Endogenous Oil Rents

Thad Dunning
Department of Political Science
Yale University

Accepted for publication in Comparative Political Studies

Keywords: Oil, petroleum, rents, Venezuela, PDVSA, Mexico, Bolivia, electoral competition

I am grateful to participants in the Comparative Politics Workshops at The University of Chicago and Columbia University and to David Epstein, Justin Fox, John Huber, Macartan Humphreys, Pauline Jones Luong, Fabiana Machado, Marcelo Nazareno, Jim Robinson, Alberto Simpser, Dan Slater, Susan Stokes, Lisa Wedeen, Steve Wilkinson, and the anonymous reviewers for comments.
Abstract

Oil rents may at times fall like “manna from heaven” into the fiscal coffers of the state. Yet politicians also make decisions that can increase or decrease the extent to which oil rents accrue to the central government. Though counterintuitive, various evidence suggests that politicians sometimes do not seek to maximize the state’s claim on rents. In this paper, I motivate this observation with evidence from Venezuela and then develop a formal model of the relationship between electoral competition and rent choice. I argue that the model can explain why politicians allowed the central government’s rents to decline in Venezuela during the 1990’s, even though a decline in rents plausibly contributed to the destabilization of democracy, while it can also illuminate patterns of rent capture in other cases. The argument has more general implications for literatures on electoral competition, bureaucratic delegation, and the origins of rentier states.
1 Introduction

A large literature emphasizes that oil revenues fall like “manna from heaven” into the fiscal coffers of the state. Spikes in world market petroleum prices, for instance, can provide unanticipated windfall income to central governments (Beblawi 1987, Mahdavy 1970), as the current boom in oil markets reminds us.

Yet politicians also make decisions that can increase or decrease the state’s claim on revenues from oil. For instance, policy choices about how to assess taxes and royalties on the oil sector can influence the extent to which oil “rents” accrue to the central government. The structural relationship of the central government to private resource companies or to oil parastatals can also shape the state’s take, and the resource industry’s structure may in turn depend on previous oil-development strategies of politicians (Jones Luong and Weinthal 2001, 2006).

Intuition might suggest that politicians would have strong incentives to maximize the state’s claim on rents: after all, rents should benefit those who hold the reins of power. Yet there are theoretical as well as empirical reasons to think this intuition is incomplete. Choices about oil rents affect not just current but also future revenues. One of the key features of the oil industry is the extended temporal horizons required to discover and begin to produce oil; negotiation over the terms of contracts in the oil sector typically takes place years before any crude is extracted (Monaldi 2002). How can politicians choosing rents today be sure that they will hold the political power necessary to enjoy them tomorrow? As described below, this consideration may have important consequences for whether and how politicians seek to maximize the state’s claims on rents.

Various evidence also suggests politicians may sometimes seek to structure the industry in order to limit, not maximize, the state’s claim on rents. The Venezuelan case presents a striking and puzzling example. In Venezuela, there has been substantial intertemporal variation in the share of oil revenues captured by the state. The central government’s percentage take of net as well as gross income in the oil sector rose sharply beginning in the late 1940’s, reaching its apogee with the nationalization of oil in 1975. However, the central government’s take declined markedly in both absolute and relative terms in the 1980’s and particularly sharply during the 1990’s. Finally, this decline has been sharply reversed over the past few years. As discussed below, these outcomes
did not simply reflect world market price trends or other economic conditions; instead, as I argue below, they also resulted from policy decisions taken by the central government.

What explains the puzzling outcomes in Venezuela, and particularly the sharp decline in the relative take of the central government after the nationalization of oil? I argue here that the character of political competition helps to elucidate why policies that promoted or inhibited the capture of rents were adopted in Venezuela. Like other recent work, my argument emphasizes that rents can provide an important incumbency advantage in electoral contestation (e.g., Wantchekon 2002). Yet as the formal model I develop below suggests, some incumbents may not have an interest in fostering this advantage. Under some conditions, forward-looking politicians may seek to limit rents because they anticipate a higher probability of being out of power in the future, in which case rents would provide an advantage to other candidates or parties. A key result of the model is thus that weak incumbents may seek to lock-in lower rents, while strong incumbents will choose to structure the resource industry in a way that promotes their future access to rents; incumbents are more likely to choose lower rents as the distribution of political support among citizens shifts in favor of other parties or candidates. The model therefore suggests, perhaps counterintuitively, that weaker incumbents may seek to structure the oil industry in a way that limits the government’s claims on rents.¹

Though the logic is simple, the theoretical model illuminates the puzzle raised by the Venezuelan case in ways that existing explanations have not. The rise and fall of the central government’s oil rents has been noted by many analysts (Pedro España 1989, García et al. 1997), and the proximate policy decisions that contributed to them have been widely discussed (e.g., Mommer 2003, Monaldi 2002). However, the policy decisions themselves have not been satisfactorily explained. For instance, some analysts suggest that managers at the oil parastatal Petróleos de Venezuela (PDVSA) faced incentives different from politicians in the central government and have at times pursued objectives other than maximizing rent for the central government. However, neither economic conditions (for instance, the need to stimulate investment) nor an emphasis on the agency problems involved in monitoring “subversive” managers at PDVSA (Mommer 2003, Baena 1999, Boué 2002) can fully account for the puzzle of why the Venezuelan central government’s proportional take of rents declined. Ultimately, such accounts ignore the fact that limits on
the central government’s take of oil rents – Venezuela’s most important source of fiscal revenue – were approved by political actors inside the central government, including both the executive and legislative branches. It is therefore crucial to understand how political incentives may lead central-government actors to maximize rents – or to fail to do so – at different points in time.

The argument is intended to be general, though I use the Venezuelan case to motivate the paper’s core puzzle and to test key implications of my theoretical model. Across a variety of natural resource sectors and a variety of countries, the theory may help illuminate incentives for rent-maximization as well as rent-minimization. In the penultimate section of the paper, I briefly evaluate the predictions of the model with comparative evidence from Mexico and Bolivia, arguing that the argument can help explain variation over time in rent capture by the state in those cases as well. Beyond endogenous oil rents, the model developed below may also provide a general framework for thinking about political decision-making in various contexts. Indeed, whenever the gains from economic investment may only be realized across several political or electoral cycles – that is, under very general conditions – the model may be useful for understanding political and economic outcomes. As I discuss in the conclusion, the basic structure of the model may help illuminate such disparate topics as bureaucratic delegation, the origins of rentier states, and even switches from clientelistic to programmatic forms of party competition.²

Despite the intended generality of the argument, scope conditions should also be made clear at the outset. The argument hinges on the role of electoral contestation in providing various political incentives to incumbents and should thus be understood to apply to polities in which the prospect of continued and regular elections is good enough to justify the emphasis on the anticipated effects of rents on future electoral prospects. Other features of such polities, such as either the possibility of re-election of individual politicians or the presence of relatively institutionalized parties that “act like” individuals who care about future election, may be important for motivating the present argument as well. I further discuss both the generality and specificity of the argument in the conclusion.
2 The rise, demise, and renewal of oil rents in Venezuela

The size of government oil revenues among the major exporters is, appropriately, often taken to reflect world oil prices as well as production trends. For virtually all the world’s major oil exporters, for example, the oil market boom of the 1970’s resulted in a swelling of government oil revenues. Yet the absolute amount of government oil revenues also reflects the proportion of total revenues in the oil sector that accrue to the central government; and central governments may adopt policies that increase or decrease their share of the rents.

