The Political Transfer Problem:
How Cross-Border Financial Windfalls Affect Democracy and Civil War

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Abstract

Following a rise in the price of oil in the 1970s, a number of developing countries received a significant boost in foreign transfers as oil producers could not absorb all of their new rents domestically. When those transfers ended, some recipients of these transfers eventually democratized as part of the "Third Wave" while others languished as violent autocracies. This raises a puzzle: how can declines in external transfers foster democratization in some cases, but heighten political violence in others? We develop a formal model to reconcile this tension and demonstrate that autocratic incumbents can become more repressive with higher levels of transfers and either experience civil conflict or democratize at lower levels of transfers. We characterize these dynamics as a "political transfer problem" and then use case studies and econometric evidence to argue that the largest windfall of the 20th century, the period from 1973-85 during which oil prices were at all-time highs, and its aftermath, produced political dynamics consistent with our model.

Keywords: Foreign transfers, democracy, civil war, political economy, formal model, resource curse

JEL classification: O1, P16, F35, H27

1. Introduction

According to the International Energy Agency, the COVID-19 emergency and the ensuing fall-off in demand for oil may have already brought about "peak oil" (IEA 2020). Rising interest in a low-carbon sources of energy led *The Economist* to observe that while oil "fuelled the 20th century" wars and politics, a new global order would soon emerge as a result of the energy transition (2020). It will be some years before the long-term impact of this dramatic change in the distribution of rents from commodity production is understood, should it occur. But we can examine the consequences of the last global commodity supercycle which definitively ended in the mid 1980s. While the direct impact of the oil revenue windfalls on producer nations is well studied, as exemplified by the resource curse (e.g., Ross 2001, Smith 2008) and rentier state (e.g., Beblawi 1987) literatures, what is less explored is the impact of the reallocation of those rents around the world.

In this paper, we seek to document how the emergence of largely exogenous unearned foreign transfers in the 1970s may have significantly transformed the trajectories of war and governance in many developing countries. The 1973 oil embargo set in motion a dozen years of sky-high oil prices, filling the coffers of the producer states. Those producers, including Saudi Arabia and the Soviet Union, did not absorb all of the windfall domestically, but redistributed some of it abroad in the form of foreign aid, petrodollar savings, and trade subsidies. As we show in this paper, when those transfers ended, recipients of these transfers in Latin America and Eastern Europe eventually democratized as part of the "Third Wave" while many Muslim-majority societies languished as violent autocracies.

To illustrate some of these dynamics, Figures 1a and 1b plot the annual average POLITY score and incidence of civil war from 1960 to 2010 across these groups of countries.[1] So

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[1]We follow Werker et al (2009) and classify a country as Muslim if at least 70 percent of its population identifies with the Islamic faith; for Latin America we include all countries in South and Central America; for Eastern Europe, we include Eastern European Comecon members who benefited from Soviet trade subsidies, as explained later in the paper. In Figure 1b, for clarity and since we compare patterns of civil

that we do not inadvertently capture effects from domestic oil rents, all the countries in the figures are developing economies that are not themselves oil producers. Figure 1a reveals a divergence in democratization, with successful outcomes beginning in the early 1980s for Latin American countries, following in the late 1980s for Eastern Europe, and with Muslim non-oil producers on average failing to reach the threshold for democracy. The trajectory towards democracy in the "control" group of other non-oil producing developing countries, as Figure 1a demonstrates, falls somewhere in between.[2] Figure 1b reveals a surge in conflict among Muslim non-oil producers from the late 1980s through the end of the century, relative to other countries.

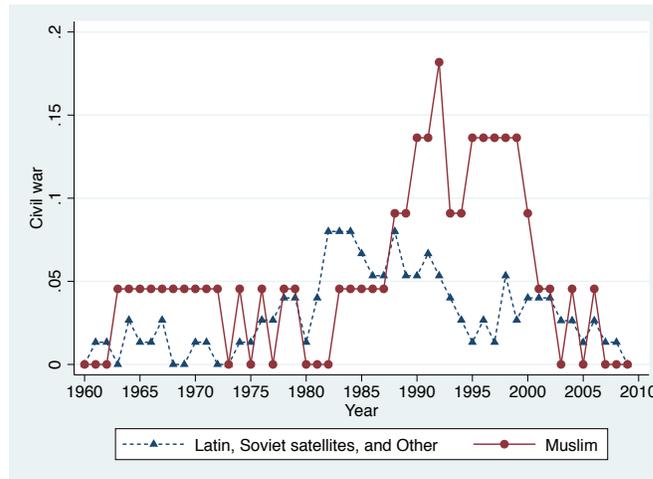**Figure 1a**: *Democracy in non-oil producing developing countries*
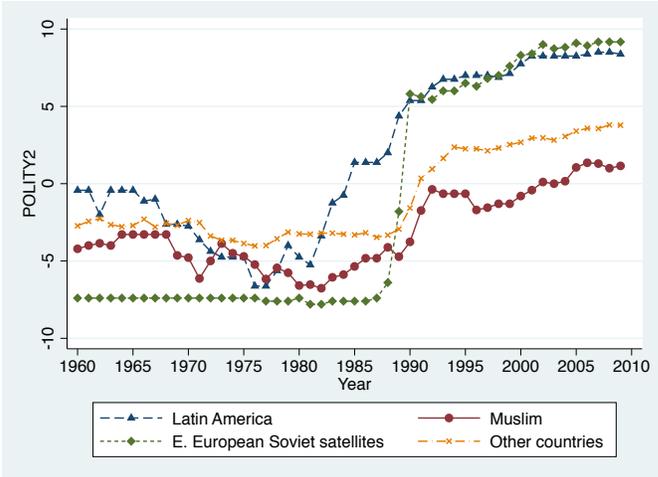
Notes: Average annual group mean of non-oil producing countries across Latin America, Eastern European Satellites, Muslim-majority, and all other (remaining). POLITY2 ranges from -10 (Least democratic) to +10 (Most democratic).

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conflict across Muslim and non-Muslim non-oil producers, we plot the average annual intensity of conflict across these two categories of countries. We also observe similar patterns using the "polyarchy" variable from V-DEM as an alternate measure of democracy. See Figure C1. Our measure of civil war is the incidence of a non-internationalized internal conflict with at least 1,000 battle deaths per annum. This data is from the PRIO/Armed Conflict Database.

[2]Figure 1a also shows the timing of democratization in Latin America and Eastern Europe coincided with the end of the Cold War. We are cognizant of this concern and accordingly evaluate the role of geopolitics in section 4.3. For example, we are able to control for the Cold War "politics" with year fixed effects and interactions of a post Cold War dummy with other explanatory factors. We also account for another competing explanation: the role of the Second Vatican Council in "preaching" democracy (Andersen and Jensen 2019). We show that are our inferences about foreign transfers and patterns of democracy and civil war are robust to controlling for these competing explanations.

Figure 1b: *Civil war in non-oil producing developing countries*

Notes: Average annual group mean of POLITY2 and civil war (at least 1,000 battle deaths per annum) in non-oil producing countries across Latin America, Eastern European Satellites, Muslim-majority, and all other (remaining). POLITY2 ranges from -10 (Least democratic) to +10 (Most democratic).

The patterns in figures 1a and 1b underlie the core empirical puzzle this paper probes: why did many Latin American and Eastern European countries peacefully transition to democracy after the mid-1980s, while many Muslim-majority societies remained conflict prone and authoritarian? In an effort to answer this question, we provide a formal model and corroborative case and statistical evidence that links variation in exogenously-driven foreign transfers (unearned income) to patterns of comparative democratization and conflict. Our decision to formally model the patterns in Figure 1a and 1b stems from existing theoretical accounts which treat the relationship between unearned income and democracy/civil conflict as *separate* outcomes. This is surprising as democracy and civil conflict are related (see Blattman and Miguel 2010 for an overview). Thus to gain theoretical precision, we articulate a formal model describing how variation in unearned income affects the prospects for democracy and civil conflict in a unified framework.

Our model generates two predictions, which we characterize as a "political transfer problem." The political transfer problem is a reference to the original "transfer problem" (Keynes 1929), which described the relative price distortions inherent in Germany's repa-

ration payments after the Great War. In the political transfer problem, the flow of unearned income may lead to the equilibrium over political violence to become unbalanced, just as in the economic transfer problem, extracting taxes for reparations may lead to the production and consumption of goods and services being unbalanced. An unearned windfall in one country, not fully absorbed, may result in unearned income showing up elsewhere in the global system, and bringing with it the dynamics of political rents. First, we illustrate an effect of received rents: when a non-democratic country experiences a reduction in unearned income, it may trigger a transition into democracy, but a democratic country experiencing a similar reduction will remain in democracy. Second, we address the heterogeneity in response when unearned income falls in a non-democratic country: a country with cohesive, redistributive institutions is more likely to transition to democracy, while a country whose institutions are less egalitarian is more likely to remain in repression or civil conflict.

Our model builds on the work of Besley and Persson (2009, 2010, 2011a, 2011b) and extends it to allow for the possibility that the incumbent can deter attacks by the opposition when government resources are sufficiently high. The model is essentially a one-shot sequential game, and when unearned resources are moderate, an incumbent will respond to an insurgency with only moderate violence, which encourages an attack by the insurgents. When unearned resources dwarf the costs of fielding a large army the incumbent would be willing to spend enough to squash an insurgency, and the insurgents are deterred from attacking. This set-up allows us to capture the empirical experience of countries that we see in the data, where we observe a deescalation in violence even as there are increases in the unearned rents in a country.

Guided by the model and cognizant that unearned income is endogenous with a country's domestic political economy, our empirics focus on three forms of exogenously driven foreign transfers: foreign aid to non-oil producing Muslim countries, petro-dollar loans to Latin American governments, and trade subsidies to former Soviet satellites in East-

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ern Europe. These transfers share three important features: (1) a significant fraction of these transfers accrued to the government's budget,[3] (2) they therefore represent a form of "unearned" (nontax) income, and (3) were highly correlated with oil prices.[4] As we show with our reduced form estimates, for the latter, the exogeneity of oil prices allows us to draw plausibly causal inferences. The magnitudes of these capital flows were quite substantial: Gulf aid comprised some 13.5 percent of total (global) aid between 1974 and 1994, and much of it went to Muslim recipient countries (Neumayer 2003, 134). In Latin America, petro-dollar borrowing amounted to over $7.5 billion per annum in the late 1970s, which was equivalent to 20 percent of combined exports over the same period (Devlin 1989, 17 and 20). In a less appreciated case, the Soviet Union transferred somewhere between $30 and $100 billion in trade subsidies (measured in 1984 dollars) to Eastern Europe, under-pricing oil exports relative to imported manufactured goods (Liberman 1998, 132). Our rough calculations for the total transfers to the non-oil Muslim countries and Latin American borrowers are that they are of a similar order of magnitude. In contrast, total global GDP for low and middle income countries in 1980, according to World Bank data, was around $2 trillion; thus each type of transfer, though spread out over a decade, was on the order of 2.5% of developing-country GDP.

Our central question is broad and faces the same problem of many of the "big questions" of political economy – that there are as many competing explanations as data points. Our approach to this problem is to bring a multi-method approach, since we do not expect that any single methodological approach will be sufficiently convincing given the inherent challenges of endogeneity. First, we advance a formal model to bring theoretical clarity to the question.[5] We generate two core empirical implications: (i) a

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[3]Thus, we exclude remittances, which accrues *indirectly* to government finances (Ahmed 2012).

[4]Section 3 documents these features. Our paper focuses on the recipient side of these transfers, rather than focusing on the different allocation patterns and rationale of "donor" countries/governments.

[5]Colgan (2015) presents a non-formal account linking variation in rents to peaceful or violent political change in oil-producing autocracies. His description for oil producers is consistent with our theoretical predictions for transfer recipients. In addition to providing a more precise theoretical grounding to his empirical findings, our paper generates predictions for politics and rents in countries with more democratic-oriented politics and provides empirical corroboration across non-oil producing countries that

reduction in transfers can shift a country from conflict or repression into democracy, but not away from democracy and (ii) a democratic transition is more likely when transfers decline if the country's underlying institutions are more cohesive. Second, we present historical case studies of the three massive transfers of unearned income from and to autocrats during the 20th century, combining qualitative and statistical evidence. Our goal with these case studies is to sufficiently describe each episode so as to demonstrate the magnitude and characteristics of the transfer as they relate to the theoretical variables and the historical importance; we present the case studies as complementary rather than as a stand-alone contribution.

Third, we provide statistical corroboration for our case studies with reduced form estimates linking plausibly exogenous variation in oil prices to differential patterns of civil war and democracy in Muslim, Latin American, and Eastern European countries. Our analysis shows that lower levels of transfers (associated with declining oil prices) are associated with improvements in democracy in Latin America and former Soviet Satellites, but have no discernible effect on democracy in Muslim societies. Rather, Muslim societies are significantly more likely to experience civil war at lower levels of transfers (associated with declining oil prices). As we argue in sections 3 and 4, we link these differential effects associated with lower levels of transfers (via oil prices) to regional differences in cohesive institutions. Relative to non-Muslim societies, Muslim societies tend to exhibit less cohesive institutions. Our statistical analysis also allows us to evaluate several competing explanations, such as the Catholic Church's role (e.g., through the Second Vatican Council) in advancing democracy (Andersen and Jensen 2019) and the role of geopolitics in shaping patterns of civil war and democracy after the end of Cold War (Fukuyama 1992, Kalyvas and Balcells 2010, Berger et al 2013). Our aim is that through this multi-method approach, the weight of theoretical plausibility and empirical probability will support our interpretation of the important role of internationally-transferred unearned income

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receive various types of foreign transfers.

in shaping patterns of comparative democratization and conflict.

