose there is an external threat that reduces payoffs in all states so that both r and Π decrease by the same amount. In this case, a strong dictator is more likely to emerge; indeed, Δ remains the same while r decreases. This result is consistent with Besley and Persson (2007) as well as with the argument by Machiavelli (1515, ch. IV).

Interestingly, the greater is the cost of turnover K, the more likely is the strong dictator. The result is not driven by the fact that the weak rulers do not last long. Indeed, this setup involves no uncertainty; once the ruler is chosen, he remains in power in equilibrium indefinitely. The cost of turnover influences the preference for the strong ruler via the value of the outside option. The higher the cost of turnover, the lower the oligarchs' equilibrium payoff. As under the strong dictator, one of the oligarchs is expropriated completely (with probability $\frac{1-\alpha}{2}$), the negative effect of higher turnover costs is more relevant for the case of the weak ruler where both oligarchs get their outside option.

Let us now check whether (7) and (8) are positive. Substituting (11) into (7) and (8) we find that both are positive as long as assumption (3) holds.

3.4 Welfare analysis

Given the Assumption (3), the strong dictator is always more efficient than the weak one: the difference in joint surpluses $[U_S + 2V_S] - [U_W + 2V_W] = \frac{\Delta}{1-\rho}$ is always positive. Yet, as long as condition (12) is violated, the oligarchs appoint a weak dictator. Why does this inefficiency emerge? The oligarchs do not appoint a strong ruler because there is no way for the ruler to commit to not expropriating. In a sense, our model illustrates the non-existence of a "political Coase theorem" (Acemoglu, 2003, Acemoglu and Robinson, 2001). The oligarchs would like to appoint a dictator who would commit to enforce property rights and not to expropriate the oligarchs. The problem is that no dictator can credibly promise both. A weak dictator cannot commit to enforce property rights: as he can be overthrown by a single oligarch, he cannot constrain their rent-seeking. A strong dictator does enforce property rights in equilibrium but cannot commit not to expropriate.

4 Path dependence and the effect of uncertainty

The analysis above describes the equilibrium choice of the dictator by the oligarchs. How does this equilibrium emerge? What happens if for some reason the incumbent dictator is weak while $\Delta > \bar{\Delta}$? What happens if $\Delta < \bar{\Delta}$ but the incumbent dictator is strong? In either situation, oligarchs would rather replace the dictator. In order to prevent this, the incumbent dictator may be willing to offer the oligarchs additional compensation for keeping him in office.

4.1 Removing a weak incumbent

If the returns to establishing secure property rights Δ are sufficiently high, the oligarchs are ready to remove the dictator even though it costs K. This is the case whenever

$$V_S > K + V_W. \tag{13}$$

This inequality implies $V_S > V_W$ hence $V_N = V_S - K$. Substituting this into (6) and (9), we find that (13) is equivalent to π

$$\Delta \geq \Delta^* \equiv \frac{1-\alpha}{\alpha}r + K\frac{2(1-\rho)}{\alpha} > \bar{\Delta}. \tag{14}$$

Proposition 2 *Suppose that the incumbent dictator is weak and (14) holds. Then either oligarch will remove the dictator from the office and replace him with a strong one.*

When the condition (14) holds, either oligarch is happy to remove the dictator. It only remains to check that the dictator cannot bribe the oligarchs. As the dictator is weak he has to bribe both oligarchs; the dictator has to offer either oligarch at least $V_S - K - V_W$. It is easy to check that whenever (14) holds, the dictator cannot afford giving each oligarch this much. The result is intuitive. As the weak dictator is socially inefficient, his payoff is below the bribes he has to provide the oligarchs to remain in power.

4.2 Removing a strong incumbent

Now consider the opposite situation when dictator is strong but the oligarchs would rather appoint a weak one. This would be the case whenever

$$V_W > K + V_S. \tag{15}$$

This inequality implies $V_S < V_W$ hence $V_N = V_W - K$. Substituting into (6) and (9), we find that (15) is equivalent to $\Delta < \Delta^{**} \equiv \frac{1-\alpha}{\alpha}\left[r - K\frac{(1-\rho)(2-\rho(1-\alpha))}{(1-\alpha)(1-\rho(1-\alpha))}\right]$; it is easy to show that $\Delta^{**} = \bar{\Delta} - K\frac{2(1-\rho)}{\alpha} < \bar{\Delta}$.