Venezuela provides a salient example. Figure One displays not the absolute amount of government revenues from oil but rather the share of total oil income that accrued to the central government from 1938 to 2004. The figure suggests dramatic variation in the central government’s percentage take, which rose from under twenty percent a few decades after the dawn of Venezuela’s oil era to over eighty percent at its peak in the 1970’s. Rents then declined precipitously to under thirty percent during the 1990’s, before rising again at the start of the twenty-first century.3 Note that world oil price trends do not explain the the patterns depicted in Figure One: using the fraction of total revenues in the oil sector that accrues to the state controls in important ways for prices, since these affect both the numerator and denominator. Moreover, as Figure One suggests, the Venezuelan state’s take rose dramatically during the 1960s, even as real world oil prices remained roughly constant; world prices did not shoot up until the early 1970s.4 The central government’s share also remained relatively high during the 1980s, even as oil prices dropped precipitously, and while the state’s share of rents declined during the 1990s (as did prices), the drop in the central government’s take was even sharper than the fall in prices. The broad trends in the data are similar whether we measure the state’s take of gross revenues in the oil sector, as in Figure One, or instead the state’s take of net oil income.5

What, then, explains the trends depicted in Figure One? I argue that policy decisions taken by various Venezuelan governments contributed to shaping the patterns depicted in the figures, while these policy decisions were themselves shaped in part by the character of electoral compe-
In this section, I describe the contribution of various policy decisions to the evolution of rents, leaving analysis of the deeper political determinants of these decisions for section 4 below.

The most straightforward link between policy and the state’s take stems from the widely varying taxes and royalties levied on the oil sector, under different Venezuelan governments (see Table One). Prior to 1945, the Venezuelan state’s take of oil rents came predominantly from the sale of exploration and production concessions. After 1945, however, when a coup installed the opposition party Acción Democrática (AD), the income tax on the oil companies was raised from 12 percent to 28.5 percent, and royalty payments were raised to 16.67 percent.\(^6\) A further reform of the tax code in 1948 sought to establish the principle of a 50-50 split of profits between companies and the state, though a coup d’etat in 1948 temporarily halted the upward trend in tax and royalty rates.\(^7\) After the return to democracy in 1958, during the government of Rómulo Betancourt, the tax rate increased from 28.5 percent to 47.5 (Pérez Alfonso 2003), while it rose to 52 percent in 1967, under Raúl Leoni, and to 60 percent in 1970, under Rafael Caldera. The Betancourt administration also saw the establishment of a “fiscal reference price” or “fiscal export value” (valor fiscal de exportación), according to which the government had discretion to set the export value of oil up to 20 percent above reported sale values, for purposes of assessing royalty payments (Pérez Alfonso 2003).\(^8\) The apotheosis of the state’s claim on oil rents arose with the nationalization of oil in 1975; paradoxically, however, nationalization coincided with the beginning of a long downward trend in the Venezuelan state’s percentage take of rents during the 1980s and especially the 1990s (Figure One).

Changes in tax and royalty rates also account for some, though by no means all, of the more recent decline. For instance, during the 1990s, foreign operators of certain “marginal” oil fields were taxed at 34 percent, instead of the 66.67 percent oil income tax required by existing legislation, and they did not pay royalties (Monaldi 2001). In addition, PDVSA entered into associations with four consortia of foreign companies to produce heavy crude oil in Venezuela’s Orinoco belt; royalties for these heavy crude oil projects were set at just one percent of production for the first years of operation of the consortia, in contrast to the usual rate of 16.67 percent; as in the marginal oil fields, taxes on profits were set at 34 percent rather than 66.67 percent. Importantly, these changes were by no means limited to the foreign investors who were lured back to Venezuela.
during the 1990s. Beginning in 1993, the parastatal Petróleos de Venezuela S.A. (PDVSA) was allowed generous inflation adjustments that reduced the company’s tax burden. Moreover, the “fiscal reference price” was reduced for PDVSA in 1993 and then eliminated in 1996 (Mommer 2003: 28). This downward trend was only reversed after 2002, under the government of Hugo Chávez, as taxes were raised sharply on heavy crude oil consortia and on other foreign operators in Venezuela.

However, taxes and royalty rates provide just one way in which policy affects the absolute and relative take of rents by the state. Importantly for the argument developed below, other policies also had perhaps more lasting consequences for the ability of the state to appropriate oil rents. For instance, the democratic Constitution of 1961 assured the state’s ownership of sub-soil resources and made the sale of new oil concessions subject to the approval of Congress; aspects of the tax structure were also written into the Constitution and/or made subject to the approval of Congress, making any subsequent revision of terms more difficult. Under the leadership of Venezuelan oil minister Juan Pablo Pérez Alfonso, in 1960 five oil-exporting countries founded the Organization of Petroleum Exporting Countries (OPEC), an organization oriented towards maximizing the rents obtained from foreign companies by member countries. The nationalization of oil itself was seen as the strongest way to guarantee the continued reaping of oil rents and to “lock-in” the state’s participation in the oil sector.

Just as the rise of the state’s share of rents was partially due to non-tax policies that sought to ensure the state’s future participation, so too was the decline in the 1980s and especially the 1990s due to other policies that limited the state’s current as well as future claim on rents. Particularly important, according to a number of observers, was the strategic use of “internationalization,” according to which the parastatal PDVSA transformed itself into a multinational company (Baena 1999). PDVSA bought its first foreign refinery in Germany in the 1980’s; the company also began to buy refineries in the United States and then retail outlets through the company’s CITGO subsidiary. By the end of the 1990’s, around 20 percent of PDVSA’s consolidated assets were held outside of Venezuela, while foreign holdings were valued at around $7-8 billion; PDVSA was the third largest refiner of oil in the United States, behind only Exxon Mobil and BP Amoco (Monaldi 2002b: 26-7).
According to several observers, the presence of foreign assets allowed Venezuelan governments to credibly reduce the state’s take of both current and future rents. Under second-term incumbents such as Carlos Andrés Perez (1989-1993) and Rafael Caldera (1994-1998), the generous tax terms given to foreign investors in the oil sector were guaranteed by the presence of PDVSA’s overseas assets; if any ex-post renegotiation of terms occurred, investors could bring suits against PDVSA in U.S. courts and thereby lay claim to PDVSA’s overseas assets as well as its receivables under long-term oil supply contracts. In order to alter the terms of these contracts, PDVSA would have first to repay all of its debts, which in 2003 had reached the sum of around $10 billion dollars (Mommer 2003: 24; see also Monaldi 2001, 2002). Internationalization plausibly decreased the share of oil income appropriated by the central government in other ways as well. According to some observers, the purchase of foreign assets resulted in the transfer of profits and therefore tax liabilities to relatively low-tax jurisdictions like the United States, while various costs were imported into Venezuela for tax purposes (Baena 1999, Boué 2002, 2003, Mommer 2003). Discounts on Venezuelan crude oil given to PDVSA’s foreign affiliates under these supply contracts may have amounted to transfer pricing, which also shielded the parastatal from tax liabilities in Venezuela.\(^\text{11}\) Finally, PDVSA minimized its cooperation with OPEC production quotas beginning in the 1980’s and may therefore have weakened the state’s absolute level of rent through a different channel.\(^\text{12}\) The economic logic of these various policies is considered in greater detail in Section 4, where I argue that economic factors (such as the need to attract investment) are not sufficient to explain all of these policies or the decline in the state’s take during the 1990s; in any case, economics aside, the political logic of these policies has been poorly understood.

\[\text{TABLE 1 ABOUT HERE}\]

