THE POLITICAL ECONOMY OF INSTABILITY:

Political Institutions and Economic Performance in Revolutionary Mexico

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CHAPTER 1

Introduction

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We began this book in order to address a puzzle in political economy: why is it that political instability does not necessarily translate into slow rates of economic growth?

In order to find a solution to this puzzle we proceeded in three ways. First, in order to guide our empirical work and generate testable hypotheses, we built a theoretical framework that explains why political instability does not necessarily have to translate into economic collapse or stagnation. Second, we gathered systematic and detailed quantitative data about a polity that was unstable for a very long period of time—Revolutionary Mexico. Third, we compared our quantitative results about economic performance against our theoretical predictions. When the quantitative results diverged from what we would have expected from theory, we carefully examined the institutional history of that particular sector or industry in order to understand why and how actual institutional structures differed from those suggested by theory. The result is a book that offers, on the one hand, a generalizable framework about the interaction of political and economic institutions and, on the other, a detailed, microeconomic history of Mexico from 1890 to 1930.

We realize that this particular combination of approaches is not standard in any of the cognate disciplines (Economics, History, and Political Science) from which we have drawn. We also realize that this combination of approaches means that readers from different disciplines

may approach this book in very different ways. We therefore think it appropriate to provide a guide as to how we came to write this book and the organization of the argument it advances.

The Paradox of Growth Amidst Instability

Our motivation in writing this book was the lack of fit between the political science and economics literatures on the political determinants of economic growth. One of the logical implications of the theoretical literature on the interaction of political and economic institutions is that political instability should have a strongly negative impact on growth. The literature on the empirical relationship between instability and growth cannot, however, detect the predicted relationship.

The origins of this paradox can be traced to the political science literature on the commitment problem. Basically stated, the problem is as follows: Any government strong enough to define and arbitrate property rights is also strong enough to abrogate them for its own benefit. Unless the government can give the population strong reason to believe that it will not act in its own short-run interest (by seizing property or taxing away all of the income it produces) the population will not invest. If there is no investment, there will be little economic activity, and hence there will be insufficient tax revenues for the government. In short, governments face a paradox: if they do not find a way to tie their own hands, they will not have sufficient resources to insure their own survival.

The extant theoretical literature offers two solutions to the commitment problem, stationary banditry and limited government. [1] The

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1. There is a third possibility: the enforcement of the commitment through a set of informal institutions. Transgressions of property rights by the sovereign would be transmitted to all asset holders through a social network. Such networks are often held together by real or fictive kinship ties. This type of commitment mechanism, however, can only function if the number of parties involved is small and if the costs of transmitting information among members of the network are low. There are historical cases of such

stationary bandit solution is based on the notion that a truly self-interested despot will not abrogate property rights or tax all of the income those property rights generate.[2] If he sets taxes too high (or engages in the outright theft of property) he will create disincentives to invest or exchange. There will therefore be less to tax. A self-interested despot therefore has an incentive to set taxes at the "revenue maximizing" rate. What is more, a revenue-maximizing despot has an incentive to provide public goods (roads, bridges, stable currencies, standard weights and measures, and the like), because these will raise the total income of society and hence his own tax income. He will spend his own funds to provide public goods up to the point that the marginal cost of providing those goods equals the marginal income he receives in increased tax revenues from increased economic activity. The same logic of self-interest also means that a despot will have strong incentives to police and arbitrate property rights, because secure property rights will create incentives for the population to invest, and thereby maximize the despot's tax income. In short, the despot will profit maximize.

There are two problems with the stationary bandit/despot solution, one practical and one theoretical. The practical problem is that no one lives forever. The time horizons of despots are not infinite. In fact, the older a despot grows, the more he will discount the future. Hereditary monarchy is an attempt to solve this problem. Historically, this solution does not work

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mechanisms at the city state level. Commitment mechanisms based on such social networks break down as the size of the state increases, because it becomes increasingly difficult to monitor and enforce agreements as geographic dispersion and the heterogeneity of actors increases. For a discussion of informal institutions see: Greif (1989); Greif (1997; Greif (1998); Greif (1994).