As the dictator is strong, the condition (15) is necessary but not sufficient. The oligarchs need to coordinate their actions against the dictator. The dictator will try to use the divide-and-rule tactics by bribing one of the oligarchs. The dictator is removed in equilibrium if and only if $V_W - K < V_S + U_S$. Indeed, if O_1 moves to remove the dictator, the other oligarch's best response is to ask the dictator for a bribe. The coalition of the dictator and O_2 has the joint surplus of $V_S + U_S$ if dictator stays in power and only $V_W - K$ if he is removed.

Substituting into (6) and (9), we find that $V_W - K < V_S + U_S$ can only be the case if the property rights protection is socially suboptimal $\Delta < 0$.

Proposition 3 *Suppose that the incumbent dictator is strong and assumption (3) holds. Then it is a dominant strategy for either oligarch not to try to remove the dictator.*

If O_1 tries to remove the dictator, O_2 is better-off deviating and colluding with the dictator. If O_1 is content with the dictator, it makes no sense for O_2 even to try to remove the dictator: the dictator is strong and O_2 cannot remove him alone.

It is important to emphasize that there is a non-trivial range of parameters for which the condition (15) does hold; each oligarch would benefit from replacing the dictator. However, as they cannot resolve the coordination problem, the dictator remains in power.

4.3 Effect of uncertainty

The results above suggest an important asymmetry between the weak and the strong dictators. While non-trivial turnover costs K provide certain protection to either type of dictators, removing the strong dictator is impossible even if K is low. The matter is that the strong dictator can use divide-and-rule tactics. Therefore there can emerge a dynamic path along which the oligarchs prefer to replace the strong dictator with the weak one but cannot solve the coordination problem. Ironically, the strong dictator is brought in to help oligarchs resolve the coordination problem with enforcing their property rights against each other. On the other hand, the dictator takes advantage of the very same coordination problem to remain in power and expropriate the oligarchs.

In the model above, parameters are stable over time. Hence the choice of dictator which is optimal today will continue to be optimal tomorrow as well. Now we shall consider the case where the economic environment changes over time. For example, there can be bad economic times (low Π and therefore low $\Delta = \Delta^L$) and prosperity (high $\Delta = \Delta^H > \Delta^L$). Consider the case where $\Delta^L < \bar{\Delta} < \Delta^* < \Delta^H$ (see (12)). In other words, if the oligarchs knew that prosperity $\Delta = \Delta^H$ is to last forever, they would choose a strong dictator. If they believe that the recession $\Delta = \Delta^L$ is to last forever they would choose a weak dictator.

While coping with the uncertainty of the future economic environment, the oligarchs must take into account the implications of irreversibility of appointing a strong dictator (similarly to the irreversibility of investment, see Dixit and Pindyck, 1994). By appointing a weak dictator, the oligarchs acquire an option to replace the dictator with a strong one if the state changes to

$\Delta = \Delta^H$. On the other hand, if the oligarchs appoint a strong dictator, they effectively give up this replacement option. Therefore, the oligarchs would be biased in favor of appointing a weak dictator.

To formalize this simple intuition, we assume that oligarchs need to appoint a dictator before uncertainty is resolved. They know that once the dictator is appointed, uncertainty is realized and Δ is either Δ^L with probability ϕ or Δ^H with probability $1 - \phi$ (and remains at this level forever).

Denote $V_d(\Delta)$ the payoff of an oligarch if the dictator's type is $d \in \{S, W\}$ and the realized economic environment is $\Delta \in \{\Delta^L, \Delta^H\}$. If the oligarchs choose a weak dictator, their expected payoff is $(1 - \phi)\left[-K + V_S(\Delta^H)\right] + \phi V_W(\Delta^L)$. Indeed, if the true state is $\Delta = \Delta^L$ they will keep the weak dictator in place, and if $\Delta = \Delta^H > \Delta^*$, they replace the weak dictator with a strong one.