In recent years, the decline in the state’s share of rents has been substantially reversed, as noted above. During the administration of Hugo Chávez, for instance, the tax treatment of companies producing oil in “marginal” fields and of foreign investors in the heavy oil fields of the Orinoco Belt has been substantially revised, as companies have been required to migrate to joint ventures with the Venezuelan state on terms that are more favorable to the Venezuelan Fisc. It is important to note that despite the Chávez government’s stated desire after 2001 to revise the terms
of oil contracts, it moved rather slowly and pragmatically in doing so; these policies were quite costly to reverse, precisely because of those aspects of internationalization and of the oil Apertura that were designed to “lock-in” policies in the oil sector. Only rather extraordinary economic circumstances, due to the recent oil boom in Venezuela, have allowed the retiring of costly debts that were secured by PDVSA’s offshore collateral and thus to give the government greater latitude to revise oil policy. At the same time, as I argue in more detail below, the extent to which Chávez’s oil policy has aimed to maximize rent has plausibly varied over his term, with initial policies far less oriented towards rent maximization. Nonetheless, by 2004, the state’s share of Venezuelan oil revenues had risen to over forty percent; it is very likely that the share has well exceeded this figure in 2005 and 2006 (though reliable data are not yet available). In some projects, taxes have risen to 50 percent, while royalties are at 33.5 percent – a level of state take not seen in Venezuela since the 1970s.

In sum, various policies have contributed to the rise, fall, and recent renewal of the state’s take of oil rents in Venezuela. Strikingly, these policies have often been structured to affect future as well as current rents. For instance, while tax and royalty policies affect current rents, institutional arrangements, such as writing aspects of oil policy into the Constitution of 1961, limited the capacity of future actors to renegotiate the division of the rent “pie” and implied that current policies would have implications for future rents as well. Under incumbents such as Carlos Andrés Pérez, meanwhile, PDVSA’s overseas assets were used as foreign “hostages” (Monaldi 2001), making it much more costly for future actors to increase the proportion of rents accruing to the state. Thus, while some incumbents made it more difficult for future actors to limit the state’s claim on rents, other incumbents made it more difficult for future actors to increase the state’s take.

But what explains the policies? The idea that political actors might sometimes limit the state’s claim on future rents presents a particular puzzle, for we tend to assume that states maximize rents. This puzzle motivates the development of a formal model in the next section. The model is intended as a more general treatment of how the size of rents may be endogenous to democratic competition; thus, there are features of the model that are not specific to the Venezuelan case. Yet it also has implications for explaining the puzzles illuminated by this case. After developing the model, I discuss its explanatory power and also consider alternative explanations.
3 A model

There are two political parties, A and B, and a measure-one continuum of citizens. In each period of the infinite-horizon game described below, one party is the incumbent and the other is the challenger. The per-period payoff of the incumbent is $r$, while the payoff of the challenger, who is out of office, is normalized to zero. As in many models of political competition, parties will choose policies optimally each period in order to maximize their probability of victory.

Following Baron (1994) and Grossman and Helpman (2001), citizens are swayed by campaign spending. Here, campaign spending is financed by resource rents. The literature on resource-rich polities emphasizes that rents tend to accrue disproportionately to whoever holds political power and thus can provide an important incumbency advantage (Wantchekon 2002). To capture this idea in a simple way, I assume that resource rents accrue only to the incumbent party. The size of the rents, however, is partially endogenous: at the beginning of the game, the incumbent in the initial period has the opportunity to structure the resource sector, which determines the size of the rents for the rest of the game. For simplicity, in this model the choice is dichotomous: the structure of the resource sector is such that rents are either “high” or “low.” To capture the idea that incumbents may “lock in” their choice of rents, the level of rents persists throughout the infinite-horizon game.

When party A is the incumbent, citizens vote for party A if

$$I[R = R^H] \geq \sigma^i + \delta$$

and for party B otherwise, where $I[R = R^H]$ is an indicator variable that takes on the value 1 when $R = R^H$ and zero when $R = R^L$. When party A is the challenger, citizens vote for party A if

$$0 \geq I[R = R^H] + \sigma^i + \delta$$

and otherwise vote for party B. In equations (1) and (2), $\sigma^i$ is a mean-zero parameter distributed uniformly on $[-\frac{1}{2\phi}, \frac{1}{2\phi}]$ with density $\phi > 0$. Positive values of $\sigma^i$ indicate an individual (“ideologi-
cal”) preference of voter $i$ for party B. The random variable $\delta$, on the other hand, is an aggregate “popularity” shock distributed uniformly on $[\frac{1}{2\psi} + \mu, \frac{1}{2\psi} + \mu]$, with density $\psi > 0$. This aggregate popularity shock will have non-zero mean whenever $\mu \neq 0$. For instance, if $\mu$ is positive, there is an aggregate bias in favor party B.

The timing of the infinite-horizon game is as follows. In the initial period of the game, Nature selects one of the parties to be the incumbent in the first round. The initial incumbent receives a payoff of $r$ and chooses $R \in \{R^H, R^L\}$ (for “high” and “low”); the chosen value of $R$ will remain in place for the entire game. This captures in a simple way the idea that choice of industry structure is “sticky;” however, the qualitative (comparative statics) results derived below would remain valid as long as the chosen industry structure persists for more than one electoral period.

After the initial incumbent is selected and $R$ chosen, each period has the following timing:

1. The value of the random variable $\delta$ is realized, and voters vote as described in equations (1) and (2). The winning party is determined by plurality rule.

2. The pre-election platform announced by the winning party is implemented, and the winning party receives a per-period payoff of $r$.

The parties and citizens discount the future at the common per-period discount rate of $\beta \in (0, 1)$. The goal of the analysis is to identify the optimal choice of resource rents $R \in \{R^H, R^L\}$ for initial incumbents of each party, as a function of the model parameters.

3.1 Solving the model: the weak-incumbent effect

By standard arguments (see Persson and Tabellini 2000), party A’s vote share, whenever party A is the incumbent, is

$$\pi_A^I = \frac{1}{2} + \phi[I[R = R^H] - \delta],$$

where the super-script “I” stands for “Incumbent.” When party A is the incumbent, the vote share therefore depends positively on rent-financed campaign spending: if rents are high, the indicator variable $I[R = R^H]$ takes on the value of one, so the vote share of the incumbent is higher than if
rents are low and $I[R = R^H]$ is zero. However, when party A is the challenger, the party’s vote share is instead

$$\pi_A^C = \frac{1}{2} + \phi[I[R = H] - \delta]$$

(4)

Note that in equation (4), unlike (3), the indicator variable enters negatively. This is because rents create an incumbency advantage: if they have been set at a high level, they provide a source of campaign spending that the incumbent can use to sway uninformed voters. Rents therefore help the vote share of party A when it is the incumbent and hurt the party’s vote share when the party is the challenger.

The probability $p_A^I$ that party A wins the election, whenever party A is the incumbent, is thus

$$p_A^I = \text{Prob}\left(\left[\frac{1}{2} + \phi[I[R = H] - \delta] \geq \frac{1}{2}\right]\right)$$

$$= \frac{1}{2} + \psi[I[R = H]] - \mu$$

(5)

where the second line of (5) comes from rearranging terms and evaluating the probability using the cumulative distribution function of $\delta$. The probability that party B wins the election when it is the challenger is then $1 - p_A^I$.

Similarly, the probability $p_A^C$ that party A wins the election when it is the challenger is

$$p_A^C = \text{Prob}\left(\left[\frac{1}{2} + \phi[-I[R = H] - \delta] \geq \frac{1}{2}\right]\right)$$

$$= \frac{1}{2} + \psi[-I[R = H]] - \mu$$

(6)

and the probability that party B wins the election when it is the incumbent is $(1 - p_A^C)$.

