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On the timing of political regime changes in resource-dependent economies

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A R T I C L E   I N F O

A B S T R A C T

We consider a resource-dependent economy initially ruled by the elite. The transition from the autocratic to a more democratic regime takes place only if the citizens decide to revolt against the elite. The occurrence of a revolution primarily depends on the autocratic regime vulnerability and the level of inequalities, both being driven by the elite's redistribution and repression policies. First, we show that when a political transition is inevitable, the elite choose the maximum rate of redistribution to lengthen their period in office. Second, we find that the duration of the autocratic regime is linked to resource abundance, and how it relates to the elite's policies. More resources lead to a shorter reign of a redistributive regime, which may not be the case of a repressive regime. Finally, we interpret the Arab spring sequence in light of our findings.

1. Introduction

Resource-dependence is often invoked to explain the bad economic and institutional outcomes of some countries abundantly endowed with natural resources. There is a particularly intense debate on whether natural resources have a negative impact on the quality of institutions. Perhaps the most provocative related piece of work is due to Friedman (2006) who ends up proposing what he calls the first law of petropolitics: "The price of oil and the pace of freedom always move in opposite directions in oil-rich petrolist states." The majority of the empirical literature indeed finds a negative impact of natural resources on democracy. In his seminal contribution, Ross (2001) uses a cross-country regression and provides strong support for the "oil impedes democracy" hypothesis by showing that wealthier countries tend to be less democratic. Since then, many scholars have confirmed this result in various settings (see for instance, Tsui, 2010). Nonetheless, to the supportive studies initiated by Ross (2001) have responded several contributions clearly casting a doubt on the validity of Friedman's claim. Two are worth mentioning here. Alexeev and Conrad (2009) deal with the endogeneity problem coming from the fact that regressions often control for initial GDP despite natural resources may have an impact on this measure if discoveries occurred before the sample period. They show that once this problem is settled properly, oil and minerals have

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barely an impact on political regimes. Moreover, Haber and Menaldo (2011), who take care of omitted variables and control for unobserved country heterogeneity, do not find evidence of a negative impact of natural resources on democracy as well. On the contrary, they obtain statistically significant results for the opposite relationship: higher resource wealth tends to be associated with more democratic regimes.

The absence of any compelling evidence on the negative impact of resource revenues on democratization has inaugurated a recent literature which indeed delivers a deeper view of the relationship between natural resource wealth and political regimes. Our paper is a theoretical contribution to this line of research, a distinctive feature of our work being its focus on the duration of autocracies. There are quite a few papers that address this issue. Cuaresma et al. (2011) are the very first to study the relationship between oil endowment and the duration of autocratic leaders. They first develop a simple static model based on Gallego and Pitchik (2004)'s theory of leadership turnover. They obtain that the probability for a dictator to face a coup is decreasing in the endowment in natural resources. Then, they test this hypothesis empirically and find that it is supported by the data. Andersen and Aslaken (2013) extend the previous study by assessing the impact of several types of natural resources (oil, diamonds and other minerals) on the survival of different types of political leaders. They conclude that natural resources affect political survival only in "intermediate" and autocratic regimes, not in democracy. Moreover, they show that the impact can be positive or negative, depending on the type of resource considered. This highlights the crucial feature of the "appropriability" of natural resources, appropriable resources being more likely associated with a negative impact on the survival of autocratic leaders.

It is worth pointing out that just like the empirical literature testing the relationship between resource windfalls and democratization, there is no compelling evidence on a non-ambiguous correlation between duration of autocracies and the size of resource windfalls. Moreover, both the empirical and theoretical pieces of work quoted above are either silent or not comprehensive enough on why a specific autocracy comes to an end. For example, in the spirit of Cuaresma et al. (2011)'s theory, dictators are brought to power by "kingmakers" who may later decide to replace them with another member of the elite thanks to a coup. That is to say, revolutions by citizens are ignored in this theory. In this paper, we develop a dynamic theory of political survival of autocracies when autocrats are subject to a revolution threat by the citizens. Within this set-up, we aim to uncover the main economic mechanisms shaping the relationship between the duration of autocracies and resource windfalls.

This is clearly a relevant and contemporaneous case, the Arab spring events after the 2011 Tunisian Jasmine revolution being an accurate and fascinating illustration. A remarkable feature of the Arab Spring experience is the large diversity of outcomes. While Gulf monarchies and other countries like Algeria have been able to retain the power for decades despite serious threats and structural problems undermining their supremacy (see Davidson, 2013, for the Gulf monarchies, and Boucekkine and Bouklia-Hassane, 2011, for the Algerian case), the same problems have given rise to revolutions in countries like Tunisia and Egypt. This is a quite puzzling observation since in all of these countries, the elite enjoy full control of national resources and may, at least in theory, retain the power for a long time (if they wish so) by an adequate combination of redistribution and repression. For example, Boucekkine and Bouklia-Hassane (2011) have documented how the Algerian government extensively resorted to food subsidies, support programs for youth employment and some repression in order to stop the contagion effects of the rising Arab Spring. Whether such an outcome can be rationalized as an equilibrium is definitely much less obvious and it is one of the purposes of this paper to explain the large diversity of outcomes observed during the Arab Spring.

Our theory has the following essential elements. In the initial political regime, the elite have full control over the economic resources and choose how much to (i) consume, (ii) invest in the economy, and (iii) devote to self-preservation strategies. These strategies, which consist of redistribution and repression, provide the elite with valuable instruments when they face a threat of being overthrown. Indeed, the citizens have to decide whether they revolt against the elite and when, taking as given the elite's policy. A key aspect of their tradeoff is the direct – political regime – switching costs (DSC hereafter) faced. These costs depend either on the repression exerted by the elite or on the coordination costs inherent in any collective action. They represent the autocratic regime vulnerability. Knowing the resulting reaction function of the citizens, the elite, acting as strategic leader, then choose their optimal redistribution and/or repression policies. Decisions are taken under perfect foresight and perfect information. A successful revolution leads the economy to a more democratic regime. In this second regime, the former elite and the citizens have equal access to economic resources (as in Lane and Tornell, 1996, and Tornell and Lane, 1999). This departs from the democratization theory *à la* Acemoglu and Robinson (2006) that typically assumes that elite are killed during revolutions. But this is consistent with what happened in Tunisia or Egypt where the Arab Spring events have successfully overthrown the ruling dynasty but have failed to renew the political and economic elite to a large extent.

Three ingredients play a central role in the equilibrium mechanisms and outcomes: the level of the DSC, the level of inequalities, and the initial stock of resources. The first two are endogenous: the DSC are determined by the repression expenditure of the elite whereas inequalities come entirely from their decision to redistribute more or less resources to citizens. In contrast, the initial stock of resources is given, it features the size of the cake effect which plays an important role in the pace of political transitions (if any) in our set-up. According to this effect, the larger the initial stock, the higher the incentives to contest the elite's power and to switch to the second regime with equal access to the resources. The model delivers a clear hierarchy among these three magnitudes with respect to the mechanics of institutional change.

To fix the ideas, consider the case with no repression so that DSC are minimum and constant. If these costs are low enough, then citizens will revolt against the vulnerable elite whatever the level of inequalities, that is whatever the extent of