[2] This discussion is drawn from Olson (2000), chapter one; and McGuire and Olson, (1996). A similar profit-maximizing solution is hinted at by North (1981), Chapter three. In North's discussion, the despot practices discriminatory pricing for his services.

as well in practice as it does in theory.[3] Consider England, an archetypal "stable" monarchy. Between 1066 and 1715, 18 out of 31 royal successions produced a political crisis.[4]

The theoretical problem is that the despot's commitment to protect property rights is purely volitional. There is no real mechanism that constrains the despot other than his own long-run self-interest. Despots with a sufficiently low discount rate may attempt to gain reputations for protecting property rights, in order to encourage investment and produce future income. This ultimately creates a paradox: the more accumulated assets, the greater the despot's incentives to predate upon them, because there is more upon which to predate! Just like mutual funds, past performance is no indication of future returns under despotism. Only a government with an infinite time horizon and a low discount rate can be assured never to predate.[5]

The other well-known solution to the commitment problem is limited government. Limited governments are governments that are bound by self-enforcing institutions to respect their own laws, and cannot arbitrarily alter the laws that constrain them. They can only alter the law by following due process, which is itself clearly and transparently defined by the law.

The literature does not specify the exact configuration of the institutions that force limited governments to respect the rule of law. What

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[3] See Mancur Olson, "Dictatorship, Democracy, and Development," American Political Science Review (September 1993): 567-576.

[4] See J. Bradford DeLong and Andrei Shleifer, "Princes and Merchants: City Growth Before the Industrial Revolution," Journal of Law and Economics 36 (October 1993), pp. 671-702.

[5] See Reinhilde Veugelers, "Reputation as a Mechanism Alleviating Opportunistic Host Government Behavior against MNEs," Journal of Industrial Economics (March 1993): 1-17.

is key, however, is that individual political actors cannot exceed the authority granted to them by the law. If they do so, they are subject to sanctions that are imposed by other branches or levels of government or, in the case of democracies, by the electorate.[6] These sanctions are not imposed in an arbitrary or ad hoc fashion: the sanction mechanisms are themselves prescribed by the law. In the United States, for example, the President is limited by a bicameral legislature, an independent judiciary, state and local governments, and a set of independent federal agencies with professionalized civil service staffs. Thus, the U.S. president cannot arbitrarily violate the rights of a citizen because he or she would be subject to sanctions from other branches and levels of the government.[7] Precisely because the government cannot act in an arbitrary manner—because its own political institutions prevent the government from confiscating assets and the economic returns from those assets—asset holders will invest. They do not fear government predation.[8]

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[6] Limited governments and democracies are not identical sets. Any government that cannot act arbitrarily because of the nature of its own political institutions—that is to say, whenever the rule of law exists—is a limited government. The United States, for example, was a limited government from 1789 onwards, but universal white male suffrage did not become widespread until the 1820s, and universal suffrage did not become effective until 1965. For a discussion of the evolution of suffrage in the United States, see Sokoloff (forthcoming).

[7] In the specific case of the United States, an additional feature prevents any actor in the government from abrogating the rights of citizens: sets of multiple, overlapping veto points in the decision structure of the polity (e.g., bicameral legislatures, an executive branch of government, and judicial review of legislation). This means that an actor in the U.S system is not just subject to sanctions ex post, but is blocked ex ante from abrogating a citizen's rights. For a discussion of multiple, overlapping veto points in the U.S. case see: McCubbins et al. (1987a) and McCubbins et al. (1987b).

[8] See North (1981), pp. 154-57; Levi (1988); Weingast (1997a); North and Weingast (1989); North (1990); and, Weingast (1997b). On the problem of commitment, see Miller (1992); Barro and Gordon (1983); Shepsle (1991); and, Root (1989).

Limited government is the theoretically optimal solution to the commitment problem. Limited government is optimal for two reasons. First, commitment no longer depends on individual volition. Commitments are made credible by the self-enforcing nature of the institutions that underlie limited government. Private investors will not be restricted by fear of post-contractual opportunism by the government.[9] Second, because limited governments involve more than one actor, by definition, they will bear more of the deadweight costs of their own rent-seeking behavior than would a despotic government. The reason is because the actors that make decisions within a limited government may have or represent interests that are harmed by rent-seeking.[10]

By definition, unstable polities fall into neither of these two categories of government. Unstable polities are implicitly defined in the empirical growth literature as those in which governments change hands in an unconstitutional, unpredictable, recurring, and violent manner. This recurring violence may be localized, taking the form, for example, of political assassinations. It may be more widespread, taking the form of coups. Or, it may be more generalized, taking the form of civil war or revolution.[11]

For both theoretical and empirical reasons, the group of countries that we usually think of as unstable and the group of countries that are ruled

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[9] The literature on limited governments is exemplified by North (1981), pp. 154-57. Also see Levi (1988); Weingast (1997a), pp. 213-246; North and Weingast (1989); North (1990); and, Weingast (1997b). On the problem of credible commitments, see Miller (1992); Shepsle (1991); and, Root (1989).