The strategy for solving the model is to write down value functions for the party selected by Nature as the incumbent at the start of the game, and then use these expressions to analyze the optimal choice of $R \in \{R^H, R^L\}$. Suppose without loss of generality that party A has been selected
by Nature as the initial incumbent. Then we have

$$V_A^I = r + \beta \left[ p_A^I V_A^I + (1 - p_A^I) V_C^C \right] \quad (7)$$

where $V_A^I$ gives the infinite-horizon payoff of party A as a function of its initial choice of rents.

What is the interpretation of equation (7)? The instantaneous payoff of the party is $r$, since party A is the incumbent in the current period. The continuation payoff is given by the expression in brackets, which is discounted back to the current period by $\beta$. The first term of this bracketed expression reflects the fact that with probability $p_A^I$, party A will win the election tomorrow and again be the incumbent. In this case, the future payoffs of party A looking into infinite horizon tomorrow look exactly as they do today, so the infinite-horizon payoff is again $V_A^I$. The second term captures the fact that with probability $(1 - p_A^I)$, party B will win the election and come to power tomorrow. In this case, party A’s payoff looking into the infinite future is $V_C^C$, that is, the payoff to party A when the party is the challenger.

To solve for $V_A^I$, however, we will need to know $V_C^C$. Using symmetric arguments as above,

$$V_C^C = 0 + \beta \left[ p_A^C V_A^I + (1 - p_A^C) V_C^C \right] \quad (8)$$

Here, the instantaneous payoff is zero, since party A is not in office in the current period. The probability that party A, now the challenger, wins the next election and becomes the incumbent is $p_A^C$, so the infinite-horizon payoff $V_A^I$ when A is the incumbent is weighted by this probability. The infinite-horizon payoff $V_C^C$ when A is the challenger is weighted by the probability $(1 - p_A^C)$ that it loses and remains the challenger in the next period.

We now have two equations, (7) and 8), in the two unknowns $V_A^I$ and $V_C^C$. Substituting terms and rearranging gives the following:

$$V_A^I = \frac{\left( 1 - \beta (1 - p_A^C) \right) r}{1 - \beta \left( 1 + (1 - \beta)(p_A^I - p_A^C) \right)} \quad (9)$$

The question of interest is party A’s optimal choice of $R \in \{R^H, R^L\}$ when it is selected by Nature.
as the incumbent in the first period.  

Before answering this question, some further notation will be useful. Suppose that party A chooses \( R = R^H \). Then equations (5) and (6), with \( I(R = R^H) = 1 \), imply that the equilibrium probabilities of election for party A are

\[
\hat{p}^I_A|R^H = \frac{1}{2} + \psi \left[ 1 - \mu \right]
\]

(10) and

\[
\hat{p}^C_A|R^H = \frac{1}{2} + \psi \left[ -1 - \mu \right],
\]

(11)

(The notation \( \hat{p}^I_A|R^H \) and \( \hat{p}^C_A|R^H \) indicates that probabilities are conditional on the choice of \( R = R^H \) in the initial period of the game). On the other hand, when party A chooses \( R = R^L \), \( I(R = R^H) = 0 \), so the equilibrium probabilities are

\[
\hat{p}^I_A|R^L = \frac{1}{2} - \psi \mu
\]

(12) and

\[
\hat{p}^C_A|R^L = \frac{1}{2} - \psi \mu
\]

(13)

Notice that equations (12) and (13) are the same: this is because when \( R = R^L \), there is no incumbency advantage created by rents.

I can now state the main results of this baseline model in the form of a proposition and two corollaries, after first introducing two useful definitions.

**Definition** Party A is a *weak incumbent* if \( \mu > 0 \) and a *strong incumbent* if \( \mu < 0 \). Analogously, party B is a weak incumbent if \( \mu < 0 \) and strong incumbent if \( \mu > 0 \).

**Definition** Electoral competition is *balanced* when \( \mu = 0 \).

Then we have the following results.

**Proposition 3.1** A weak incumbent may choose low rents.
\textbf{Proof} Assume without loss of generality that party A is initially selected by Nature as the incumbent. Then party chooses low rents whenever

\[ V_I^A(R^H) < V_I^A(R^L), \]

where \( V_I^A(R^H) \) is the value function of party A when it chooses high rents and \( V_I^A(R^L) \) is the value function of party A when it chooses low rents. We simply need to derive expressions for both sides of the inequality, evaluated at the equilibrium probabilities of victory for party A. Using equations (10) and (11), substitute \( \tilde{p}_I^A|R^H \) for \( p_I^A \) and \( \tilde{p}_C^A|R^H \) for \( p_C^A \) in equation (9). This gives

\[ V_I^A(R^H) = \frac{(1 - \beta \left(\frac{1}{2} + \psi + \psi \mu\right)) r}{1 - \beta (1 + (1 - \beta)(2\psi))}, \]  

(15)

Now, using equations (12) and (13), substitute \( \tilde{p}_I^A|R^L \) and \( \tilde{p}_C^A|R^L \) into equation (9), which gives

\[ V_I^A(R^L) = \frac{(1 - \beta \left(\frac{1}{2} + \psi \mu\right)) r}{1 - \beta}, \]  

(16)

Using equations (15) and (16), some algebra establishes that \( V_I^A(R^H) < V_I^A(R^L) \) as long as

\[ 1 - \beta < 2\beta \psi \mu \]  

(17)

If party B is instead selected by Nature as the incumbent, the argument is analogous. \qed

The proof of proposition (3.1) also suggests the following corollaries.

\textbf{Corollary 3.2} A strong incumbent will always choose high rents.

\textbf{Proof} Suppose party A is the incumbent in the initial period. If \( \mu < 0 \), then the left-hand side of (17) is always bigger than the right-hand side, since \( \beta \in (0,1) \) and \( \psi \) is positive. The argument when party B is the initial incumbent is analogous. \qed

\textbf{Corollary 3.3} Under balanced electoral competition, every incumbent chooses high rents.
**Proof** When $\mu = 0$, the right-hand side of (17) is zero, and $1 - \beta > 0$ implies that the incumbent will always choose high rents.

What determines when weak incumbents will choose low rents? First, if party A is the initial incumbent, inspection of (17) shows that the incidence of low rents is increasing in $\mu$, our measure of incumbent weakness (when A is the incumbent; otherwise, $\mu$ is a measure of incumbent strength). Analogously, if party B is the initial incumbent, then the incidence of low rents is decreasing in $\mu$. Thus, the weaker (stronger) an initial incumbent is, the more (less) likely it is to choose low rents.

This is the key result of the model. What is the interpretation? Parties that are electorally weak stand to lose by locking in high rents: in the future, these rents will favor the incumbent, and an electorally-weak party is more likely than an electorally-strong party to be the challenger in future periods. So while strong incumbents will always choose high rents, weak incumbents may choose low rents; and they are more likely to do so the weaker they are.