If the oligarchs appoint a strong dictator, they know that they will be unable to replace him whatever the realization of uncertainty; therefore the payoff is $(1-\phi)V_S(\Delta^H)+\phi V_S(\Delta^L)$. Comparing these two payoffs, we obtain the following result.

Proposition 4 *Assume* $0 < \Delta^L < \bar{\Delta} < \Delta^* < \Delta^H$. *Then the oligarchs choose a strong dictator whenever*

$$(1 - \phi)K < \frac{\alpha\phi\left(\bar{\Delta} - \Delta^L\right)}{2(1 - \rho)}. \tag{16}$$

Otherwise they choose a weak dictator.

The Proposition implies that the emergence of strong property rights protection is unlikely if uncertainty is high. Indeed, consider the case where the variance of the economic environment increases (e.g. Δ^H increases and Δ^L decreases keeping the expected value $\phi\Delta^L + (1 - \phi)\Delta^H$ constant). Then, the condition (16) is less likely to hold and the oligarchs are more likely to choose a weak dictator. This situation may well occur when the expected returns to protecting property rights $\phi\Delta^L + (1 - \phi)\Delta^H$ are above $\bar{\Delta}$ so that oligarchs would choose a strong dictator *on average*. Yet, even in this case if the uncertainty is high, the oligarchs prefer to appoint a weak ruler: the option value of replacing an incumbent is large.

5 Extensions

5.1 Effect of uncertainty in a general model

The example above assumes that the uncertainty is resolved once and for all. In this section, we consider a more general setting with a Markovian uncertainty with two states of nature: bad times

(L) and good times (H). For simplicity's sake, the states differ only in terms of the returns to containing rent-seeking: $\Delta^L < \Delta^H$.

If the present state is H, in the next period it remains H with probability $1 - \lambda$, and switches to L with probability λ. If the current state is L, it does not change with probability $1 - \mu$ or returns to H with probability μ.

We shall consider an equilibrium where Δ^L is sufficiently low so that the oligarchs appoint a weak dictator in the state L. The question is whether they will appoint a strong dictator in the state H. On one hand, in this state, the returns to stronger property rights Δ^H are high; on the other hand, once the state L arrives, the oligarchs would not be able to remove the strong dictator.[4]

We will study the equilibrium where the second effect dominates, so the oligarchs prefer to appoint a weak dictator even in the state H. Reproducing the analysis from Section 2, we establish the following system of equations for oligarchs' payoffs $V^i_{S,W,N}$ and the joint surplus $J^i_{S,W}$ (here the superscript $i = L, H$ denotes the state L, H).

$$
\begin{aligned}
V^i_S &= \frac{1-\alpha}{2}\left(r + \rho V^i_N\right) + \frac{\alpha}{2}J^i_S; \ V^i_W = (1-\alpha)\left(r + \rho V^i_N\right) + \frac{\alpha}{2}J^i_W; \\
V^H_N &= -K + \left[(1-\lambda)V^H_W + \lambda V^L_W\right]; \ V^L_N = -K + \left[(1-\mu)V^L_W + \mu V^H_W\right]; \\
J^L_S &= \Delta^L + 2r + \rho\left[(1-\mu)J^L_S + \mu J^H_S\right]; \ J^L_W = 2r + \rho\left[(1-\mu)J^L_W + \mu J^H_W\right]; \\
J^H_S &= \Delta^H + 2r + \rho\left[(1-\lambda)J^H_S + \lambda J^L_S\right]; \ J^H_W = 2r + \rho\left[(1-\lambda)J^H_W + \lambda J^L_W\right].
\end{aligned}
$$

In order for the solution to be an equilibrium outcome we need to require $V^H_S - V^H_W < 0 < V^L_S - V^L_W$. We have already assumed above that Δ^L is sufficiently low so the right-hand side inequality holds. The left-hand side one makes sure that even in the high state, the oligarchs are afraid to appoint a strong dictator as the latter would be impossible to remove. This condition is equivalent to

$$
\Delta^H < \frac{\lambda\rho\left(\Delta^H - \Delta^L\right)}{1 - \rho(1-\lambda-\mu)} + \frac{1-\alpha}{\alpha}\frac{\rho(1-\rho)}{1-\rho(1-\alpha)}\left[r\left(\frac{1}{\rho(1-\rho)} - \frac{\lambda(1-\alpha)}{1-\rho(1-\alpha)(1-\lambda-\mu)}\right) - K\right].
$$

This inequality holds whenever volatility of economic environment $\Delta^H - \Delta^L$ is sufficiently high.