Our articulation of a political transfer problem speaks to prominent literatures in political economy. First, it is situated in the emerging research on fragile states. For example, Besley and Persson (2011b) have attempted to sharpen the discussion from numerous policy papers (e.g., Zoellick 2009) to articulate how fragile states end up the way they do. Second, the paper is related to the literature on unearned income and the resource curse (e.g., Ross 2001, Smith 2008, Haber and Menaldo 2011), especially those that document a "conditional" resource curse predicated on a variety of domestic conditions, such as income inequality (Dunning 2008), pre-existing institutions (Menaldo 2016), ownership structure (Luong and Weinthal 2010), electoral institutions (Mahdavi 2015), and economic integration (Kurtz and Brooks 2011). Third, by investigating the link between aid windfalls and domestic politics, we speak to research on foreign aid and political stability (e.g., Collier and Hoeffler 2004, Ross 2006, Morrison 2009, Nielsen et al 2011). Finally, by examining the impact of foreign transfers on democracy, we contribute to wider scholarship on the international sources of democratization (e.g., Pevehouse 2005), as well as studies focusing on how democratization can affect political violence (Snyder 2000).

2. Theory

2.1. Theoretical puzzle

There is a voluminous literature on democratization and civil conflict.[6] While it is beyond the scope of this paper to fully summarize the rich literature, it is worth highlighting the recurring factors that scholars identify. This scholarship consistently finds that richer countries with a high quality of civil society (e.g., high levels of human capital, political organization, civil liberties) and less ethnic, religious, and income inequality/heterogeneity tend to be democratic, are more likely to democratize, and are less

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[6]For reviews, see Haggard and Kaufman (2016), Blattman and Miguel (2010).

prone to civil conflict (e.g., Dahl 1971, Putnam 1993, Przeworski et al 2000, Fish and Brooks 2004, Blattman and Miguel 2010). Good economic performance can help consolidate democratic governance in nascent democracies, while economic crises can be a source of democratization as well as democratic backsliding (Svolik 2008). In general, these factors capture *domestic* level characteristics. While many of these factors are country-specific and largely time-invariant (e.g., societal fragmentation), some explanations are temporal. Emphasizing the latter is important, as the temporal variation in democracy and civil war across countries necessitates an explanation that varies across countries and time.

In explaining this temporal variation, a number of studies identify the important role of unearned (nontax) income, which includes foreign transfers (Morrison 2009).[7] These studies typically theorize democracy and civil conflict as *separate* outcome variables.[8] One strand of this literature argues that higher levels of unearned income can entrench autocracy by increasing the regime's repressive capacity and ability to supply patronage (Ross 2001, Smith 2008). Concomitantly, declines in unearned income can spark political upheaval, particularly civil conflict (Collier and Hoeffler 2004, Ross 2006, Nielsen et al 2011). Yet, another strand of this literature posits that greater amounts of unearned income can generate a "voracity effect" that fosters rent-seeking behavior and political instability (Tornell and Lane 1999, Svensson 2000), but under some circumstances may enhance the prospects for democracy (Wright 2009). These divergent predictions in the existing literature raises an important question: under what conditions does unearned income foster peaceful or violent political change?

To the best of our knowledge, there is no formalized account in the existing literature that links a decline in *unearned income* to these different outcomes (democracy or conflict) in a *unified* framework. Thus, in the next subsection, we advance a formal model to rec-

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[7]Economic growth and income is another important time-varying explanation. Cognizant of this, we control for these factors and time-invariant effects in our empirical analysis.

[8]An exception, as we note below, is Besley and Persson (2011a).

oncile this tension. Our model is driven by competition for political power between two groups within a country, and the winner distributes state resources disproportionately to its own members depending on the "cohesiveness" of institutions. In the model, *more* cohesive institutions result in government resources being more equitably distributed across society.[9] The model assumes that it is not possible to credibly commit in advance to a more equitable redistribution, so both groups have an incentive to use violence to increase their likelihood of gaining or holding power. It is important to note that while our model identifies foreign transfers as an important source of political outcomes, we are careful to capture other important features that can affect politics, such as per capita income and the degree of institutional inclusion.

Our model generates two key predictions. The first is an illustration of the effects of unearned rents on democracy: shrinking transfers will not drive a democratic regime into repression or conflict,[10] but may cause a nondemocratic country to move from repression or civil conflict to democracy. The former prediction about the relative political stability of democratic regimes and unearned income is consistent with existing formulations (e.g., Smith 2008, Morrison 2009, Besley and Persson 2009, 2010, 2011a).[11] Our second prediction focuses on the greater political turbulence from declining transfers in autocracies. In particular, the flexibility of our model allows for two paths from high to medium/low levels of transfers in recipient countries: greater political violence (from repression to conflict) or peaceful transitions to democracy. The specific path a society experiences hinges on the cohesion of ex-ante cohesive institutions.

Thus, the second key prediction is that conflict is more likely when ex-ante institutions are less cohesive, while a peaceful transition to democracy is more likely in coun-

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[9]The degree of cohesion can be shaped by a number of factors, including historical legacy (e.g., colonial history, pre-modern state capacity), factor endowments (e.g., land inequality, natural resources), and ethno-linguistic and religious fractionalization.

[10]The model is written in terms of levels and not changes, so the model also predicts that rising transfers will not move a non-democratic regime into democracy.

[11]For example, proposition 1 in Besley and Persson (2011a, 1421) implies that when institutions are more cohesive, "there is no point in expending costly resources to struggle for power. This gives a simple account for why we predominantly observe political violence in countries with non-cohesive political institutions."

tries where ex-ante institutions are more cohesive. This differential effect is novel in the theoretical literature on unearned income and political stability (e.g., Ross 2001, Morrison 2009, Bueno de Mesquita and Smith 2010) and will be the primary focus of our empirical analysis in section 4.

2.2. Model

2.2.1. Basic set-up

Our basic set-up follows Besley and Persson (2010) and is informed by their related theoretical work (Besley and Persson 2009, 2011a, 2011b). There are two groups (I, P), each with a population normalized to 1, and each member of the population earns a wage, also normalized to 1. Time is infinite, but there are no state variables and thus levels and not changes determine outcomes; we model a single generation which is the same as any other. The incumbent (denoted I) starts the period in power, while the other group (P) is in the opposition. Ending the period in power allows the incumbent to favor its own group when distributing state resources R, which can be thought of as unearned income from foreign transfers.[12]

Both the incumbent and the opposition have access to a violence technology: an army of size $A \in (0,1)$ that costs wA to raise. We assume that there are two sizes of armies available for the incumbent, L and H (for low and high) and one for the opposition, which is the same as the incumbent's low level. Limiting army sizes to discrete options is primarily for tractability, but it does also have some real-world applicability; for example, government tacticians may decide between allowing rebels to hold none or some territory, or they may choose whether or not to use an air force.[13] Allowing the incumbent

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[12]We abstract from the important question of intragroup inequality and assume that all members of a group receive an equal share of the group's resources.

[13]This is an important modification to Besley and Persson (2010), in which the incumbent can choose to attack or not, but has no flexibility on army size if it does attack. In that paper and in the present paper, assumptions on the parameters and the conflict function ensure that in equilibrium the incumbent always responds violently to an insurgency.

access to violence levels 0, L, and H means that there is a possibility that an incumbent's response to violence is dependent on the level of received rents.

We assume that the opposition first chooses whether or not to attack, which the incumbent observes, and then the incumbent chooses its own level of violence. This timing is the same as in Besley and Persson (2010), but differs from Besley and Persson (2011a) where the two groups decide simultaneously.

If the investment needed for the incumbent to field a large army is sufficiently close to its investment for a small army, then the opposition will never attack. The reason is that the incumbent would employ a large army against an attack because the expenditure would be small relative to the gain from retaining power, and so the opposition would be deterred. As we discuss in Appendix A, the relevant threshold is that there is never two-sided violence when $H < 3L$. Opposition groups do in reality sometimes mount an insurgency, so we assume that $H > 3L$, ensuring that two-sided violence does occur for some values of R.

Power changes hands stochastically according to the conflict function $\gamma(A^P, A^I) \in [0,1]$, where either side can improve their chances by investing in violence (holding constant the choice of the other group). We specify the functional form of the conflict function as

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\gamma(A^P, A^I) = \begin{cases} 0 & A^I > A^P \\ 1 & A^I < A^P \\ \frac{1}{2} & A^I = A^P, \end{cases}
$$

meaning that the group choosing the higher level of violence wins power with certainty, and if they choose the same level, then power changes hands with probability $\frac{1}{2}$.[14]

At the end of the period, the unearned resources R are divided between the two groups, and utility is linear in consumption, meaning we can treat the agents as risk-

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[14]It would be straightforward to introduce incumbent advantage by assuming that power changes hands with probability α when they choose the same level of violence for some $\alpha < \frac{1}{2}$, but the results do not meaningfully change so we retain the simpler formulation.

neutral. The group that ends the period out of power gets θR, and the in-power group gets $(1 - \theta)R$, where $0 < \theta < \frac{1}{2}$ represents the equality of institutions. A higher value of θ implies institutions are more cohesive. A critical distinction between the two groups is that the group that started in opposition pays for their entire military expenditure, while payment for the incumbent group comes out of the public purse before resources are distributed. Then the game ends and payoffs are realized.[15]

The two groups' respective payoffs are the sum of their wage and expected transfer, minus, for the opposition, the cost of financing an army. The wage is always one by assumption, so it is omitted for clarity.

$$V^I(A^P, A^I) = \left(1 - \gamma(A^P, A^I)\right)(1 - \theta)(R - A^I) + \gamma(A^P, A^I)\theta(R - A^I))$$

and

$$V^P(A^P, A^I) = \left(1 - \gamma(A^P, A^I)\right)\theta(R - A^I) + \gamma(A^P, A^I)(1 - \theta)(R - A^I)) - A^P$$

2.2.2. Optimal investment in violence

In this section we solve for the optimal choice of violence for each group. This is a sequential one-shot game, so we start at the end of the game and work backwards.

First, consider the case where the opposition does not attempt an insurgency. The incumbent then chooses between peace and using one-sided violence, which is interpreted as repression. A peaceful incumbent realizes a payoff of

$$V^I(0,0) = \frac{1}{2}(1 - \theta)R + \frac{1}{2}\theta R = R/2,$$

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[15]Results would be unchanged if financing for the incumbent's army came from a combination of public and private funding. Also, it is straightforward to extend this model to an infinite-period game with discounted utility, as long as agents are relatively myopic. If discount rates are sufficiently low, then the only subgame perfect Nash equilibrium to the infinite game is that both groups play the single-period subgame perfect Nash equilibrium in every period. We focus on the single-period game to simplify the exposition.

while a repressive incumbent is guaranteed to retain power, generating a payoff of

$$V^I(0, L) = (1 - \theta)(R - L).$$

Note that the conflict function means that the incumbent would never use a high level of violence against a peaceful incumbent, because high or low violence both guarantee success.

The main focus is the impact of unearned resources on violence choices, so we allow R to vary and hold all other parameters fixed. The incumbent will be peaceful in response to a peaceful opposition when

$$V^I(0,0) \geq V^I(0, L),$$

which simplifies to:

- Peace is the incumbent's optimal response to peace if $0 \leq R \leq \dfrac{2L(1 - \theta)}{1 - 2\theta}$

- Low violence is the incumbent's optimal response to peace if $R > \dfrac{2L(1 - \theta)}{1 - 2\theta}$

We assume that an indifferent group will break ties by choosing the lower level of violence. Similarly, if the opposition is violent, then the incumbents choose between peace, low violence, and high violence. We show in Appendix A that the following table presents the incumbent's optimal response to a peaceful or violent opposition:

Table 1: *Incumbent's optimal choice*

R	Inc. response to peace	Inc. response to violence
$0 \leq R \leq \frac{L}{1-2\theta}$	0	0
$\frac{L}{1-2\theta} < R \leq \frac{(1-\theta)2L}{1-2\theta}$	0	L
$\frac{(1-\theta)2L}{1-2\theta} < R \leq \frac{2H(1-\theta)-L}{1-2\theta}$	L	L
$R > \frac{2H(1-\theta)-L}{1-2\theta}$	L	H

Note: The first column shows a range of values for R. The next two columns show the incumbent's response to a peaceful or aggressive opposition.

Now we can solve for the opposition's optimal choice for every value of R. If $0 \leq R \leq \frac{L}{1-2\theta}$, then the opposition knows that the incumbent will be peaceful, regardless of whether they attempt an insurgency. The opposition then chooses between

$$V^P(0,0) = \frac{1}{2}R \text{ and}$$

$$V^P(L,0) = (1-\theta)(R-L)$$

Over the relevant range of R, the former value is larger, meaning that when $0 \leq R \leq \frac{L}{1-2\theta}$, the opposition will be peaceful and then the incumbent will be peaceful. This process can be continued for every value of R, by solving for the incumbent's response to peace and violence, and then determining which choice maximizes the opposition payoff. The result is as follows (proofs in Appendix A):

Table 2: *Both groups' optimal choices*

Interval	R	Inc resp to 0	Inc resp to L	Opp	Inc
1	$0 \le R \le \frac{L}{1-2\theta}$	0	0	0	0
1	$\frac{L}{1-2\theta} < R \le \frac{2L(1-\theta)}{1-2\theta}$	0	L	0	0
2	$\frac{2L(1-\theta)}{1-2\theta} < R \le \frac{2L(1-\theta)+L}{1-2\theta}$	L	L	0	L
3	$\frac{2L(1-\theta)+L}{1-2\theta} < R \le \frac{2H(1-\theta)-L}{1-2\theta}$	L	L	L	L
4	$R > \frac{2H(1-\theta)-L}{1-2\theta}$	L	H	0	L

Note: The first column is a label for the range of R (unearned resources) being described. The second column is that range. The next two columns are the incumbent's response to a peaceful or violent opposition. The final two columns are the actions that the opposition and the incumbent would actually take. The first two rows are both labeled as Interval 1 because the outcome (both groups peaceful) is the same in both.