Analysis of the model suggests several interesting ancillary results as well. First, note that if party A is the initial incumbent, and $\mu$ is positive, the incidence of low rents is also increasing in $\psi$ (see 11). What is the interpretation? When the density $\psi$ of the aggregate popularity shock is low, the distribution of $\delta$ has higher variance. Thus, though party B has an electoral advantage, on average, when the mean of the shock is positive, the advantage might be big or small, depending on the realization of the random variable; a high density therefore accentuates the disadvantage to party A of the non-zero (positive) shock. Second, note that the incidence of low rents is weakly increasing in $\beta$, the common discount factor. If $\mu > 0$, then the right-hand side of (17) increases as $\beta$ grows while the left-hand side goes to zero. The point is that a lower discount rate (higher $\beta$) means the shadow of the future is more important; thus, a weak incumbent will be more likely to choose low rents, because future electoral returns are more important to it.
4 Electoral Competition and Rent Capture in Venezuela

Venezuela provides a useful case for testing key implications of the model. First, there has been important inter-temporal variation on both the competitiveness of electoral politics and the central government’s take of rents during democratic periods in Venezuela. Second, Venezuelan democracy also appears consistent with the model’s core assumptions about the structure of politics. I argue here that consistent with the model, electorally-strong parties, and incumbents with strong prospects for future election, have sought consistently to maximize rents in Venezuela. On the other hand, electorally-weaker parties and politicians have adopted policies that contributed to limiting the central government’s claim on rents. While this does not alone prove that electoral competition drove patterns of rent capture in Venezuela, I argue below that various alternative explanations do not suffice to explain the striking inter-temporal variation depicted in Figure One. My focus on political competition therefore complements these other explanations and provides a new way to understand patterns of rent-seeking by the Venezuelan state.

To begin, I code each democratic period since 1945 according to whether the incumbent executive is strong or weak (Table Two). This coding of the strength of the executive is in turn determined both by the size of the incumbent’s electoral margin and by whether the incumbent’s party (or coalition) held a majority in the lower house of Congress. In principle, an executive with a large electoral margin might not control the lower house, or the party of an executive who won only narrowly might have nonetheless retained control of Congress. In practice, during the period under consideration, no incumbent who won with a narrow electoral margin also held the lower house, facilitating the coding of incumbents as strong or weak. Finally, drawing on the discussion in Section 2, I code whether or not the state adopted policies to maximize rents during each period (or was instead “mixed” on this outcome).

[TABLE 2 ABOUT HERE]

As Table Two suggests, strong incumbents from an electorally-dominant party, Acción Democrática, promoted sharp increases in the state’s take of rents prior to the nationalization of oil. In elections for a Constituent Assembly in 1946, for instance, AD won 137 of 159 seats; the
party’s candidate, Rómulo Gallegos, took nearly 75 percent of the vote in the presidential elections of 1947, and in the new Congress AD had 83 out of 110 deputies and 38 out of 46 Senators (Betancourt 1956: 224-233). During the trienio, the apparent electoral advantage of AD was so great that opponents were concerned that the party would monopolize political power (Hellinger 1984: 49, Levine 1978: 92, Myers 1986: 122, Urbaneja 1992: 168; see also Dunning 2008: 190-92). AD leaders thus had every reason to believe that increasing the central government’s take of rents would provide electoral advantages to the party in the future. After the return to democracy in 1958, AD also retained significant strength relative to other parties. For instance, AD’s Rómulo Betancourt (1959-1964) and Raul Leoni (1964-1969) won elections by substantial margins, and the party controlled the Chamber of Deputies either on its own or in coalition. As Monaldi et al. (2001) note, presidents from Acción Democrática enjoyed strong partisan powers during this period, and they substantially increased the state’s claim on oil rents.

Only in 1969 did AD lose the presidency, by a scant 33,000 votes, when Rafael Caldera of the Christian-Democratic party COPEI assumed power. During Caldera’s administration, AD maintained a plurality of seats in the Chamber of Deputies, and a majority after 1973, making Caldera a weak incumbent according to my coding. Caldera’s administration also provides a mixed outcome from the point of view of the theory. On the one hand, as the theory would predict, Caldera himself was ambivalent both about nationalization of the oil sector and about pushing for a greater state take of rents. He initially opposed a law that allowed him to unilaterally set the “fiscal reference price,” as well as other measures that promised greater taxes on the oil companies (Monaldi 2001); according to several accounts, rent-promoting reforms were promoted by opposition legislators and only signed reluctantly Caldera. This was the case with respect to a law that required physical assets such as wells, pipelines, and headquarter buildings to revert to the Venezuelan state, once concessions expired, and a law that reserved gas as well as domestic oil markets for the state.20 On the other hand, when the AD-dominated Congress passed laws that allowed greater rent appropriation, Caldera did use them to increase the state’s take (Figure One).

However, Caldera refused to nationalize the oil sector, leaving that for his AD successor Carlos Andres Pérez (1974-1979). With a majority in Congress and a 12 percentage-point victory in the popular vote, Pérez was clearly a strong incumbent; and with nationalization, his admin-
istration saw the peak of rent-appropriation by the Venezuelan state, with the central government reaping nearly 95 percent of net oil income. Several legal reforms sought to lock-in the Venezuelan state’s control over oil production, or at least to make Pérez’s reforms more difficult to undo; for example, any association between PDVSA and foreign companies would be subject to the approval of Congress (Congreso de la Republica, 1975).

Electoral competition was more balanced during the subsequent administrations of Luis Herrera (1979-1984) and Jaime Lusinchi (1984-1989), and the mix of rent-maximizing and rent-limiting reforms may reflect this balance. To be sure, the organization of the new parastatal PDVSA after nationalization implied some greater retention of funds by the company; as a consequence, the central government’s percentage take of oil revenues fell somewhat immediately after nationalization, though it remained fairly constant (and very high) through the Herrera and Lusinchi administrations. Under Herrera, who on my coding was a weak incumbent, the internationalization of PDVSA – which would later have important rent-limiting effects – began; on the other hand, Herrera also required PDVSA to convert its investment funds from dollars to bolívares during the banking crisis of 1983; this cost the company dearly when the national currency was subsequently devalued. Lusinchi, on the other hand, qualifies as a strong incumbent on my coding; during his administration, taxation of the oil sector remained high, but the internationalization program also deepened. In all, the impact of Herrera’s and Lusinchi’s policies on the reduction in rents was relatively modest.

However, the re-election of Pérez (1989-1993) marked a watershed in Venezuelan politics, ushering in a decade of weak incumbents who had only marginal party support bases (Corrales 2002; Seawright 2006). Neither Pérez, the interim president who succeeded him (Ramó J. Velasquez), nor the next elected president, Rafael Caldera, enjoyed a majority in Congress; the effective number of parties in the Chamber of Deputies rose from 2.6 in 1988 to 4.7 in 1993 and then 6.1 in 1998 (Villasmil et al. 2007). Although Pérez was elected with a solid margin in the popular vote, his popularity with voters suffered a sharp decline almost immediately after his election, due to his broader economic policies, and he was then impeached in 1993. With no prospect of re-election and a fraught relationship with leaders of AD (Corrales 2002) – a party that itself was in the midst of a sharp electoral decline – Pérez was clearly not a strong incumbent during his second
term. Nor was Rafael Caldera, who ran for his second term not as a candidate of COPEI (which put forth a different candidate) but as an independent backed by a coalition of small parties; he was elected with only 30 percent of the vote. Neither Pérez nor Caldera could reasonably expect that they or their parties would enjoy future electoral advantages.