5.2 Number of oligarchs

If there are $N > 2$ oligarchs, the analysis is much more complicated. First, there emerges a whole range of dictators' strengths. Can there be a dictator of an intermediate strength $n \in (1, N)$ so that

---

[4]In this setting, once a strong dictator is appointed, he will remain in office forever. A more realistic setup would involve a small exogenous probability of dictator's departure; results would be similar.

he can commit not to expropriate individual oligarchs and at the same time will be strong enough to contain rent-seeking? In order to do the latter, he must take at least two oligarchs to remove him from office (if $n = 1$, each oligarch can threaten to deviate unilaterally, hence the dictator will fail to stop rent-seeking). However, for any $n \geq 2$, the dictator can easily expropriate $n - 1$ oligarchs.

How does the severity of the commitment problem change at larger N? Consider an extreme case of the strong dictators who can only be removed by consensus. In this case, the dictator expropriates $(N - 1)/N$ oligarchs. On the other hand, an individual oligarch's returns to property rights protection are proportional to his bargaining power α/N. Hence the greater number of oligarchs, the more likely the appointment of a weak dictator – even though the need for a strong dictator is greater. Indeed, as N goes up, the problem of coordination between oligarchs becomes even more severe.

5.3 Democratic transition

We have considered the case of weak and strong dictators. Can the oligarchs appoint a very strong ruler who cannot be overthrown even by a consensus of oligarchs? In our framework, it would be equivalent to a transition to democracy. Why would oligarchs agree to give up power without any chance to get it back? This may be the case if two conditions hold: (i) there is a need for the dictator's investment in protection of property rights that extend beyond the current period (ii) the dictator can commit not to expropriate the dictators completely or there is a non-trivial chance that dictator resigns, dies or becomes weaker. Then, the oligarchs may prefer to appoint a very strong dictator in order to provide him with incentives to invest.

In case these conditions do not hold, such a transition may only happen against the will of the oligarchs, via a popular uprising (see Acemoglu and Robinson, 2001, 2006) or through a conflict between the oligarchs if those are heterogeneous. The latter possibility is modelled in Acemoglu (2007) where low-skilled oligarchs may prefer to join the poor.

5.4 Endogenous popular support

Our results would only be reinforced in a setting where the dictator's popular support (and therefore his strength) would be endogenous to the economic performance. In such a model, oligarchs would be even more reluctant to appoint a strong dictator in good economic times: this dictator would soon gain immunity from the oligarchs' pressures.

6 Conclusions

In this paper, we consider a dynamic model of the interaction between dictators and oligarchs. Oligarchs are powerful economic agents who behave strategically both in economics and politics. As the economic institutions are imperfect, oligarchs suffer from continued rent-seeking and are interested in building a state that would resolve their coordination problem and constrain rent-seeking. We show that such a state does not always emerge. Indeed, the oligarchs want to appoint a ruler who would both protect their property rights from other oligarchs and not expropriate the oligarchs himself. This trade-off is hard to resolve. If the oligarchs appoint a weak dictator, he cannot constrain oligarchs' rent-seeking. If the oligarchs appoint a strong dictator, he does protect the oligarchs from each other but cannot commit not to expropriate some oligarchs himself. Therefore, in some situations, the oligarchs would rather appoint the weak dictator even though the strong dictator is Pareto optimal. We also show that once the strong dictator is appointed he cannot be removed – even if the oligarchs are better-off under a weak dictator. The strong dictator can use divide-and-rule tactics to exploit the very same coordination failure between the oligarchs that the latter requested him to resolve. This irreversibility implies two predictions. First, appointing a strong dictator is an even less attractive choice for the oligarchs. It is therefore not surprising that in many oligarchic economies we observe a weak state and persistent rent-seeking even when stronger protection of property rights is clearly better for everyone.

Second, the probability of appointing a weak ruler increases in the degree of economic uncertainty. This is why strong property rights are unlikely to emerge in countries with volatile terms of trade, in particular in resource-rich economies.

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