As R ranges from 0 to infinity, there are four relevant intervals. In the first interval, both groups are peaceful because the prize for winning power is too small to justify fighting. There are two rows of Table 2 that make up Interval 1 because the incumbent would be peaceful in response to rebellion in the first row, and violent in response to rebellion in the second row, but in both rows the actual outcome would be peace on both sides. The incumbent will be tempted to use violence at a lower threshold of R than the opposition because the incumbent funds its army using public funds, and in Interval 2 the opposition is peaceful while the incumbent would use the smaller army size against peace or violence, so the result is repression. In Interval 3 the opposition would still always use the small army but now R is sufficiently large that the opposition is also willing to use violence, and both groups use low violence (civil conflict).

In Interval 4 R has grown to the point that the incumbent would use the high level of violence in response to a rebellion, but low violence in response to peace. It is a disastrous result for the opposition if the incumbent uses a high level of violence, because the incumbent is guaranteed to hold power and also uses up state resources. This discourages the opposition from attacking, so the result is that low-level repression again, the same as in

Interval 2.

This result – that violence can fall as R increases – is driven by two factors. First, it is important that the incumbent has two choices of army size, so that as R rises to Interval 4 the incumbent's response to an attack can increase from the small to the large army size, which is what deters the opposition. Second, this result is driven by the sequential nature of the groups' decisions, because the incumbent cannot respond to the opposition if they act simultaneously.[16] The non-monotonicity of violence outcomes as a function of R is consistent with countries' observed experiences described in the case studies in Section 3.

The purpose of Table 2 is to show how the optimal choices change as R varies, holding L, H, and θ fixed. Figure 2 also shows optimal choices, but it allows θ to vary. Specifically, we plot the four intervals discussed above, while θ ranges from 0.2 to 0.4, and L and H remain fixed at 0.1 and 0.4 respectively.[17]

Figure 2 demonstrates how a country can transition between peace, repression, and conflict as unearned income and cohesive institutions vary. Starting from a low base, higher levels of unearned income tend to increase the intensity of political violence: holding fixed the level of θ, moving up the y-axis makes peace less likely. This effect is consistent with the predictions from Besley and Persson (2009, 2010, 2011a). That said, Figure 2 demonstrates the possibility of non-monotonic effects whereby a reduction in unearned income can make peace or civil conflict more likely. Whether a country experiences peace or conflict depends critically on its ex-ante level of institutional cohesion.

To observe a transition to democracy associated with a decline in rents, consider a country initially in Interval 2 (low repression). In this instance, a reduction in rents can shift the country to Interval 1 in which the incumbent decommissions its army (i.e., A^I

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[16]In Besley and Persson (2010 and 2011a) it is not possible for a decrease in rents to lead to an increase in violence. The incumbent in Besley and Persson (2010) has only one possible army size so the deterrent effect that we see in our model cannot occur. The two sides choose army size simultaneously in Besley and Persson (2011a), so there cannot be an exactly analogous deterrence effect, and the authors' assumptions limiting the strategic complementarities and substitutabilities in the conflict function ensure that both groups' army choices are weakly decreasing as R decreases.

[17]These numerical values are chosen for illustrative purposes, and other examples give similar results.

Figure 2: *Violence as a function of θ and R*
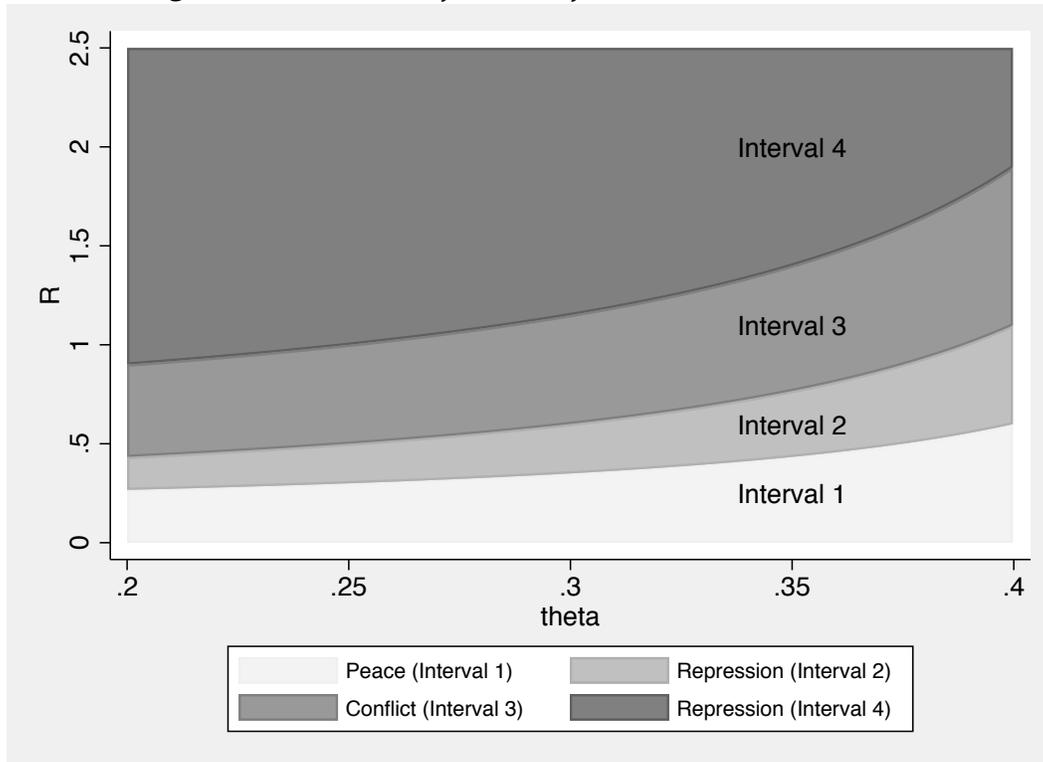
Notes: This figure shows the violence outcomes as a function of θ (cohesiveness of institution) and R (unearned resources). The values of L and H (fraction of workforce needed for low and high army size) are set to 0.1 and 0.4, respectively. In Interval 1, both groups are peaceful. In Interval 2, the incumbents use low violence in response to peace, and they would have used low violence in response to violence. Both groups use low violence in Interval 3. In Interval 4, the incumbent would use high violence in response to an attack, so the opposition is deterred and the result is peace from the opposition and low violence from the incumbent (repression). The values of R range from 0 to infinity.

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changes from L to 0) and peace is achieved; a condition conducive for democracy. More-over, observe that this peaceful transition to democracy is more likely to occur at higher levels of θ. Since θ is exogenous in our model, this implies that a reduction in rents in soci-eties with a higher pre-existing (exogeneous) level of cohesive institutions can experience a peaceful to democracy. We will argue that these features capture important dynamics for the relatively peaceful movements to democracy in many Latin American and former Soviet Satellite countries in Eastern Europe during the 1980s and 1990s.

Of course, Figure 2 also illustrates that a reduction in rents can also make civil conflict more likely. To see this, consider a country initially in Interval 4 of low repression. In this case, a reduction in R can shift a country to Interval 3 in which both the incumbent and opposition deploy small armies and engage in low intensity warfare. Moreover, be-ing in Interval 4 in the first place is more likely to occur at lower levels of θ. And since θ is assumed to be exogenous in the model, this implies that a reduction in rents in re-pressive societies with a lower pre-existing level of cohesive institutions may heighten the propensity for civil war. We will argue these features capture important dynamics potentially explaining why many Muslim aid recipients experienced heightened internal political strife – characterized at the extreme with high intensity civil war – in the 1980s and 1990s and remained nondemocratic. To the best of our knowledge, these differen-tial and non-monotonic effects associated with a decline in rents − peaceful transition to democracy or heightened propensity for civil war − is novel in the theoretical literature on rents and political stability.

Finally, Figure 2 also shows that more cohesive institutions can preserve peace at higher levels of rents; a finding consistent with existing models (e.g., Besley and Pers-son 2011a). When $\theta = 0.2$ there will be peace only when $R \leq 0.2667$, but when $\theta = 0.4$, an incumbent will not be tempted to repress the opposition as long as $R \leq 0.6$. This behavior stems from the expectation that the incumbent will be treated fairly even if it loses power, an expectation that underlies the peaceful transition of power that occurs in

democracies. Moreover, this means that if two countries are initially both in Interval 4 (repression) with the same level of R, the country with a lower θ will require a larger decline in R to shift to Interval 1 (peace/democracy). In other words, more cohesive institutions can provide some protections against rent-driven civil conflict; a finding consistent with existing models of rent-seeking and political (in)stability (e.g., Svensson 2000, Lane and Tornell 1999).

2.3. Empirical implications

The preceding discussion is summarized in the following two empirical implications:

Proposition 1: Reduced levels of transfers can shift a country from conflict or repression into democracy, but cannot move a country out of democracy.

Proposition 2: The threshold R below which democracy exists is greater where θ is greater. Empirically, a reduced level of transfers is more likely to lead to democratization in a country with more cohesive institutions, while the same reduction in transfers would more often lead to civil conflict or repression in a country with less cohesive institutions.

We provide detailed qualitative and statistical evidence corroborating these propositions in the rest of the paper. Section 3 provides case studies which support these propositions: Muslim non-oil producers, Eastern European Soviet satellites, and Latin American countries all received significant levels of foreign transfers, and governments repressed political opposition. All three groups saw their transfers dry up (and tended to be non-democratic at that time), but their political outcomes diverged according to the cohesiveness of their institutions. The more cohesive groups, Soviet satellites and Latin American countries, become more democratic (that is, they moved from Interval 2 or 4 to Interval 1), while Muslim non-oil producers fell into civil conflict (that is, they move from Interval 4 to Interval 3).

One important caveat is that in practice the exact level of R is difficult to observe in the evidence evaluated in this paper. Foreign transfers will have a different degree of government appropriability depending on their type (e.g. aid, debt, or trade subsidies) and specific terms, such as how/to whom funds are received and allocated. That means that if two repressive countries (either both in Interval 4 or one in Interval 2 and the other in Interval 4) experience a fall in R and the country with higher θ democratizes while the other falls into civil conflict or repression, then this pattern is consistent with proposition 2 but does not prove it. An alternative explanation is that the democratizing country had a lower level of R after the reductions, and the difference in R drove the difference in outcomes that were observed after the reductions in R. This observational equivalence is a feature of the data, not the theory; the right quasi-experimental setting should allow for a clean test.

3. Case studies

In this section, we present evidence from case studies to trace the propositions we formalize in section 2. To guide our discussion, we focus on two key independent variables: temporal variation in transfers and cross-regional variation in institutional cohesion, or θ. We show that some oil rents emanating from the Persian Gulf due to high oil prices were transferred abroad in the form of foreign aid to poor, non-oil producing Muslim countries and petro-dollar loans to Latin American governments. In the former, aid engendered repression but its decline eventually contributed to a higher propensity of conflict and less democracy. In the latter, loans financed government repression but a debt crisis in the 1980s dried up the finance and eventually brought about democratization. Finally, we argue that our model explains the Soviet Union's ability to keep the Eastern European satellites in the Soviet orbit through trade subsidies that overvalued those countries' manufactured exports relative to their oil imports, but when the subsidies timed out, democratization shortly followed. That is, we show that consistent with Proposition 2 the

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reduction in received transfers gave all three groups the potential to democratize, which was only realized in Latin America and Soviet satellites because their institutions were more cohesive.

3.1. Foreign transfers

Transfers from the Persian Gulf to Primarily Muslim Aid Recipients

The oil price shocks in the 1970s generated immense wealth for oil producers in the Persian Gulf, some of which was spent abroad in the form of foreign aid. These aid programs only began in earnest following the oil crisis of 1973 (Hallwood and Sinclair 1981, Hunter 1984) and their disbursements closely follow oil prices (Werker et al 2009). Periods of high oil prices generated large aid disbursements, while aid declined when oil prices fell.

Despite these fluctuations in aid disbursements, Persian Gulf aid has been substantial. Estimates by Neumayer (2003, 134), for example, suggest that since 1973, the Gulf nations of the Organization of the Petroleum Exporting Countries (OPEC), doled out 1.5 percent of their GDP between 1974 and 1994, which amounted to 13.5 percent of all (global) aid given out over this period. These Gulf oil producers favored Muslim majority countries – many of which were non oil producing – such as Jordan, Mali, and Pakistan, in the disbursement of this aid.

Figure 3a: *Foreign aid and oil prices in non-oil producing Muslim countries*
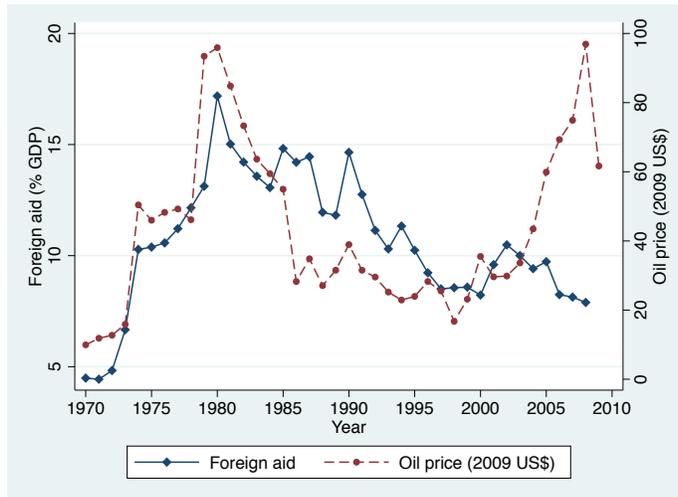
Note: Data from WDI and authors' calculations of the annual group mean.