Strikingly, these weak second-term incumbents – who in their first terms in office had promoted rent-maximizing policies, especially Pérez – not only supported rent-minimizing reforms, but sought to “lock in” these reforms without the approval of a hostile Congress. As Monaldi (2001:20-21) puts it, “the administrations that designed and implemented the new investment regime, those of presidents Pérez (1989-1993), Velasquez (1993-94), and Caldera (1994-99), did not have a clear majority in Congress, thus they tried to maximize what could be done without going through a difficult legislative process.” Instead of changing oil policy through legislation, for example, Pérez’s government obtained from the Supreme Court favorable interpretations of existing law, which allowed PDVSA to sign contracts with foreign investors without Congressional approval. In service agreements that allowed multinationals to produce oil in marginal oil fields at reduced tax and royalty rates, PDVSA, and not the Venezuelan state, was the legal entity that contracted with investors. This meant that in the case of any revision of contractual terms, foreign investors could sue PDVSA in international courts, thereby laying claim not only to the foreign assets PDVSA had obtained during the internationalization process – which included the wholly-owned subsidiary CITGO and refineries in the United States, Germany, and Scandinavia, and which were valued at nearly $6 billion – but also to receivables from PDVSAs oil exports under its long-term supply contracts (Monaldi 2001). The consortia agreements that were established to upgrade heavy oil in Venezuela’s Orinoco Belt required Congressional approval under existing legislation, but only of the basic framework guaranteeing (in a rather lax way; see Mommer 1998, Mondaldi 2001) PDVSA’s “control” over consortia decisions. Both the definition of excess profits (which were subject to sovereign expropriation, in some cases) and the size of royalties to be paid by the projects were contractually determined, rather than approved by Congress. Like the operational service agreements to exploit marginal oil fields, undoing the terms of these contracts, at least in the medium-term, would prove prohibitively costly to PDVSA and to the Venezuelan state.

Thus, many of the reforms adopted by weak incumbents promised to lock-in low rents
into the foreseeable future, serving as commitment devices against rent-seeking by the state. Of course, some of the reforms would not necessarily be as difficult to reverse in the future. In 1993, for instance, after Pérez’s impeachment, PDVSA obtained from the provisional government of Velasquez a reduction in the company’s own tax burden through generous exemptions for inflation. The fiscal reference price was also reduced during the provisional government and then eliminated in 1996, during the Caldera administration (Mommer 2003: 28). While these latter reforms might prove easier to undo, they are also consistent with rent-limitation by weak incumbents.

Finally, Venezuela is again governed by a strong incumbent, Hugo Chávez. Are rent-seeking patterns in the most recent period also consistent with this paper’s argument? I suggest that they are. Interestingly, the strength of the incumbent has varied since Chávez’s initial election in 1998. In the first years of his mandate, Chávez lacked a majority in either house of Congress; only with the 2000 elections to the new unicameral National Assembly did Chávez become a strong incumbent, according to my coding criteria. Many observers have also noted inter-temporal variation in the degree to which the state asserted claims to rents in Venezuela; only with the Hydrocarbons Law of 2001 (promulgated by executive decree) did the central government establish legislation that would allow it a greater share of rents. Eventually, extraordinary economic conditions – namely, the oil boom since 2003 – has also allowed the Venezuelan state to undo some of the rent-limiting effects of the policies of the 1990s, for example, by paying off debt securitized by PDVSA’s offshore assets. Clearly, the Venezuelan state has again become a rent maximizer, but it only did so when Chávez became a strong incumbent in 2000. Though there are other factors that contribute to these recent patterns (see the next section), recent events are also clearly consistent with this paper’s claims about the effects of political competition.

4.1 Alternative explanations

There are several possible objections to the argument presented above. First, even if we accept that policy – and not world oil prices or changes in production costs – is at least partially responsible for the government’s shifting share of rents, policy might not be responding to the political incentives identified in this paper. For some observers, the government’s declining share of rents after the
nationalization of oil simply reflects economic conditions, and, in particular, the need to stimulate investment in the oil sector (Monaldi 2002). A wave of foreign investment clearly followed the opening of the oil sector to foreign capital, while loans secured by foreign assets bought during the internationalization program also allowed PDVSA to access world credit markets on better terms.\textsuperscript{21}

However, while policy changes in the oil sector clearly did attract increased investment, it is not plausible that \textit{all} of the decline in the state's share can be attributed only to the desire to attract investment, nor is it clear that Venezuela would have failed to attract investment under higher tax and royalty rates. For example, given that PDVSA's foreign assets served as collateral for offshore-receivables under the heavy-crude contracts, it is not at all clear that it was necessary to lower royalties to the exceedingly generous rate of one percent on the heavy crude oil projects in the Orinoco Belt. Moreover, when an ambitious expansion plan was proposed for PDVSA in 1991, Venezuela had more than 80 years of accumulated oil reserves, at the prevalent rate of extraction (Monaldi 2001:19); it strains credulity to think that reserve depletions justified the tax and royalty terms offered under the expansion program. As for the internationalization program, the stated objective of buying refineries abroad was to guarantee supply contracts for difficult-to-market Venezuelan heavy crude, yet the refinery bought in Germany in the 1980s has never since processed Venezuelan heavy oil, only light oil (Mommer 2003). Finally, the economic or investment rationale for the progressive elimination of the fiscal export value for PDVSA in the 1990s is also far from clear. These examples suggest that at least some of the decline in the state’s share of rents must be explained by economic factors other than the need to attract investment.

Next, however, even if we accept that the need to attract investment was not always the central motivation, factors other than the political incentives I emphasize here could have been key. In several recent accounts, the actions of company officials – whether executives at private multinationals before nationalization or managers at PDVSA afterwards – have been the key focus of analysis. During the pre-nationalization period, for instance, multinational executives were accused of transfer pricing and other actions that tended to limit the state’s take of rents (Betcourt 1956, Pérez Alfonso 2003). For many critics of oil policy during the 1980’s and 1990’s, meanwhile, the decline in the state’s take during that period can be attributed to choices made by managers at PDVSA (Mommer 2003; Baena 1999, Boué 2003). As Bernard Mommer puts it,
from the perspective of PDVSA managers who had come to see the central government as corrupt and incompetent, “why generate fiscal income when, in any case, it would be wasted? Why maximize profits when these would end up, inevitably, in the coffers of the national Fisc?...the company ended up concentrating on...maximizing volumes, cash flow and sales – but not profits! – in all segments of the industry...To prevent the government returning to appropriate its liquid assets in the future, PDVSA decided to never again accumulate such assets” (Mommer 2003: 21, 23, translation mine). According to such accounts, managers at PDVSA were in turn able to pursue objectives other than maximizing rent for the central government because of the substantial autonomy granted to the parastatal at the time of nationalization and because of the weak regulatory oversight by the Ministry of Energy and Mines. In sum, agency problems were at the center of the decline in rents: the central-government principal and PDVSA agents had divergent interests, and monitoring problems contributed to the principal’s inability to optimize policy in the direction of its interests.

Yet this focus on the actions of company officials neglects the important role of politicians in setting policy towards the oil sector: major changes in oil policy had to be approved by the executive (and in some cases by Congress). Prior to nationalization, as discussed above, there was important variation in the desire of different democratic governments to maximize rents (i.e., when AD versus COPEI held the executive branch). With respect to the decline in rents after nationalization, accounts focused on PDVSA managers also appear incomplete. It was P´erez’s government that obtained from the Supreme Court favorable interpretations of existing law, which allowed PDVSA to sign contracts with foreign investors without Congressional approval, and during the 1990s executives helped to acquire a permissive reading from Congress of what PDVSA control over the heavy oil consortia required. Other important policies, such as the size of the fiscal reference price, were under executive control. The claim that PDVSA managers simply exploited agency problems to push their own agenda irrespective of the desires of the executive or legislative branches therefore lacks credibility.