[10] See McGuire and Olson (1996). Also see McCubbins and Schwartz (1984).

[11] The empirical growth literature measures instability using instrumental variables such as assassinations, coups, and revolutions. See Barro (1991), p. 432; Alesina (1996), pp. 191-192.

by limited governments do not overlap. As a theoretical matter, unstable polities cannot be ruled by limited governments. In a limited government, by definition, the selection mechanism for choosing government officials is based on the rule of law. If you can shoot your way into office, it means that the mechanisms of limited government have ceased to function. As an empirical matter, until the 1990s, the set of limited governments was very small, and the set of limited governments which fell into instability was even smaller still. As a matter of history, limited government is, in fact, a very rare phenomenon.

Much the same is true about the stationary bandit solution. Stationary bandits can only provide a credible commitment to protect property rights when the despot—and the population he rules—believes that he will be in power for a long time. If a despot comes to the realization that his reign is about to end, he has every incentive to steal everything he can while he still can.[12] The higher the probability that his government will fall, the shorter will be his time horizon, and thus the higher the probability that he will abrogate property rights.

If instability becomes severe enough, the despot can no longer behave like a stationary bandit. Under severe instability, the incentives for the despot change. He now behaves like a roving bandit—he steals everything within his grasp. If he does not do so, he will be overthrown by an opponent who does not hesitate to predate. Indeed, any government, despotic or not, facing a violent threat to its existence has strong incentives to abrogate property rights because it needs resources to fight its enemies. The disadvantage of predation for the despot is that seizing the assets and

[12] It is for this reason that it is in societies' interest for despots to create a dynasty, so that his time horizon exceeds his biological life expectancy. Olson (2000), p. XXX.

production today will mean less production (and therefore taxes) tomorrow. The advantage is that he will live to see tomorrow.

The logical implication of the extant solutions to the commitment problem is that political instability should be inversely correlated with growth. Economists therefore searched for an empirical relationship between political instability and economic growth. They expected to find that growth was not only inversely correlated with instability, but that causality runs from political instability to no growth, rather than from no growth to political instability.

The results they obtained, however, did not match their expectations. First, the studies that searched for a correlation between instability and slow growth did not all reach the same conclusion: Some studies detected a correlation between political instability and slow economic growth. Other studies, that used different data sets, regression specifications, and instrumental variables failed to replicate those results.[13] Second, subsequent work employing sensitivity analysis found that whatever correlations had been detected were extremely fragile. As Levine and Renelt put it: "Almost all identified relationships are very sensitive to slight alterations in the conditioning set of variables and many publicized coefficients change sign with small changes in the conditioning set of variables….In particular, the broad array of fiscal expenditure variables, monetary-policy indicators, and political-stability indexes considered by the profession are not robustly correlated with growth."[14] Third, work that used

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[13] Seminal work in this field includes: Londregan and Poole (1990); Londregan and Poole (1992); Alesina et al. (1996); Barro (1991); and, Barro (1997), especially chapter two.

[14] Levine and Renelt (1992), p. 943. Brunetti obtains similar unstable results when using EBA to test for the sensitivity of various measures of instability and the sensitivity of various regression specifications. See Brunetti (1997), especially pp. 60-79.

time series econometric techniques to test Granger causality failed to find a causal relationship between political instability and economic growth. As Campos and Nugent state it: "…the evidence that SPI [socio-political instability] causes a decrease in the growth rate of per capita income seems much weaker than generally believed. In addition, such a negative and causal relation seems to be largely confined to the Sub-Saharan Africa sample…"[15] Londregan and Poole obtained similar results.[16] Related work on the impact of instability on investment did find a causal relationship, but that relationship was positive: an increase in the level of instability caused an increase in investment.[17]

Even had the growth accounting literature detected a statistically-robust relationship between political instability and slow growth, that result would have been a very weak test of the empirical implications of the literature on the commitment problem. Political instability should not just produce slow growth. Political instability should produce stagnation or economic collapse. The reason is not hard to divine. The more unstable a polity, the shorter the time horizon of governments and potential governments. They must predate on assets (or the revenues they produce) today in order to be in power tomorrow. Thus, the more unstable the situation, the more governments, factions, and the general population will discount the future.