Figure 3a illustrates this robust positive correlation between oil price and the average amount of foreign aid (as a share of GDP) received in non-oil producing Muslim countries. During the 1970s oil price boom, the aid these countries received looked like unearned income flowing to the state. Unlike current foreign aid from the World Bank, for example, donors in the Gulf gave their money with comparatively few strings attached. Most aid was in the form of block grants to finance ministries. According to Hunter (1984): "the largest part of OPEC aid has still consisted of general balance of payment and budgetary support." Hallwood and Sinclair concur: "Most OPEC aid is given on very favorable terms and conditions from the recipient's point of view. A large proportion of this aid is given on a grant basis, otherwise loan terms are with low interest rates and long grace and amortisation periods" (1981, 100-101). And while aid from Western donors has often been tied towards contracts with the donor country, "Arab aid has practically never been tied, with the exception of relatively unimportant specific loans and grants for oil purchases" (Neumayer 2002, 15).

The recipients of these aid windfalls spanned Muslim non-oil producers in Europe, Africa, the Middle East, and South Asia, such as Turkey, Senegal, Jordan, and Bangladesh.

These windfalls transformed the domestic political economy of these countries almost instantaneously. While aid had virtually no effect on growth in the short- and medium-run in these countries, it did increase government consumption (Werker et al 2009), with profound political effects. During the period of high oil prices, the receipt of such untied aid reduced the likelihood of governments to lose power and empowered these regimes to become increasingly authoritarian (Ahmed 2012). For example, after winning its independence from Pakistan in 1971, Bangladesh emerged as a nascent democracy. With inflows of aid comprising 5.3 percent of GDP in the 1970s,[18] by the end of decade the government was firmly entrenched as a military dictatorship (until the ousting of General Ershad in 1990). In Pakistan, despite coming to power through electoral means, the Bhutto government became increasingly autocratic in the 1970s and was forcefully deposed in 1979. General Zia took control and installed martial law, which was lifted in 1985. These were not isolated cases in the Muslim world, as the emergence and consolidation of authoritarian rule in poor Muslim aid recipients during the 1970s and early 1980s is borne out in cross-national indicators of democracy/autocracy (see Figure 3b).

As these Muslim recipients became more authoritarian, they concomitantly experienced greater political stability, as governments were able to fend off challenges from opposition groups. Somalia illustrates these dynamics. From 1969 through 1990 Somalia received, on average, foreign aid equal to 18.5% of its GDP, first from the Soviet Union, then the United States, plus the Arab League and the United Nations, among others (Besteman 1996, 581). Following a failed irredentist drive into Ethiopia and the loss of Soviet support, Barre dropped a scientific socialist platform and adopted clanism as a method for maintaining power. This transition occurred under a climate of increasing foreign aid. Barre favored the clans in his inner circle and bombed his rival clan's strongholds. As the price of oil tanked in the mid-1980s and Gulf aid declined, this policy would ultimately lead to Barre's destruction in the form of "civil wars of revenge" as the excluded clans

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[18]This exceeded average annual government consumption, expenditures which amounted to about 4.8 percent of GDP.

expressed their dissatisfaction with Barre's policy of divide-and-rule. "Foreign aid," observed one Somalia scholar, "provided the glue that held the system together in spite of internal waste and corruption" (Adam 1999, 175). Today, Somalia is a failed state marred with ineffective governance and political violence.

Motivated by this case, Ahmed and Werker (2015) provide more systematic evidence. They leverage a quasi-natural experimental setting to document how aid received by Muslim non-oil producers during the period of high oil prices (1973-1985) lowered their propensity to experience civil war (relative to non-Muslim aid recipients). However, when aid receipts declined thereafter (1986-1999) due to a precipitous drop in world oil prices, Muslim aid recipients experienced a dramatic and statistically significant rise in the incidence of civil war (relative to non-Muslim aid recipients). Muslim aid recipients were nearly 4 times more likely to experience conflict relative to non-Muslim aid recipients between 1986-1999 (Ahmed and Werker 2015, Table 1).[19] Their findings are consistent with our model that aid can entrench authoritarianism, but can raise the incidence of civil war once the aid declines.

Figure 3b shows that this surge in foreign aid receipts in the 1970s coincides with a period of heightened authoritarianism in our broader sample of Muslim aid recipeints. However, as foreign transfers started to decline in the mid-1980s – concurrent with declining oil prices – Muslim aid recipients became increasingly conflict prone and did not transition to democracy. Relative to the 1970s, the typical Muslim aid recipient was about 3 to 4 times more likely to experience conflicts with at least 1,000 battle deaths per year in the 1980s and 1990s. While the group's average annual POLITY score did start to rise during this period of political violence, it never approached the cutoff for democracy (+6). These outcomes are consistent with Proposition 2 of section 2, which indicates that a reduction in received aid only leads to democratization when institutions are more cohesive.

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[19]Ahmed and Werker (2015) further corroborate these findings with instrumental variables analysis that controls for time-varying characteristics (e.g., growth, per capita income) and country fixed effects.

Figure 3b: *Democracy and civil conflict in non-oil producing Muslim countries*
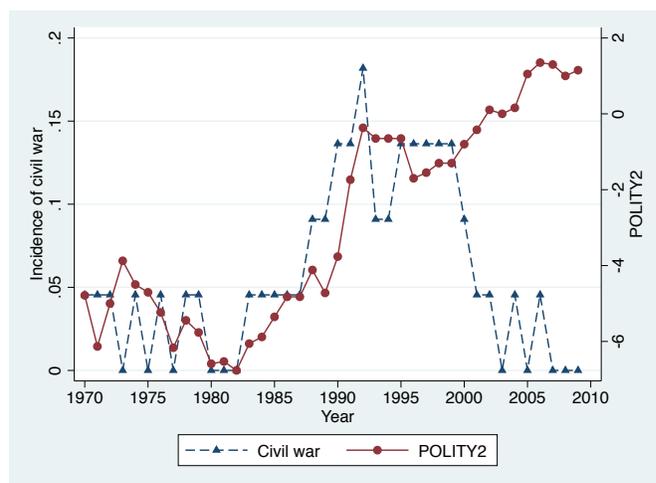
Note: Data from the POLITY IV and ACD/PRIO, and authors' calculations of the annual group mean. Civil war entails any conflict with at least 1,000 battle deaths per annum.

Petro-dollar recycling in Latin America

From the mid-1970s to 1982, the year of the Mexican debt crisis, governments in Latin America were awash in cheap finance, which they used to maintain political control. Once their source of borrowing dried up, or they over-borrowed into self-perpetuated default, many governments found they did not have enough legitimate support to remain in power. In some countries, power changed hands; in others, the regime changed – leading to the longest and deepest wave of democratization in Latin America's history (Remmer 1992).

The Gulf oil producers did not set out to cause regime change halfway around the world, but they could not absorb domestically all the rents of the high oil prices in the 1970s, and some of those rents ended up being made available to Latin American dictators through the international banking system. The oil exporters were experiencing huge increases in their export revenues, and they had three choices to balance their international payments: increase imports, increase foreign aid, or increase investments abroad. They did all three of each in large numbers (Gerner 1985). The investments parked overseas, often in Eurodollar accounts, creating a surge of lending to developing countries

(Riner 1982, 29). Latin American countries were the main beneficiaries (Devlin 1989, 40).
Though the transfers came in the form of loans, to economic actors with limited time hori-
zons, it sometimes felt like a gift. One Chilean banker put it well: "We look upon foreign
loans as a bonus from the rest of the world to Chile" (quoted in Riner 1982, 257).

Most of the funds went through the private banking system and allowed governments
to borrow heavily. In the early 1960s, 60 percent of external finance to Latin America
was through official channels. By the late 1970s that figure had fallen to 13 percent; 58
percent of external finance came through private banks (Devlin 1989, 23). The lending to
developing countries was boosted by recession in the advanced countries, which reduced
the appetites of the private banks' traditional borrowers for loans at just the time they
were awash with liquidity (Riner 1982, 85). This led to low interest spreads in the OECD
area, meanwhile Latin America was posting strong economic growth and its governments
were eager to borrow (Devlin 1989, 42). It was the perfect combination of supply and
demand.

Figure 4a: *Commercial loans and oil prices in Latin American non-oil producers*
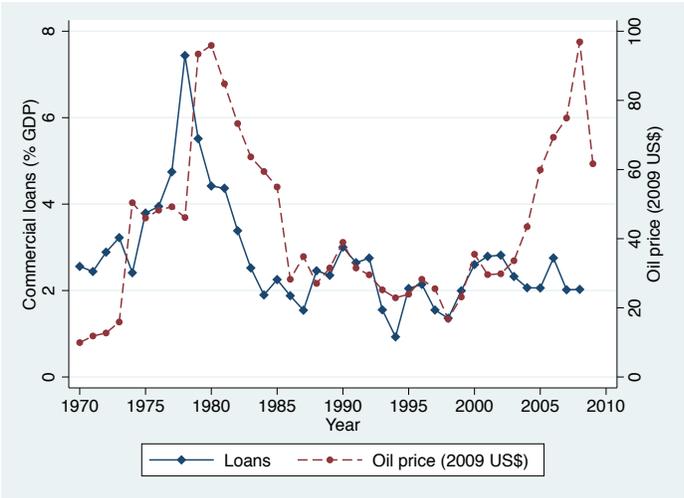
Notes: Data from WDI and authors' calculations of the annual group mean.

Figure 4a plots the average amount of commercial loans (as a share of GDP) across

Latin American non-oil producers and oil prices. The figure shows that commercial borrowing tracks the price of oil fairly well through the end of the 20th century.

The timing of the start of the financing was clearly correlated with the oil price increases; for each country, however, the timing of the end of the easy financing was more driven by internal dynamics of borrowing and over-extension, or the 1982 Mexican debt crisis which put an end to affordable borrowing for the region as a whole. There was certainly new borrowing after 1982, but most of it was "involuntary," or loans that resulted from rolling over or rescheduling previous debt (Devlin 1989, 44).

Unlike loans from official agencies, the lending from private banks came with very few strings attached, enabling the governments to continue their policies without outside intervention. Loans were made unconditionally, without technical or political requirements (Devlin 1989, 43). For example, in Peru, only 15 percent of loans were even tied to actual projects or capital good imports; in Bolivia, the figure was 33 percent (Devlin 1989, 159). Riner argues that access to Euro-currency market increased the autonomy of developing-country governments (Riner 1982, 1). One Chilean official she interviewed expressed the sentiment: For a Government " ... whose attitude is that no one is going to tell us what to do," borrowing from foreign private banks is more attractive than borrowing from the World Bank or IDB " ... who can refuse us loans because the US and Venezuela don't like our politics" (Riner 1989, 258). Since many regimes in the continent were still under military control, this autonomy served to consolidate the generals' power through patronage channels and control (e.g., Pinochet's repression in Chile, Velasco's military rule in Peru, etc.).

Of course, when the financial tides turned with the 1982 crisis, so too did the ability of many governments to maintain their power, as Frieden (1991) notes. The loans allowed them to expand benefits to constituents when the net financial flows were positive, but once the banks were calling in their loans, "debtor governments had to take resources from society rather than distribute them. Governments inevitably failed to meet all of

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the social demands they faced during the crisis" (p. 8). In some countries, governments changed hands while in others there were demands to change the system itself, which in many cases led to democratization (Frieden 1991, 36).

Figure 4b: *Commercial loans and democracy in Latin American non-oil producers*
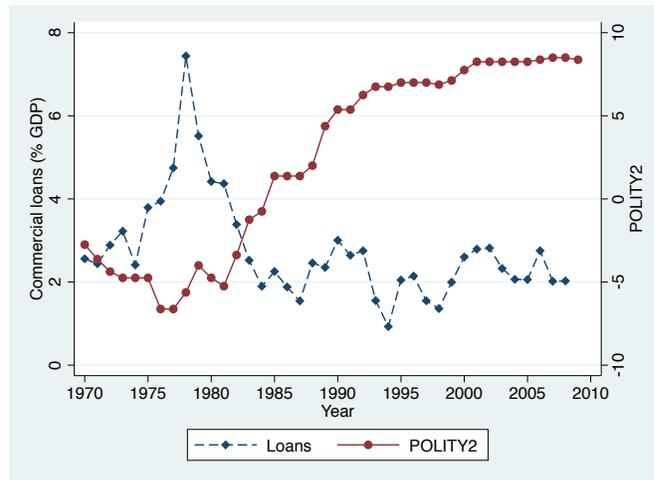
Notes: Data from the WDI, POLITY IV and authors' calculations of the annual group mean.

The variation in commercial borrowing from a relatively high level in the 1970s to a lower level starting in the mid-1980s coincides with the region's entrenchment of authoritarianism (in the 1970s) and their transition to democracy (from early 1980s onwards). Figure bb illustrates this by plotting the average level of democracy (using POLITY) along with the average level of commercial loans. In the 1970s, the typical Latin American country was nondemocratic with an average POLITY score of -4.8. In the early to mid-1980s, many countries became increasingly less authoritarian and by 1992 the average score had increased to 6.3, surpassing the threshold of +6 of democracy. In combination, Figures 4a and 4b suggest that higher levels of commercial borrowing (driven in large part by petro-dollar investments) sustained authoritarianism in Latin America in the 1970s. As commercial borrowing fell in the 1980s (due to declining petro-dollar transfers), governments found it increasingly difficult to maintain their authoritarian rule and these countries democratized. Again, this is consistent with Proposition 2 laid out in the model:

Latin American countries had relatively cohesive institutions, so when the loans dried up, they transitioned to democracy.

Transfers from the Soviet Union to Eastern Europe

Even though they were often operating without market prices, Eastern Bloc countries experienced the oil price rise just like the rest of the world. The Soviet Union exported oil and gas to many Western countries as well as its allies in Eastern Europe. While oil traded with market economies was done according to market pricing, trade terms among Eastern Bloc countries were determined by an agreement brokered by the Council for Mutual Economic Assistance (CMEA, also known as Comecon), an economic organization founded by the Soviet Union (Marer 1984). Under the Bucharest Formula of 1958, prices in each half-decade were determined by the average world market price of the prior half-decade. However, in early 1975, the formula was modified to be a five-year moving average of world oil prices. At first, the fixing of oil prices had little effect on a subsidy to Eastern Europe since oil prices only fluctuated mildly during this period; for example, the real world market price for a barrel of oil (in 2013 dollars) was just less than $14 in 1972, pretty much the same value as it was in 1962. But when real oil prices rose dramatically to $55 in 1974, the CMEA would have been pricing oil at under $11, generating a subsidy of over $40 per barrel of oil for that year. Following the price formula would lead to nearly a decade of heavy subsidies before a falling oil price reversed them.