Another possible objection to the framework developed here could be that secular trends in state take are highly correlated across countries. Perhaps the pendulum of bargaining strength between national states and multinational exporters swings back and forth over time, producing a
graph such as Figure One; in other words, perhaps international variables constitute the important factors (Jones Luong 2004 discusses a similar point). Yet though such factors surely contribute to the explanation, they are clearly not sufficient. For example, a focus on the international balance of power between oil exporters and importers leaves unexplained both the decline in the central government’s share of rents in Venezuela after the booms of the 1970’s (which did not appear to occur in, e.g., the oil states of the Gulf, though of course absolute amounts of revenue declined precipitously), and the more recent rise in rents, in which Venezuela has been in front of the world curve on this issue.

Finally, another important alternative explanation concerns the role of “ideology” or related factors. It appears to be the case, for instance, that many mass-based and leftist parties have promoted greater rent capture in Latin America – say, Michael Manley’s People’s National Party in Jamaica (see Stephens 1987) or the Chilean Socialists. Yet in Venezuela, as described above, Rafael Caldera limited rents to a greater extent during his second term; during his first term, Caldera was the candidate of the right-leaning COPEI party, while for his second term he was backed by a coalition of left-wing parties, including the Movement Towards Socialism (MAS), Electoral Movement of the People (MEP), and the Communist Party of Venezuela (PCV). Carlos Andrés Pérez, meanwhile, adopted rent-maximizing reforms during his first term and rent-minimizing reforms during his second term, and during both terms he was the candidate of the center-left party Acción Democrática.

5 Conclusion

This paper seeks to illuminate conditions under which political incumbents may tend to structure oil sectors in a way that produces greater or lesser rents for the central government. Intuition might suggest that most political incumbents would favor greater rents. Yet the Venezuelan case suggests otherwise. Part of the aim of the paper is to introduce the puzzle raised by the striking inter-temporal variation in the percentage take of the Venezuelan central government; another aim is to develop a model of political competition that helps to explain this variation.

A cursory look at cases beyond Venezuela suggests the value of testing this paper’s claims
on a broader sample of cases in future research. For instance, throughout the period of single-party dominance by the Partido Revolucionario Institucional (PRI) in Mexico, the state-owned company Petróleos Mexicanos (PEMEX) remained a “sacred cow” of the Mexican state; when the PRI was a strong incumbent, PEMEX was granted a monopoly on all petroleum activities by the Constitution, severely constraining private and foreign participation in oil and gas exploration, production, and refining (Brown and Knight 1992; Haber, Maurer, and Razo 2003). Although the oil sectors in Mexico and Venezuela faced similar world market conditions and structural constraints during the 1990s, in Mexico almost no attempts were made to privatize or partially privatize the oil sector or to open it to greater outside (foreign) investment; nor did the Mexican parastatal embark on the kind of internationalization strategy undertaken by PDVSA in Venezuela (Boué 2003). These contrasting outcomes have been substantially reversed during the last several years, however; even as a strong incumbent in Venezuela, Hugo Chávez, has attempted to boost the Venezuelan state’s take, a weak incumbent in Mexico – Felibe Calderón, who defeated Andrés Manuel López Obrador by well under one percent of the popular vote – has inched towards reforms that may plausibly reduce the state’s take – by liberalizing and partially privatizing PEMEX. What is striking about the proposed Mexican reforms is that unlike the Venezuelan reforms in the 1990s, they come during a period of high world prices, when the state is flush with oil rents and PEMEX only requires retaining a relatively low share of earnings to allow necessary investment.

Bolivia also suggests the usefulness of further empirical analysis. A simple contrast between the electoral margins of two presidents with sharply differing policies towards the oil and gas sector may make this point. Gonzalez Sanchez de Losada, who initiated a “capitalization” program during his second term as President (2002-03) that clearly limited the Bolivian government’s claim on gas rents, was elected with just 22.5 percent of the popular vote, in a three-way race. On the other hand, the current President Evo Morales, who has sharply increased the state’s taxation of gas projects in the context of a “nationalization” of existing projects, was elected in 2005 with 53.9 percent of the vote – a rather resounding victory in a country where presidents are typically elected with a plurality rather than a majority of the vote.

Clearly, in these and other cases, there are typically several plausible alternative explanations. One of the advantages of adopting a case-study approach in this paper is that measuring
the capture of rents by the state can be quite subtle, and in-depth study of a single case or set of cases can facilitate measurement. On the other hand, the ability to adjudicate between all alternative explanations in necessarily limited. In Mexico, for example, the inefficiency of PEMEX as an organization is frequently cited by analysts in favor of reform, and the bulk of Mexican oil production in the 1990s came from a single field (Cantarel) that may be nearing depletion, necessitating new investment in the sector; ideology may also matter, since elected governments of the right-of-center PAN party in Mexico such as Calderón may be more predisposed to liberalization on ideological grounds. Yet the fact that alternative explanations exist only underscores the value of future cross-case empirical analysis, where careful comparisons might allow some potential relevant confounders to be identified and controlled. The analysis I have presented here cannot prove beyond all doubt that strategic rent maximization – and minimization – lies behind the patterns in the data; yet the case study suggests the strong plausibility of the argument and lays the ground for future analysis.

Beyond the issue of endogenous oil rents, the paper also provides a model that is general and may be useful in a number of settings. For instance, the model may be useful for understanding political and economic outcomes whenever the gains from economic investment may only be realized across several political or electoral cycles – that is, under very general circumstances. The model might even be adapted to study transitions from clientelist to programmatic politics, as well as to better understand the foundations of rentier states and the relationship between resource rents and political regimes. Future work may be geared towards identifying and exploiting the broader insights that a focus on dynamic rent-maximization and rent-minimization may provide.
References


See also de Figueiredo (2002), who argues that electorally-weak parties in legislatures seek to lock in policy changes by delegating authority to bureaucracies.

Jones Luong and Weinthal (2002, 2006), for example, seek to explain why some governments seek state ownership of oil while others promote a private ownership structure. In a paper with a different explanandum, Dunning (2005) explores the political determinants of resource dependence.

Figure One does not include social expenditures by PDVSA, domestic fuel subsidies, or dividends, which were first paid by PDVSA beginning in 1994. Discussion of fuel subsidies would tend to support the argument made below, for it was weak incumbents such as Carlos Andrés Pérez in 1989 who sought to reduce them. While including dividends would increase the percentage share in Figure One by around ten percentage points in the mid- to late-1990s, the main trends depicted in the figure would persist (see Mommer 2003).

Price data used in Figure One comes from the BP Statistical Review.

On my website, I have posted an alternate figure which depicts the state’s claim on net income, rather than gross revenues in the oil sector (AUTHOR URL).

Pressured by AD legislators, the authoritarian government of Medina Angarita had passed a major reform of oil legislation in 1943. However, although this law laid a legal basis for greater rent appropriation, the major revisions to policy came only once AD was in power. It is clear that AD leaders were the key instigators of changes in oil policy (see Betancourt 1979).

During the authoritarian government of Pérez Jiménez, the absolute amounts of rents accruing to the government increased impressively, but this reflected price movements as well as increased production by the companies; the central government’s relative share of revenue remained nearly constant during this period.

This was seen as a mechanism for countering transfer pricing, when multinationals would sell discounted oil to their foreign affiliates to lower their tax and royalty burden in Venezuela.

In addition, some heavy crude oil from the Orinoco Belt was also classified, perhaps inappropriately, as bitumen, a resource taxed at a lower rate in Venezuela (Mommer 2004).

OPEC’s role as a price cartel only evolved over time; its most important original function was to help member countries appropriate a better deal in negotiations with foreign companies.