The subsidies appear to have played an important role in propping up the regimes in the recipient countries. Their totalitarian regimes were not cheap to run, requiring a police state in which there were four times as many police and internal security officers, for example, in East versus West Germany (Liberman 1998, 142). Moreover, changes in economic variables such as price cuts or wages were particularly salient "triggering" events for political collective action in Eastern Europe given the inability to otherwise organize (Liberman 1998, 140). This meant that both economic decline as well as increased

prices for key consumer goods would have been seen by governments as things to avoid in order to maintain political stability. Subsidies from the USSR appeared to have been crucial in keeping prices stable as well as preventing wage cuts from economic recession or budgetary cuts, at least for a while.

Figure 5a plots the average level of goods exports (as a share of GDP) across Eastern European Soviet satellites and the Comecon oil price (i.e., a 5-year moving average of the world price of oil). While trade data prior to 1979 is unavailable, the figure illustrates a strong positive correlation: a higher Comecon oil price is associated with greater exports.

Figure 5a: *Exports and Comecon oil prices in Eastern European Soviet satellites*
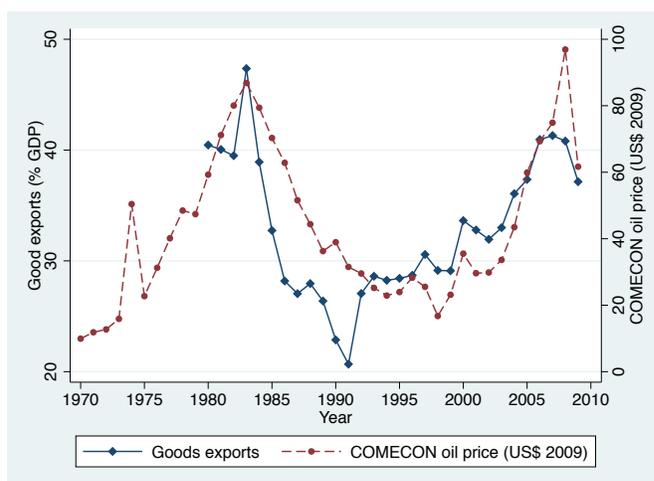
Notes: Data from the WDI and authors' calculations of the annual group mean.

The subsidies came at a time of increasing fiscal strain for the Eastern European economies. Growth rates were slowing and hard currency debt was increasing, as governments increasingly looked to new ways to fund the regime. They had legitimate worries about potential default, and the Eastern European recession of 1981-82 vindicated those fears (Crane 1986). Without the Soviet subsidies, Eastern European governments would have gotten into trouble sooner than they did.

Of course, eventually the Eastern European CMEA members would democratize and there are many explanations for why the Communist regimes of Eastern Europe fell in

1989, though a comprehensive evaluation of these explanations is outside the realm of this paper. These explanations include the roles of ideas, of Gorbachev, Reagan, or Pope John Paul, of domestic opposition movements, and of the relative economic inefficiency of communism (see Brown 2009, Okey 2004). Writing towards the end of the period of subsidies, Samuel Huntington rated the prospect of democratization as "virtually nil" because of the threat of the Soviet veto (1984, 217). Adam Przeworski wrote (unlike Huntington, with the benefit of hindsight) that the threat of Soviet invasion was indeed a constraint on internal political change in Eastern Europe: "But it was only that: a constraint, a dam placed against pressing water" (1991, 21).

Figure 5b: *Democracy and exports in Eastern European Soviet satellites*
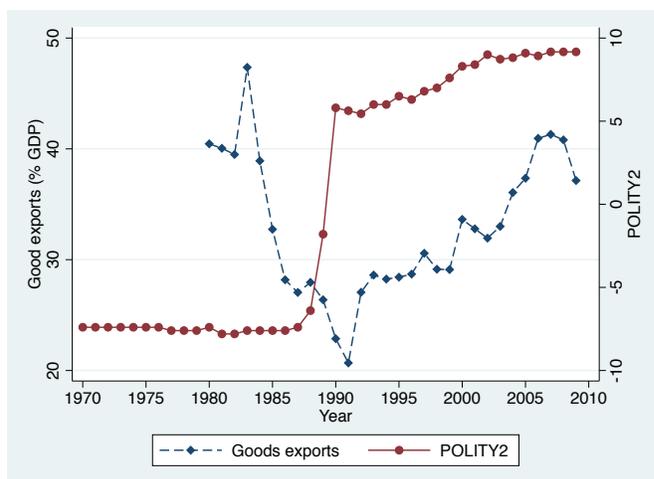
Notes: Data from the WDI and POLITY IV, and authors' calculations of the annual group mean.

As oil prices halved from 1985-86, the subsidies began to reverse. While Eastern European economies continued to grow in the late 1980s, their incomes were diverging from their western counterparts. The end of a monumental transfer of unearned income undoubtedly reduced those governments' legitimacy and funds to govern in the same heavy-handed way. Figure 5b shows that as oil prices fell in the mid-1980s − driving a sharp reduction in Comecon subsidies and trade − these satellites began their transitions towards democracy. By the late 1980s, as the Soviet Union disintegrated, these Eastern

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European countries were firmly on the path towards democracy, as cohesive institutions reduced the incentives to monopolize state wealth.

Russian reformer Yegor Gaidar (2007) dates the beginning of the end of the USSR to September 13, 1985, the day the Saudis decided to flood oil markets. According to Gaidar, the Soviet Union was able to borrow its way out of its funding dilemma caused by plummeting export earnings − cut military expenditure, or food imports? − for several years; by 1989, needing $100 billion in loans from the West, it could no longer intervene militarily in Eastern European affairs so the Soviet veto over Eastern European democratization was effectively removed. A few more recent analyses take the oil price explanation seriously for the fall of the USSR, perhaps inspired by the obvious role of oil in Russia's recent rise. Reynolds and Kolodziej (2006) argue that a decline in oil production in the USSR led to a fall in Soviet GDP rather than vice versa. Kotkin (2007) notes that "[o]il seemed to save the Soviet Union in the 1970s, but it merely delayed the inevitable" by encouraging the "delay of painful economic restructuring" (p. 16, 138).

Had the Soviet satellites had the more extractive institutions of the Muslim aid recipients described above, Proposition 2 of section 2 would predict that they may have fallen into civil conflict or repression rather than democratizing.

3.2. Variation in cohesive institutions (θ)

The evidence above describes how variation in external transfers was correlated with relatively peaceful transitions to democracy in Latin America and Eastern Europe, but heightened civil conflict in Muslim countries. But why were Muslim countries more prone to conflict when their transfers declined? Recall that in our formal model, this should be likely in countries with a lower exogenous (or "fixed") level of θ, which can be associated with less experience with cohesive institutions. To date, scholars have identified two important sources of fixed θ across countries: "deep" historical process (Nunn 2009, Hariri 2012) and the stickiness of societal heterogeneity associated with ethnic, linguistic,

and/or religious fractionalization (Weingast 1997, Alesina et al 2003).

For example, recent scholarship identifies deep historical factors as important determinants for the persistence of autocracy in many contemporary Muslim societies (Blaydes 2017). Hariri (2012, 2015) attributes this authoritarian resilience to their long "state histories" that preserved autocratic precolonial structures through to the modern era.[20] Chaney (2012) advances a different historical narrative. He argues that Islamic conquest after the death of Prophet Muhammad in the 7th century CE created an institutional trajectory of autocratic "controls structures" that has persisted through to the present. This argument resonates with Kuran's (2011) thesis that adherence to Islamic law contributed to the "long divergence" in economic and political development in Muslim societies, leading to low literacy rates which can be inimical to civil society and democratic movements. Central to each account is the deep historic origins of autocracy (low θ) in many Muslim societies.

In contrast, institutions in Latin America and Eastern were more cohesive at the time of political change, thus allowing a transition to democracy with a lower level of external transfers. Rule from Muslim armies never reached Latin America nor Eastern Europe nor do these countries tend to have particularly long state histories (at least relative to Muslim countries, see Table 3). Thus, at least relative to Muslim societies, the historical legacy of autocratic structures is less relevant in explaining authoritarianism in Latin America and Eastern Europe. Indeed, unlike Muslim countries, many Latin American countries had prior experiences with democracy, making a transition back to democracy more likely (under opportune circumstances, e.g., lower external transfers). For example, an examination of Gerring et al's (2005) measure of accumulated democratic experience ("democratic stock") shows that Latin American countries had longer experiences with

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[20]Hariri (2012, 471) argues that outside Western Europe, "the historical experience of an early development of statehood has been autocracy, not democracy." Hariri documents that "older states" with more well developed indigenous state institutions constrained the European colonial endeavor and limited the diffusion of European institutions and ideas and their associated *democratic trajectory*. Thus, countries with a longer state history exhibit less cohesive institutions in the modern era.

democracy prior to the 1970s than Muslim countries. Moreover, several Latin American dictatorships in the 1970s were the result of coups that overthrew democratically elected governments, such as in Brazil (1965), Peru (1968), and Chile (1973), and were often run under the premise of being a caretaker government. While the former Soviet satellite countries had not previously experienced democracy for sustained periods, they shared several societal characteristics amenable to democracy (Huntington 1996): the existence of strong and effective civic organizations, limited ethnic pluralism and − especially relevant to communist Eastern Europe − relatively low levels of inequality. These conditions correspond neatly to a higher value of θ in our model. As the exception that proves the role, in the former Yugoslavia, with much more intense ethnic pluralism, the transition from communist rule was incredibly violent and only achieved peaceful democracies after several partitions and mass migration reduced the level of ethnic pluralism.

Analysis of various quantitative indicators corroborates our characterization of θ above.[21] Table 3 reports the average value of societal fragmentation and state history across Muslim and non-Muslim non-oil producing countries. In each case, we interpret higher values of these variables to be associated with *less* cohesive institutions in the contemporary period. To measure state history, we use a country's precolonial state history and "timing" since the Neolithic Revolution (both from Hariri 2012). For each, a higher value corresponds to a longer state history. We use Roeder's (2001) ethno-linguistic fractionalization (ELF) index to measure each country's societal fragmentation. This index ranges from 0 to 1, where a higher value implies greater social heterogeneity; which we correspondingly associate with less cohesive institutions. Columns 1 and 2 show that Muslim countries, on average, have longer state histories than non-Muslim states. Column 3 shows that Muslim countries also tend to exhibit greater ethnolinguistic fragmentation. In short, on

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[21]We note, as do Besley and Persson (2010,2011a), that there is no precise measure of cohesive institutions. With the proper justification, researchers can employ proxies or correlates that correspond to the degree to which incumbents share state resource with supporters and non-supporters (θ in our model). Besley and Persson (2011a), for example, use the share of years a country is engaged in international conflict as a proxy for cohesive institutions (particularly, fiscal institutions).

two important dimension of cohesive institutions, Muslim countries tend to have a lower value of θ.

Table 3: *State history and societal fragmentation in Muslim and non-Muslim transfer recipients*

	Neolithic transition	Precolonial state history	ELF in 1985
	(1)	(2)	(3)
Muslim	5.68	0.49	0.48
	(2.85)	(0.25)	(0.27)
Non-Muslim	4.87	0.28	0.34
	(1.72)	(0.38)	(0.22)

Note: Group means with corresponding standard deviations reported in parentheses.

Returning to Figure 2, the depiction of the four intervals of peace, repression, conflict, and again repression that are generated by the theoretical model, we now have a qualitative understanding of where the case studies are situated. With their lower θ, Muslim non-oil producing countries were pushed into interval 4, repression, with the sizable political transfers in the form of foreign aid; when the aid dropped off following the fall in oil prices, they moved to interval 3, conflict. Meanwhile, with their higher θ and only indirect political transfers in the form of market loans and export subsidies, Latin American and Eastern European countries likely fell from interval 2, repression, during the period of transfers, to interval 1 as the bankers recalled their loans and the trade subsidies phased out.

4. Statistical corroboration

In this section, we present statistical evidence at the country-year level that corroborates our three case studies and aligns with the predictions of the model. Our principal aim is to evaluate proposition 2: a decline in transfers can heighten the incidence of civil war in societies with ex-ante institutions that are less cohesive (Muslim societies) or facilitate a peaceful transition to democracy in societies with more cohesive ex-ante institutions (in

Latin America and Eastern Europe).[22] Throughout our analysis, we limit our attention to non-oil producing recipients to purge concerns that direct oil price-induced government income (e.g., nationalization of oil industries, tax income from foreign oil companies) may unduly affect governance, and focus on the time period covered in our case studies, 1972-2000.[23] Tables B1 and B2 list our sample of countries and provides summary statistics for our key variables, respectively.

4.1. Specification

A key insight from our case studies is that foreign transfers in Muslim, Latin American, and Soviet Satellite countries were positively and highly correlated with exogenous movements in world oil prices. We leverage this exogeneity and follow Besley and Persson's (2011a, 1431-1433) reduced form approach to studying political violence by estimating variants of the following regression with exogenous covariates:

$$Y_{ijt} = \alpha + \sum_{j \in \kappa} \beta_j (R_j \times POIL_t) + \sum_{j \in \kappa} \theta_j R_j + \delta POIL_t + C_i + Y_t + \epsilon_{it} \text{ (1)}$$

where Y_{ijt} measures civil war or democracy (depending on the specification) in country i in region j in year t. There are 3 "regions" (j) in the set, κ: Latin America, Eastern Europe, and Muslim countries, where R_j is a dummy variable equal to 1 if country i is in region j and zero otherwise.[24] The excluded category, which is the de facto control group, includes countries that are non-Muslim societies in regions outside of Latin America and the Eastern European Comecon membership. $POIL_t$ is the world price of oil in year t (which is correlated with foreign transfers as depicted in Figures 3-5). C_i and Y_t are a

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[22]The discussion is subject to the caveat noted earlier: in addition to cohesiveness of institutions, different levels in received aid can also drive the difference in outcomes.

[23]For instance, this means we exclude Brazil, Mexico, and Venezuela from our main sample of Latin American countries as these nations produce significant amounts of oil. We also exclude oil-producing Muslim-majority countries such as Saudi Arabia and Iran, as well as aid recipients that produce some oil including Egypt.

[24]Guided by our case studies, Table B1 describes our categorization of countries. Latin America includes non-oil producing countries in Central and South America. Eastern Europe is comprised of Eastern European Comecon members, who benefited from the terms of trade subsidy with the USSR. Muslim refers to all non-oil producing countries where at least 70 percent of the population identifies with Islam. These countries span North Africa, the Middle East, and Asia.

vector of country and year fixed effects, respectively and ϵ_{it} is an error term.[25] In an effort to better identify causal effects, we do not include potentially endogenous covariates, such as country income and growth.[26] In equation **(1)**, $POIL_t$ is our treatment variable which is plausibly exogenous to economic and political economic conditions in non-oil producing transfer recipients. And by interacting $POIL_t$ with R_j, we appropriately assign our exogenous treatment to countries in the relevant regions. To account for potential serial correlation within countries, we conservatively cluster our standard errors at the country level.

In equation **(1)** the coefficients of interest are the β's, which evaluate the effect of exogenous movements in oil prices for countries in each region on the country's level of democracy or conflict (depending on the specification). For example, if the dependent variable is the incidence of civil war, a negative coefficient on β implies that countries in that region were less likely to experience conflict when oil prices are *high*. According to our description of the cases (in section 3), we expect β to be negative and statistically significant for Muslim countries and to have no effect for countries in Latin America and Eastern Europe. Similarly, if the dependent variable is POLITY (our measure of democracy), a negative coefficient on β implies that countries in that region were less likely to be democratic when oil prices are high. In the context of our case studies, we therefore expect β to be negative and statistically significant for countries in Latin America and Eastern Europe (and possibly in Muslim countries, although we could observe no effect).

4.2. Reduced form estimates

Civil war. Table 4 reports the differential effect of oil prices on civil war across transfer recipients in our three regions (relative to non-oil producers outside these regions). In our baseline specification with country and year fixed effects (column 1), higher oil prices

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[25]The inclusion of country and year fixed effects subsumes the constituent (main) effects of R_j and $POIL_t$ in this interaction term.

[26]For instance, civil conflict can affect growth and country income.

reduce the incidence of civil war in Muslim recipients; or equivalently stated, *a reduction in oil prices significantly elevates the propensity of civil war in Muslim recipients*. In contrast, oil prices do not have any differential effect on civil war in Latin America and former Soviet satellite countries (of Eastern Europe). Consistent with the qualitative accounts, these intra-regional effects are different from other. In particular, an F-test of the interactive effects (see panel in Table 4) reveals that oil prices have a statistically different effect on civil war in Muslim societies relative to Latin American and former Soviet satellite countries. There is no statistical difference between Latin American and former Soviet satellite countries.

The estimated effect in Muslim societies is substantively important. The coefficient estimate in column 1 implies that a $10 increase in oil prices reduces the probability of observing civil war in Muslim countries by 2.3 percentage points (which is equivalent to 25 percent of the baseline rate of civil war in Muslim recipients).[27] Figures 3a and 3b show that Muslim recipients started experiencing an uptick in civil war in the mid-1980s when the price of oil plummeted. Around this time, our estimated effects imply a 15 percentage point increase in conflict propensity when oil prices fell from $96 per barrel in 1980 to $29 in 1986. Since Muslim recipients tend to have less cohesive institutions (i.e., a low θ from Table 3), this interpretation is consistent with proposition 2: a reduction in transfers in societies with *less* cohesive institutions elevates the propensity for civil war. That said, the results in column 1 also admit the possibility that transfers sustaining government repression in Muslim recipients were much higher than in Latin America or Eastern Europe (i.e., a high initial R in figure 4), with the level and change of transfers alone, rather than the impact through θ, describing the differential outcome.

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[27]Over the sample period, the baseline rate of civil war in Muslim recipients is 9.2 percent.

Table 4: *Oil prices and civil war in non-oil producing transfer recipients*

Dependent variable:	Civil war			
	(1)	(2)	(3)	(4)
Oil price x Muslim	-0.0023	-0.0009	-0.0013	-0.0021
	(0.0011)**	(0.0011)	(0.0016)	(0.0013)*
Oil price x Latin	0.0004	0.0011	0.0008	0.0004
	(0.0008)	(0.0009)	(0.0008)	(0.0009)
Oil price x Soviet Sat.	0.0001	0.0030	0.0019	-0.0012
	(0.0007)	(0.0017)	(0.0017)	(0.0606)
Oil price x ELF in 1985		0.0026	0.0025	
		(0.0016)	(0.0016)	
Oil price x Neolithic transition		-0.0004		
		(0.0028)		
Oil price x State history			-0.0018	
			(0.0032)	
Log GDP per capita				-0.0015
				(0.0608)
Constant	0.0709	0.0686	0.0483	0.0698
	(0.0217)***	(0.0378)**	(0.0363)	(0.3875)
Country fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
R-squared	0.31	0.32	0.32	0.33
No. observations	2047	1994	1914	1778
Number of countries	89	85	82	85
	Equality of interaction terms: P-value from F-test			
Muslim = Latin	0.031	0.052	0.198	0.086
Muslim = Soviet Satellite	0.073	0.015	0.019	0.161
Latin = Soviet Satellite	0.672	0.192	0.393	0.768

Notes: Sample of non-oil producing transfer recipients. Estimation via OLS. Robust standard errors, clustered by country reported in brackets. *, **, *** = significant at 10, 5, and 1 percent respectively. All specifications include country and year fixed effects. These coefficients are not reported. Civil war entails any conflict with at least 1,000 battle deaths per annum. Data is from PRIO/ACD.

To probe this possibility further, columns 2 and 3 interact oil prices with two correlates of a country's cohesive institutions (as described in Table 3): each country's level of societal fragmentation (proxied with a country's ethno-linguistic fractionalization) and two measures of state history.[28] These results are consistent with the claim that pre-existing cohesive institutions, rather than just differences in transfers alone, drive variation in civil war outcomes. Controlling for these additional interaction effects reduces the magnitude

[28]Note, ELF in 1985, a country's time since the Neolithic Revolution, and state history are country-specific but time-invariant. Thus, their constituent effects are subsumed by the county fixed effects.

and statistical significance of $POIL_t \times MUSLIM_i$ on civil war. Consistent with proposition 2 in section 2.3, this suggests the key moderating state variable that explains the heterogenous effects of unearned foreign transfers on civil war/democracy is cohesive institutions. Finally, in column 4, our findings remain robust when controlling for a country's per capita income (which is a potentially endogenous confounder).

Our main finding (for Muslim countries) in column 1 is robust to alternate estimators, samples, and additional controls (results reported in Tables D1 and D2). They hold in models estimated via logit and probit (since the dependent variable is binary), both in specifications with and without fixed effects. Nor are the findings unduly influenced by some of the most conflict prone Muslim countries, such as Afghanistan and Sudan. The results hold when we drop these countries, as well all countries in the Middle East and North Africa region, and each Muslim country one at a time.[29] Finally, while our formal model treats repression as an analytically distinct outcome, empirically repression and civil war tend to be correlated (i.e., the most repressive states are often the most conflict prone). To address this concern with omitted variables, we control for several different measures of political repression. Controlling for a country's contemporaneous level of democracy (POLITY), constraints on the executive authority (using POLITY IV's "executive constraints") and quality of political rights and civil liberties (from Freedom House) does not attenuate the statistically significant and negative effect of oil prices on civil war in Muslim societies.

In parallel results, when examining repression as an outcome variable, we find that higher oil prices interacted with both Latin American and Eastern European dummies predict higher levels of political repression; Muslim transfer recipients tended to remain repressive throughout the sample period.[30]

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[29]These latter results are available upon request.
[30]These results are available upon request.

Democracy. Table 5 replicates the specifications in Table 4 but with democracy (POLITY) as the dependent variable. Across all the specifications, higher oil prices reduce a country's level of democracy in Latin America and Eastern Europe, but has no differential effect in Muslim transfer recipients. Or alternatively stated, *a reduction in oil prices is associated with an increase in democracy in Latin America and Eastern Europe*. For countries in these two regions, the estimated effects imply that a $10 reduction in oil prices corresponded to a 1 to 1.4 index point increase in a country's POLITY score (depending on the specification).

The presence of more cohesive institutions in Latin America and former Soviet Satellite countries (in relation to Muslim societies) is likely to have facilitated their transitions to democracy when oil prices (and concurrently, transfers) fell. During their democratic transitions in the 1980s to the early 1990s, our reduced form estimates imply that movements in oil prices (from a high of $96 per barrel in 1980 to a low of $25 in 1993) contributed to 9.2 index point jump in POLITY. This effect is equivalent to a 1.25 standard deviation movement in POLITY among Latin American and Eastern European countries.[31] In contrast, our coefficient for $POIL_t \times MUSLIM_i$ are statistically indistinguishable from zero, indicating that Muslim recipients remained autocratic, despite changes in oil prices. Since Latin American and Eastern European transfer recipients tend to have more cohesive institutions (i.e., a high θ from Table 3), we interpret these differential effects in Latin America and Eastern Europe as supporting proposition 2: a reduction in transfers in societies with more cohesive institutions elevates the propensity for peaceful transitions to democracy.

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[31]The standard deviation for these countries is 7.33. Thus, we have 9.23/7.33 = 1.25

Table 5: *Oil prices and democracy in non-oil producing transfer recipients*

Dependent variable:	POLITY			
	(1)	(2)	(3)	(4)
Oil price x Muslim	-0.0320	-0.0138	-0.0273	-0.0399
	(0.0205)	(0.0232)	(0.0211)	(0.0244)
Oil price x Latin	-0.0939	-0.0896	-0.0931	-0.0949
	(0.0259)***	(0.0261)***	(0.0266)***	(0.0270)***
Oil price x Soviet Sat.	-0.1372	-0.1039	-0.1284	-0.1399
	(0.0216)***	(0.0315)***	(0.0299)***	(0.0277)***
Oil price x ELF in 1985		0.0134	0.0127	
		(0.0402)	(0.0410)	
Oil price x Neolithic transition		-0.0079		
		(0.0046)*		
Oil price x State history			-0.0121	
			(0.0295)	
Log GDP per capita				-2.0874
				(1.0125)**
Constant	3.1291	3.5061	3.2340	17.3288
	(0.4252)***	(0.7778)***	(0.6939)***	(6.5150)***
Country fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
R-squared	0.72	0.71	0.70	0.72
No. observations	2047	1994	1914	1778
Number of countries	89	82	82	85
	Equality of interaction terms: P-value from F-test			
Muslim = Latin	0.024	0.005	0.016	0.069
Muslim = Soviet Satellite	0	0.001	0.001	0.005
Latin = Soviet Satellite	0.113	0.664	0.304	0.186

Notes: Sample of non-oil producing transfer recipients. Estimation via OLS. Robust standard errors, clustered by country reported in brackets. *, **, *** = significant at 10, 5, and 1 percent respectively. All specification include country and year fixed effects. These coefficients are not reported.

In columns 2 and 3 we control for proxies of cohesive institutions directly, and interact them with oil prices. The coefficients on all of the regional interaction terms fall in magnitude, though they remain statistically significant, and the sign of the cohesive institutions variables are as predicted by the model. This is consistent (though by no means conclusively so) with the possibility that variation in cohesive institutions explains some portion of the different democracy outcomes, but the measures of θ that we have are no more correlated with true θ than the regional dummies themselves.

Our main findings in Table 5 are robust to potential outliers, alternate samples, addi-

tional controls, and with an alternative measure of democracy as the dependent variable (results reported in Tables D3 and D4). Our main findings hold if we drop each country in Latin American and Eastern Europe one at a time and more stringently, if we drop each entire region.[32] A different concern with outliers may arise from the worry that our findings are biased by "easy" democratic transitions of countries with higher POLITY scores during the period when oil prices plummeted. Our findings remain robust when we exclude "near democracies" who we define as countries with positive POLITY scores but below the democratic threshold of +6 in the year 1985.[33] Cognizant that some democratic transitions have been associated with civil war (Snyder 2000), we control for this potential omitted variable. Controlling for civil war does not affect the negative and precisely estimated effect on oil prices on democracy in Latin American and former Soviet Satellites. As we discuss below, our findings are robust to controlling for unobserved differential trends at the region and country level as well. Finally, our findings hold when we use V-DEM's polyarchy variable (Coppedge et al 2019) as an alternate measure of democracy (Results reported in Table D4). While polyarchy is highly correlated with POLITY, it is not identical. Polyarchy measures the quality of electoral competition, while POLITY incorporates additional political features and is particularly influenced by the degree of constraints faced by the chief executive (Gleditsch and Ward 1997).

In sum, the key findings in Tables 4 and 5 corroborate the central points emphasized in our case studies and reinforce two conclusions. First, in Muslim recipients, a reduction in oil prices heightened the propensity of civil war and the continuation of authoritarianism. Second, in Latin American and Eastern European recipients, a reduction in oil prices facilitated peaceful transitions to greater democracy.

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[32]Results for the former are available upon request. The latter results dropping entire regions are reported in Table D3, columns 1 and 2.