Boué (2002) estimates that transfer pricing accounted for an annual average of $500 million in foregone profits annually; if this claim is correct, such transfer profits would clearly have removed revenues from the Venezuelan Fisc even if they increased consolidated profits of PDVSA, as the company did not pay any dividends from 1976 to 1994.
The accounting classification of some heavy crude oils as bitumen, mentioned above, may have contributed to this tendency; bitumen was not subject to OPEC quotas whereas some heavy crudes would have been (Mommer 2004).

In this model, parties do not choose policy platforms, other than the initial choice of rents. In a previous, richer model (AUTHOR CITE), I allowed for policy choice; the salient results of that model are identical to those presented below.

The qualitative results presented below are robust as long as there is some persistence of rent choice, that is, beyond one electoral period.

I assume that if the party is indifferent between choosing high and low rents, it chooses high rents.

For instance, under the 1961 Constitution, presidents were allowed to run for re-election after two terms out of office; moreover, strong party discipline and control, particularly until around 1989, implied that party leaders, if not chief executives, made decisions with the lack of myopia necessary for the mechanisms emphasized in the model to make sense.

My focus is on Venezuela’s democratic periods, for these are the periods for which the explanation developed in this paper should have the most relevance. For instance, authoritarian governments are not likely to take into account the effect of rents on future electoral prospects.

Until 2000, the lower house was the Chamber of Deputies.

However, Carlos Andrés Pérez won the presidency in 1998 with an impressive margin of 12 percent, but his party did not have a majority in Congress; see discussion below.


In 1997-2001, average annual oil foreign investment ($7.1 billion) was 463% higher in real terms than the annual average of 1950-59 (a period of high investment growth) and 900% higher than the annual average in 1960-75 (Monaldi 2002: 51). This is due in part to the highly capital-intensive nature of heavy-crude oil extraction, relative to lighter crudes.

Even according to the former Chief Economist of PDVSA, Ramón Espinasa, who helped oversee the opening of the oil sector to foreign capital in the 1990’s, there was a “distributive struggle” within the state between the central government and managers at PDVSA. Interview, Ramón Espinasa, Caracas, Venezuela, February 24, 2005.

There was some limited reform and opening of investment in the petrochemical sector, but no program such as that embarked on in Venezuela was contemplated in Mexico during the 1990s.

At the time of this writing, President Calderón has sent to the Senate a reform that gives PEMEX greater freedom to contract work to private companies, manage its own revenues, and issue company debt finance.
Figure One: Central Government’s Revenues from Oil, as a Proportion of Venezuelan Oil Revenues

Source: Ministry of Energy and Mines and MPPEP, Petróleo y Otros Datos Estadísticos, various years.
<table>
<thead>
<tr>
<th>President, Dates (Party)</th>
<th>Key Oil Policies</th>
</tr>
</thead>
</table>
| Rómulo Betancourt, 1945-1948 (AD) |  - Oil income tax raised from 12% to 28.5%  
                                - Royalty payments set at 16.67%  |
| Rómulo Gallegos, 1948 (AD) |  - Further tax reforms; principle of 50-50 split of profits  
                                - Steps towards "no more concessions"  |
| Rómulo Betancourt, 1959-1964 (AD) |  - Oil income tax raised from 28.5% to 47.5%  
                                - New concessions subject to approval of Congress  
                                - OPEC founded under Venezuelan leadership  |
| Raúl Leoni, 1964-1969 (AD) |  - Oil income tax raised from 47.5% to 52%  
                                - "Fiscal reference price" created  |
| Rafael Caldera, 1969-1974 (COPEI) |  - Oil income tax raised from 52% to 60%  
                                - No nationalization of oil  |
| Carlos Andrés Pérez 1974-1979 (AD) |  - Oil income tax reached 72%  
                                - Nationalization of oil  |
| Luis Herrera, 1979-1984 (COPEI) |  - First foreign refinery purchased by PDVSA  
                                - PDVSA required to convert funds to bolivares  |
| Jaime Lusinchi, 1984-1989 (AD) |  - Purchase of refineries and half-interest in CITGO  
                                - PDVSA's foreign assets secure loans  |
| Carlos Andrés Pérez 1989-1993 (AD) |  - For marginal fields, 34% income tax, no royalties  
                                - For heavy crude, 34% tax, 1% royalty  
                                - PDVSA receivables and assets guarantee tax policies  
                                - Alleged transfer pricing; costs imported and profits exported for tax purposes  
                                - Purchase of full interest in CITGO  |
| Ramón J. Velasquez, 1993-1994 (--)* |  - For marginal fields, 34% income tax, no royalties  
                                - For heavy crude, 34% tax, 1% royalty  
                                - Decrease of PDVSA's fiscal reference price  |
| Rafael Caldera, 1994-1999 (Ind.) |  - For marginal fields, 34% income tax, no royalties  
                                - For heavy crude, 34% tax, 1% royalty  
                                - Elimination of PDVSA's fiscal reference price  
                                - Alleged transfer pricing; PDVSA pays dividends  |
| Hugo Chávez, 1999- (MVR, PSUV) |  - Increased taxes to 50% and royalties to 33.5%  
                                - Migration of contracts to PDVSA majority role  
                                - OPEC strengthened  |

*Ramón J. Velasquez, an interim president, himself succeeded Octavio Lepage, an even shorter-lived interim president.
**Table II: Electoral Competition and Rent Maximization in Venezuela**

<table>
<thead>
<tr>
<th>President (Party)</th>
<th>President's Electoral Margin*</th>
<th>President's Party/Coalition Had Majority in Lower House of Congress?</th>
<th>Strong Incumbent?</th>
<th>Rent Maximizer?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Betancourt/Junta, 1945-1948 (AD)</td>
<td>n.a.</td>
<td>(Yes -- Constituent Assembly)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Gallegos, 1948 (AD)</td>
<td>53%</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Betancourt, 1959-1964 (AD)</td>
<td>13.9%</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Leoni, 1964-1969 (AD)</td>
<td>12.6%</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Caldera, 1969-1974 (COPEI)</td>
<td>0.8%</td>
<td>No</td>
<td>No</td>
<td>Mixed</td>
</tr>
<tr>
<td>Pérez, 1974-1979 (AD)</td>
<td>12.0%</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Herrera, 1979-1984 (COPEI)</td>
<td>3.6%</td>
<td>No</td>
<td>No</td>
<td>Mixed</td>
</tr>
<tr>
<td>Lusinchi, 1984-1988 (AD)</td>
<td>22%</td>
<td>Yes</td>
<td>Yes</td>
<td>Mixed</td>
</tr>
<tr>
<td>Pérez, 1989-1993 (AD)</td>
<td>12.5%</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Velasquez, 1993-1994 (--)</td>
<td>n.a.</td>
<td>n.a.</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Caldera, 1994-1999 (Independent)</td>
<td>6.9%</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Chávez, 1999-present (MVR, PSUV)</td>
<td>16.2%**</td>
<td>Yes**</td>
<td>Yes**</td>
<td>Yes**</td>
</tr>
</tbody>
</table>

Source: Author's calculations based on data from the Consejo Nacional Electoral (CNE)

* Electoral margin is the difference between the President's vote share and the vote share of the second top vote-getter in the preceding election.

** Chávez's margin in the 1998 elections was 16.2%; his subsequent margins were 22.24% (2000), 16% (recall referendum, 2004), and 25.9% (2006). Chávez's coalition gained control of the National Assembly with the 2000 elections (gaining unanimous control in 2005); he was a strong incumbent especially after 2000.