[33]1985 is the year when oil prices fell the most.

4.3. Competing explanations

By identifying the role of external transfers in shaping political dynamics in many developing countries, our paper offers a new perspective in explaining comparative patterns of civil conflict and democracy in the late 20th century. Our case studies, however, do allude to other explanations. In this section, we strive to account for two prominent explanations in our statistical analysis. In an effort to statistically substantiate several anecdotal accounts, Andersen and Jensen (2019) provide compelling evidence that a change in the Catholic Church's doctrine during the Second Vatican Council (1962-1965) helped propel many Catholic countries to subsequently democratize. Using data from the postwar period, they employ a difference-in-differences research design to show that countries with a greater population share of Catholics became more democratic after 1965. Their argument that the Second Vatican Council essentially "preached" democracy is applicable to societies in Latin America and Eastern Europe, but less so in Muslim societies where Catholics do not comprise a meaningful (if at all) share of their populations.

A second plausible explanation for the patterns we observe is the role of the Cold War, particularly the transition from bipolarity to unipolarity (around the early 1990s) that ushered political upheaval in many countries worldwide. Francis Fukuyama (1992) proclaimed the demise of the Soviet Union/communism as the "end of history" in which capitalism and democracy triumphed and would be universally adopted. According to Synder (2000) some of these democratic transitions involved internal conflict, while the global rise in civil war propensity could be partly attributed to changing "technologies of rebellion" linked to the end of superpower rivalry (Kalyvas and Balcells 2010). Underlying this explanation is the important role the two Cold War superpowers played in the domestic politics of many developing countries, particularly in propping up nondemocratic regimes (Berger et al 2013). While we acknowledge that superpower interventions mattered in influencing politics in these countries, it is worth noting that neither superpower tended to discriminate its foreign policies based on religion or region. For example,

both the United States and Soviet Union propped up the same regime (led by Siad Barre) in Somalia (albeit at different times). In the Western hemisphere, while the Roosevelt Corollary to the Monroe Doctrine (in 1904) effectively designated the region its exclusive sphere of influence (in which the United States often "intervened" to overthrow democracies in favor of pro-US dictators, e.g., Pinochet in Chile), the Soviets attempted to meddle in Latin American politics during the Cold War, most notably in Cuba. Not to be outdone, the United States made overtures to countries on Soviet borders during the Cold War and provided support to Afghan fighters during their country's invasion by the USSR in the 1980s.

With these caveats in mind, we now probe whether explicitly controlling for the role of the Catholic Church and the timing of Cold War politics affects our statistical inferences. To begin, note that the inclusion of country and year fixed effects in our baseline specification partially accounts for each of these explanations. For example, using information from the World Religion Dataset (which is a panel containing the share of each country's population that follows different religious faiths), Andersen and Jensen (2019) average data over the post-World War II period to construct a country-specific (and time-invariant) measure of the share of each country's population that follow Catholicism ($CATHOLIC_i$). Since $CATHOLIC_i$ varies across countries but not over time, this effect would be subsumed in our baseline specification with the country fixed effects. Analogously, by controlling for year fixed effects in our baseline specification, we are able to account for common temporal effects such as the Cold War/post-Cold War period (as well as annual movements in oil prices) that affect all countries in our sample. We now to turn to additional evaluations of these competing explanations, which we report in Table 6.

We begin by investigating the role of the Catholic Church in facilitating greater democracy. Here we drop the country fixed effects from our specification and control for the share of a country's population that is Catholic ($CATHOLIC_i$), using data from Andersen

Table 6: *Accounting for competing explanations*

Dependent variable:	POLITY					Civil war		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Oil price x Muslim	-0.0254	-0.0366	-0.0320	-0.0450	-0.0321	-0.0025	-0.0023	-0.0022
	(0.0257)	(0.0226)*	(0.0205)	(0.0210)**	(0.0203)	(0.0012)**	(0.0013)*	(0.011)**
Oil price x Latin	-0.0944	-0.0619	-0.0939	-0.0601	-0.0939	0.0007	0.0003	0.0003
	(0.0540)	(0.0508)	(0.0539)	(0.0508)	(0.0539)	(0.0008)	(0.0008)	(0.0009)
Oil price x Soviet Satellite	-0.1408	-0.1287	-0.1372	-0.1261	-0.1365	0.0005	0.0003	0.0004
	(0.0204)***	(0.0218)***	(0.0216)***	(0.0200)***	(0.0215)***	(0.0007)	(0.0008)	(0.0009)
Muslim	0.2362	0.7314				0.1625	0.1559	0.1486
	(1.7500)	(1.7560)				(0.0972)*	(0.0988)	(0.0902)
Latin	7.7801	6.3689				-0.0400	-0.0214	-0.0189
	(1.7701)***	(2.0916)**				(0.0317)	(0.0284)	(0.0285)
Soviet Satellite	6.9066	6.3791				-0.0883	-0.0814	-0.0826
	(1.5621)***	(1.5635)***				(0.0469)	(0.0463)*	(0.0454)*
Catholic share (CS)	0.718	3.0494				0.0265	-0.0041	-0.0170
	(2.2423)*	(2.7875)***				(0.0390)	(0.0528)	(0.0439)
Oil price x CS	-0.0537	-0.0537					0.0007	0.001
	(0.0446)	(0.0446)					(0.0011)	(0.0008)
Post Cold War			4.6371	3.3352	9.0082	0.0235		-0.0101
			(0.7109)***	(1.0414)***	(1.2264)***	(0.0496)		(0.0559)
Post CW x CS				4.5453				
				(1.8273)**				
Oil price x Post Cold War					-0.1411			0.0011
					(0.0417)			(0.0017)
Constant	-3.0849	-2.7681	-1.5080	-1.6578	-3.3172	0.0502	0.0128	0.0351
	(1.2984)***	(1.4270)*	(0.5252)***	(0.5466)***	(0.4517)***	(0.0307)*	(0.0349)	(0.0161)**
Country fixed effects			Yes	Yes	Yes			
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.23	0.25	0.72	0.71	0.71	0.04	0.04	0.03
No. observations	1878	1878	2047	1878	2047	1878	1878	1878
Number of countries	71	71	89	71	89	71	71	71

Notes: Sample of non-oil producing transfer recipients. Estimation via OLS. Robust standard errors, clustered by country reported in brackets. *, **, *** = significant at 10, 5, and 1 percent respectively. Civil war entails any conflict with at least 1,000 battle deaths per annum. Data is from PRIO/ACD.

and Jensen (2019). Consistent with Andersen and Jensen, column 1 shows that countries with a greater share of Catholics exhibited higher democracy.[34] For instance, the coefficient estimate (=3.4) implies that Hungary ($CATHOLIC_i$=0.58) has a POLITY score around 2 index points higher than a country without a significant Catholic population, such as Nepal ($CATHOLIC_i$=0). Since Catholicism is the dominant religion in Latin America (and some Eastern European countries), it is plausible that the differential effect we find for our regions (with oil prices) in Table 5 may actually be capturing (partially) the effect of the Second Vatican Council rather than the regional disbursement of petro-dollars or trade subsidies (both of which are highly correlated with oil prices). To account for this possibility, in column 2 we include the interaction $CATHOLIC_i$ with oil prices as an additional control, finding that higher oil prices tend to dampen democracy in countries with a higher population share of Catholics. Critically, however, controlling for $CATHOLIC_i$ or its interaction with oil prices does not eliminate the negative and statistically effect of oil prices on democracy in Latin American and Soviet Satellite countries, though it does reduce the point estimate on Latin American countries by a quarter, and on Eastern European countries by a tenth.

We now turn to examining the role of geopolitics, controlling for the transition to the post Cold War period (after 1990) in various ways. Column 3 shows that transfer recipients, on average, experience a 4.7 index point increase in their POLITY score after 1990; while, column 4 shows that countries with a greater Catholic population share also exhibit greater democracy after the Cold War.[35] Column 5 shows that an increase in oil prices do not exhibit any differential effect on democracy after the Cold War. The coefficient estimate (=0.0603) is statistically indistinguishable from zero. Across all three models, our key interaction terms $- POIL_t \times LATIN_i$ and $POIL_t \times SOVIETSATELLITE_i -$

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[34]In their difference-in-differences specification, Andersen and Jensen (2019) interact $CATHOLIC_i$ with a dummy for the post 1965 period ($POST1965_t$). Since our sample period does not start prior to 1965, we cannot identify this differential effect (i.e., $CATHOLIC_i \times POST1965_t$.).

[35]Since the coefficient estimate $POSTCW_t$ is in comparison to the Cold War period ($POSTCW_t$=0), it will be still be identified in specifications with year fixed effects.

remain negative and precisely estimated. Finally, for completeness, columns 6-8 account for $CATHOLIC_i$ and $POSTCW_t$ and their interaction with oil prices on civil war as the dependent variable. Consistent with the main inferences from Table 4, higher oil prices in Muslim recipients tends to reduce the incidence of civil war, while oil prices have no differential effect on civil war in Latin America and Eastern Europe.

In short, while we find support for the role of geopolitics (Cold War) and the Catholic church in shaping political dynamics in our treated countries (particularly, in Latin America and Eastern Europe), accounting for these factors does not diminish our inferences that foreign transfers − driven by plausibly exogenously variation in oil prices − is a robust determinant of patterns of civil war in Muslim countries and democracy in Latin America and Eastern Europe.

4.4. Causal interpretation

While we do not explicitly interpret equation (1) in section 4.1 causally, our specification mimics a reduced form difference-in-differences setup: conditional on the controls (e.g., country fixed effects), the β's estimate the differential effect of oil prices on democracy and civil war across Muslim, Latin American, and Soviet Satellites countries (with countries outside these categories as the counterfactual). The case studies in section 3 reveal that we can cautiously treat the setting as a quasi-natural experiment in which these three regions were "treated" with an increase in external transfers originating from oil-producing autocrats experiencing a surge in unearned income. This causal interpretation is bolstered if the parallel trends assumption holds: in the absence of the treatment (i.e., effect of oil prices in each region), the difference between the treatment and control group is constant over time.[36] While there are no formal tests per se for this assumption, visual inspection

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[36]Note, in most DID setups, the pre-treatment and post-treatment periods are clearly differentiable (e.g., in Andersen and Jensen 2019 after the Second Vatican Council in 1965. In our setting, however, the treatment is continuous (i.e., annual variation in oil prices) and can not be split cleanly into a pre- and post-treatment period, unless we make a cutoff for a period of high and low prices. One could amend our baseline specification (e.g., with a dummy variable equal to 0 for the high oil price period and 1 for the low oil price period) and derive inferences similar interpretations to those reported in Tables 4, 5, and 6.

of Figures 1a and 1b suggestion this assumption is unlikely to be violated (for democracy and civil war as the respective outcome variables).

As an additional, and more statistically grounded, strategy to evaluate this assumption, we follow the approach in Earle and Gehlbach (2015) which controls for unit-specific time trends (conditional on covariates). As they argue, controlling for time trends accounts for the underlying trends in the dependent variables in the absence of the treatment. Motivated by this approach, we first control for region specific trends for our treated groups (e.g., Muslim x Year) in equation (1) and then more stringently with country-specific time trends.[37] Table D5 shows that including these region and country-specific trends does not affect our main findings: lower oil prices heighten the incidence of civil war in Muslim countries (only) and helps facilitate a peaceful transition to greater democracy in Latin American and former Soviet Satellite countries.

5. Conclusion

Our model of the political impact of unearned income bridges competing predictions among existing theories linking unearned income to political stability. Some theories show that unearned income fosters stability, while others demonstrate the opposite. We provide conditions under which different levels of unearned income can facilitate democracy (peace), conflict, or repression. Upon the receipts of these transfers, nondemocratic regimes can use them to entrench their autocratic rule. As these transfers wane, however, these regimes become increasingly vulnerable to challenges from opposition groups, potentially leading these regimes to either democratize or engage in armed conflict. We empirically evaluate the dynamics of this political transfer problem using a multi-method approach. Our use of case studies and cross-national statistical analysis provides a narrative that internationally-transferred unearned income deserves a place in explaining

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[37]Note, by controlling for country and year fixed effects, we do not have to control for the constituent parts of these unit-specific trends.

patterns of comparative democratization and conflict in the late 20th century: the "Third Wave" of democracy in Latin America and Eastern Europe and a "missed" wave in many Muslim majority countries.

Despite the unlikeliness of a repeat of the patterns in the 1970s-80s oil price rise in the most recent commodity supercycle, the results in this paper point to the importance of tracing out the transnational movement of rents that emanate from sustained relative price changes. Natural resource supercycles are the most salient presentation of those windfalls. But other sources, perhaps hatched from technological change, a move to renewable energy, or the unwinding of macroeconomic imbalances, may also result in the rapid accumulation of rents. To the extent those rents are then transferred across borders, they may lead to new patterns of autocratic rule, conflict, and democratization in the future. This paper has argued for the important role of that unearned income in determining first-order political outcomes; it has also demonstrated an ability to model and track the rents as they cross borders.

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Appendices

Appendix A: Proofs for the model

This appendix presents proofs of the claims made in section 2.

First, it is important to confirm that the ranges of R presented in Table 2 in fact cover the entire (non-negative) real line without overlap for every legal value of the parameters θ, L, and H. That is, we need to show that $\frac{L}{1-2\theta} < \frac{2L(1-\theta)}{1-2\theta} < \frac{2L(1-\theta)+L}{1-2\theta} < \frac{2H(1-\theta)-L}{1-2\theta}$.

The first inequality holds because $0 < \theta < \frac{1}{2}$ by assumption, so $2(1-\theta) > 1$. The second inequality is true because $L > 0$. To see that the third inequality is true, note that $2H(1-\theta) > 6L(1-\theta)$ because of the assumption that $H > 3L$, so we can write $\frac{2H(1-\theta)-L}{1-2\theta} > \frac{2L(1-\theta)}{1-2\theta} + \frac{4L(1-\theta)-L}{1-2\theta} > \frac{2L(1-\theta)+L}{1-2\theta}$, so we know that Table 2 covers the non-negative real line without overlap. Note that we assume $H > 3L$ because that guarantees that the lower bound for R in Interval 3 of Table 2 is in fact lower than the upper bound, which ensures that there are values of R which generate two-sided violence.

Next, we verify that the stated strategies for the incumbent are in fact optimal for the incumbent. It was shown in the body of the paper that

- Peace is the incumbent's optimal response to peace if $0 \leq R \leq \frac{2L(1-\theta)}{1-2\theta}$

- Low violence is the incumbent's optimal response to peace if $R > \frac{2L(1-\theta)}{1-2\theta}$

On the other hand, if the opposition is violent, then the incumbent chooses between peace, low violence, and high violence. The payoffs are as follows:

- $V^I(L,0) = \theta R$

- $V^I(L,L) = \frac{1}{2}(1-\theta)(R-L) + \frac{1}{2}\theta(R-L) = \frac{1}{2}(R-L)$

- $V^I(L,H) = (1-\theta)(R-H)$

It is straightforward to show that the first value is highest when $0 \leq R < \frac{L}{1-2\theta}$, the second value is highest when $\frac{L}{1-2\theta} < R \leq \frac{2H(1-\theta)-L}{1-2\theta}$, and the last value is highest when $R > \frac{2H(1-\theta)-L}{1-2\theta}$, which confirms the values presented in Table 1.

Next, we move to Table 2, which shows the optimal choices by both groups as a function of R.

The incumbent's choices in each region follow from Table 2, so the only task left is to verify the opposition's choice, conditional on how the incumbent would respond to peace and violence.

The opposition's payoffs for each of the possible outcomes is

- $V^P(0,0) = \frac{1}{2}R$

- $V^P(0,L) = \theta(R - L)$

- $V^P(0,H) = \theta(R - H)$

- $V^P(L,0) = (1 - \theta)R - L$

- $V^P(L,L) = \frac{1}{2}(1 - \theta)(R - L) + \frac{1}{2}\theta(R - L) - L = \frac{1}{2}(R - L) - L$

- $V^P(L,H) = \theta(R - H) - L$

Consider the first row of Table 2, where $0 \leq R \leq \frac{L}{1-2\theta}$. We know the incumbent will be peaceful regardless of whether the opposition attacks, so the opposition chooses between $\frac{1}{2}R$ and $(1 - \theta)R - L$. The former is higher whenever $R \leq \frac{2L}{1-2\theta}$, which includes the entire first row of Table 2.

Next, consider the range where the incumbent is peaceful in response to peace, but uses low violence in response to violence. The opposition chooses between $V^P(0,0)$ and $V^P(L,L)$. The former is always higher, meaning that in the second row of Table 2, the opposition will be peaceful.

Next, consider the range or R where the incumbent will use low violence regardless of the opposition's choice, which spans the third and fourth rows of Table 2. A peaceful opposition will receive $V^P(0,L)$ while an aggressive opposition will receive $V^P(L,L)$. The former is higher when $R \leq \frac{2L(1-\theta)+L}{1-2\theta}$, which confirms that in row 3 of Table 2 the opposition will choose peace and in row 4 it will fight.

Finally, consider the region where the incumbent will use low violence in response to peace and high violence in response to violence. The opposition is guaranteed to lose power, so it prefers to remain peaceful, which confirms the final row of Table 2.

Appendix   B: Data

Table B1: *Sample of non-oil producing transfer recipients*

Muslim recipients		Latin America	COMECON
Afghanistan	Mauritania	Bolivia	Albania
Albania	Morocco	Chile	Bosnia
Bangladesh	Niger	Costa Rica	Bulgaria
Comoros	Pakistan	El Salvador	Croatia
Djibouti	Senegal	Guatemala	Czech Republic
Eritrea	Somalia	Guyana	Hungary
Guinea	Sudan	Honduras	Macedonia
Jordan	Tajikistan	Nicaragua	Poland
Kyrgyz Rep.	Turkey	Panama	Slovak Rep.
Lebanon		Paraguay	
Mali		Uruguay	

Control group			
Armenia	Estonia	Liberia	Sierra Leone
Belarus	Ethiopia	Lithuania	South Africa
Benin	Fiji	Madagascar	Sri Lanka
Botswana	Gambia	Malawi	Swaziland
Burkina Faso	Georgia	Mauritius	Tanzania
Burundi	Ghana	Moldova	Togo
Cambodia	Guinea-Bissau	Mongolia	Uganda
Cent. Afr. Rep.	Haiti	Mozambique	Ukraine
Chad	Jamaica	Myanmar	Zambia
Congo DR	Kenya	Namibia	Zimbabwe
Cote d'Ivoire	Laos	Nepal	
Cuba	Latvia	Philippines	
Dominican Rep.	Lesotho	Rwanda	

Table B2: *Summary statistics*

	Panel A: Summary statistics for full sample				
	No. obs	Mean	Std. Dev	Min	Max
Civil war	2047	0.06	0.23	0.00	1.00
POLITY	2047	-1.58	6.70	-10.00	10.00
Oil price	2047	41.93	21.93	15.89	95.89

	Panel B: Low versus high oil prices			
	High oil price period Average: $60.09		Low oil price period Average: $27.34	
Sample:	Civil war	POLITY	Civil war	POLITY
Full	0.05	-4.21	0.07	0.54
Muslim	0.03	-5.38	0.14	-1.78
Latin	0.07	-2.69	0.05	5.82
Sov. Satellite	0.00	-7.52	0.00	3.90

Appendix C: Polyarchy (from V-DEM)

Figure C1: *Polyarchy in non-oil producing developing countries*
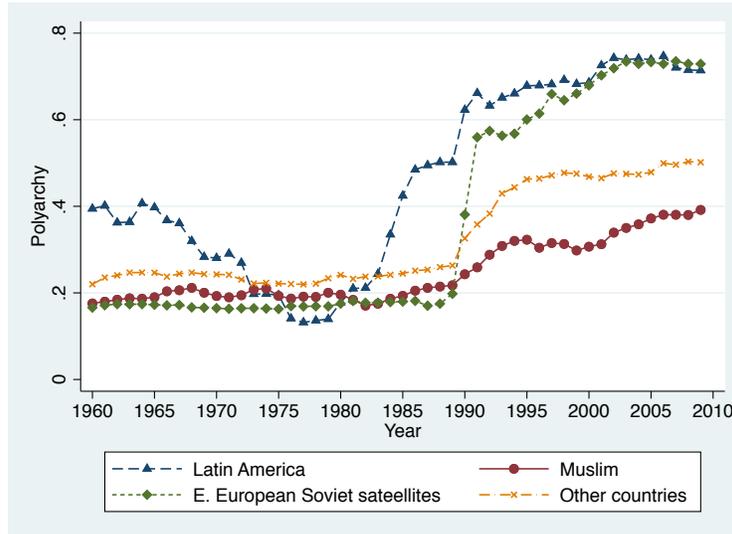
Notes: Average annual group mean of non-oil producing countries across Latin America, Eastern European Satellites, Muslim-majority, and all other (remaining). Polyarchy ranges from 0 to 1 where a higher value corresponds to a higher quality of electoral competition (democracy). This variable is from the Varieties of Democracy Project - Version 9 (Coppedge et al 2019).

Appendix D: Robustness

Table D1: *Oil prices and civil war − Alternate estimators*

Dependent variable:	Civil war			
Method of estimation:	Logit	Logit	Probit	Probit
	(1)	(2)	(3)	(4)
Oil price x Muslim	-0.0488	-0.093	-0.0244	-0.0508
	(0.0140)***	(0.0317)***	(0.0075)***	(0.0175)***
Oil price x Latin	0.0039	0.0113	0.0024	0.0072
	(0.0095)	(0.0151)	(0.0047)	(0.0077)
Oil price	0.0105		0.005	
	(0.0095)		(0.0046)	
Muslim	2.5505		1.2808	
	(0.8791)***		(0.4629)***	
Latin	-0.0708		-0.0562	
	(0.8708)		(0.3800)	
Constant	-3.4051	-1.8694	-1.8612	-1.1148
	(0.5720)***	(0.7151)***	(0.2649)***	(0.4066)***
Country fixed effects		Yes		Yes
Year fixed effects		Yes		Yes
R-squared	0.04	0.27	0.04	0.26
No. observations	1904	542	1904	542
No. countries	80	23	80	23

Notes: Sample of non-oil producing transfer recipients. Robust standard errors, clustered by country reported in brackets. **, *** = significant at 5 and 1 percent respectively. No Soviet Satellite countries experience civil war over the sample period; thus, coefficient estimates for $SOVIETSATELLITE_i$ and $POIL_t \times SOVIETSATELLITE_i$ are not estimated (and not reported).

Table D2: *Oil prices and civil war − Alternate samples and additional controls*

Dependent variable:	Civil war						
Excluded countries:	Afghanistan	Sudan	MENA				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Oil price x Muslim	-0.002	-0.0017	-0.0025	-0.0022	-0.0022	-0.0023	-0.0021
	(0.0011)*	(0.0009)*	(0.0012)**	(0.0011)**	(0.0011)**	(0.0011)**	(0.0010)**
Oil price x Latin	0.0004	0.0002	0.0004	0.0004	0.0001	0.0001	0.0001
	(0.0008)	(0.0009)	(0.0008)	(0.0009)	(0.0007)	(0.0008)	(0.0008)
Oil price x Soviet Satellite	0	-0.0001	0.0002	0	0.0001	-0.0007	-0.0008
	(0.0007)	(0.0006)	(0.0008)	(0.0007)	(0.0006)	(0.0008)	(0.0007)
	POLITY			-0.0001			
				(0.0028)			
Executive constraints (1=Least constrained, 7=Most)				-0.00221			
				(0.0072)			
Political rights (1=Most free, 7=Least free)					0.0153		
					(0.0090)*		
Civil liberties (1=Most free, 7=Least free)						0.0268	
						(0.0129)**	
Constant	0.0604	0.0557	0.0718	0.0712	0.0675	0.0156	-0.0356
	(0.0214)***	(0.0206)***	(0.0221)***	(0.0260)***	(0.0467)	(0.0296)	(0.0451)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.27	0.28	0.32	0.31	0.30	0.32	0.32
No. observations	2030	2020	1976	2047	1936	2019	2019
No. countries	88	88	86	89	88	88	88

Notes: Sample of non-oil producing transfer recipients. Robust standard errors, clustered by country reported in brackets. *, **, *** = significant at 10, 5, and 1 percent respectively.

Table D3: *Oil prices and democracy — Alternate samples and additional controls*

Dependent variable:	POLITY			
Excluded countries:	Latin America	Soviet Satellite	Near democracies	
	(1)	(2)	(3)	(4)
Oil price x Muslim	-0.032	-0.0369	-0.0243	-0.032
	(0.0204)	(0.0215)*	(0.0213)	(0.0202)
Oil price x Latin America		-0.0952	-0.1284	-0.0939
	(0.0261)***	(0.0202)***	(0.0260)***	
Oil price x Soviet Satellite	-0.137		-0.0925	-0.1372
	(0.0216)***		(0.0257)***	(0.0216)***
Civil war				-0.0289
				(0.9524)
Constant	1.918	2.555	3.0292	3.1311
	(0.4650)***	(0.4555)***	(0.4151)***	(0.4353)***
Country fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
R-squared	0.73	0.71	0.74	0.72
No. observations	1750	1904	1869	2047
Number of countries	78	80	82	89

Notes: Estimation via OLS. *, **, *** = significant at 10, 5, and 1 percent respectively. Country and year fixed effects not reported.

Table D4: *Oil prices and polyarchy*

Dependent variable:		Polyarchy	
	(1)	(2)	(3)
Oil price x Muslim	0.0006	0.0004	0.0001
	(0.0005)	(0.0006)	(0.0006)
Oil price x Latin	-0.004	-0.0042	-0.004
	(0.0011)***	(0.0011)***	(0.0011)***
Oil price x Soviet Satellite	-0.005	-0.0052	-0.0046
	(0.0009)***	(0.0013)***	(0.0014)***
Oil price x ELF in 1985		-0.0009	
		(0.0009)	
Oil price x POLITY in 1972		0	
		(0.0001)	
Log GDP per capita			0.018
			(0.0424)
Constant	0.4894	0.4974	0.3981
	(0.0153)***	(0.0204)***	(0.2751)
Country fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
R-squared	0.78	0.77	0.79
No. observations	2111	1809	1777
Number of countries	88	67	84

Notes: Estimation via OLS. *, **, *** = significant at 10, 5, and 1 percent respectively. Country and year fixed effects not reported. The dependent variable, Polyarchy, lies on a [0,1] scale where a higher value corresponds to a higher quality of electoral competition (democracy)

Table D5: *Oil prices and civil war/democracy − Differential trends*

Dependent variable:	Civil war		POLITY	
	(1)	(2)	(3)	(4)
Oil price x Muslim	-0.0011	-0.0014	-0.0426	-0.0437
	(0.0006)*	(0.0006)**	(0.0185)**	(0.0192)**
Oil price x Latin	0	0	-0.0371	-0.0385
	(0.0008)	(0.0008)	(0.0169)**	(0.0173)**
Oil price x Soviet Satellite	-0.0006	-0.0005	-0.0431	-0.0431
	(0.0005)	(0.0007)	(0.0151)***	(0.0219)**
Country fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Region FE x Year trend	Yes		Yes	
Country FE x Year trend		Yes		Yes
R-squared	0.32	0.46	0.74	0.84
Number of observations	2047	2047	2047	2047
Number of countries	89	89	89	89

Notes: Estimation via OLS. *, **, *** = significant at 10, 5, and 1 percent respectively. Fixed effects, region specific trends, country specific trends, and a constant are not reported.