There will be at least two inter-related results of this increase in discount rates. First, there will be fewer economic transactions. The more uncertain the political situation, the less certain the population can be about economic policies. The population will find it increasingly difficult to

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[15] Campos and Nugent (2000a), p. 10.

[16] Londregan and Poole (1990), p. 174.

[17] Campos and Nugent (2000b).

predict future rates of inflation (monetary policies may change dramatically), future levels of taxation, or even whether there will be a government in place that will can protect property rights and enforce contracts. Many contracts between private parties will therefore not be written, because it is far from certain that those contracts will or can be honored. Second, as instability increases, investment in new fixed assets will decrease. Only those investments in which the rate of return exceeds the discount rate of investors will be made. If instability gets severe enough, and discount rates get high enough, then new investment will fall to zero. At the same time that there is little or no new investment, existing fixed assets are depreciating. If the rate of new investment is only high enough to replace assets that are being used up in production, then the outcome will at best be economic stagnation. If the rate of new investment is lower than the rate of depreciation of existing fixed assets, then the outcome will be economic contraction (output will decline).

Methods and Approaches

We reasoned that there must be conditions under which political instability hinders growth, and conditions under which growth is unaffected by instability. Figuring out what those conditions are, however, required that we depart from the standard theoretical and empirical approaches. First, we realized that we had to depart from the standard solutions to the commitment problem—that economic growth requires that governments protect property rights for everyone. Our reasoning was that both of the solutions to the commitment problem (stationary banditry and limited government) logically imply that instability should produce collapse, or, at best, stagnation. We also reasoned that any government that tied its own hands in order to create a commitment that it will not arbitrarily abrogate or reduce property rights would not survive for very long in an unstable polity.

The reason is that some faction with less scruples will predate on property rights and use those resources to overthrow the government. In short, we had to find a solution to the commitment problem other than stationary banditry or limited government, and that solution had to be robust to political instability. We explain our solution in detail in Chapter Two.

Second, we had to depart from the traditions in the empirical literature on growth of employing cross-country regressions to test our model. Our reasoning was that in the real world there is a complex set of relationships between political and economic institutions. It is not possible, at least given the current state of theory and technique, to capture these relationships with cross-country regressions—the other well-known problems with the approach notwithstanding. In fact, even if the other problems with cross country regression analysis could be solved, that approach would still not be appropriate to testing the model we develop. Cross-country regression techniques analyze growth as a short-run macroeconomic problem. The approach relies on representative agent models that aggregate institutional and political variables. Our model, however, focuses on the formation of rent-seeking coalitions made up of subsets of political and economic elites and on their ability to weather political instability. In other words, we focus on the institutions necessary for growth and how they evolve over time. In short, cross-country regressions are too blunt an instrument to understand the formation and functioning of political coalitions under conditions of political instability.

The need to analyze economic performance and institutional change over the long-term, comparing growth under both stability and instability, required that we use history as a natural laboratory. We focused on Mexico, which after 35 years of political stability (1876-1910), endured 19 years of extreme instability (1911-1929). The long-standing dictatorship of Porfirio

Díaz fell to an armed insurgency in 1911. The reformists that deposed Díaz tried to institute limited government, but were themselves overthrown by Díaz's generals in 1913. That counter-revolutionary government was, in turn, overthrown by a broad coalition of reformists and radicals in 1914. The constituent groups that made up that coalition, however, soon fell to fighting among themselves because they had very different visions of the institutions that should govern the polity and the economy. Some of them wanted only moderate political reforms. Others wanted the widespread redistribution of land and other productive assets, as well as a complete overhaul of the political system. They therefore fought a long and extremely violent civil war from 1914 to 1917.

Even after a new constitution was written in 1917, Mexico continued to be unstable. The first president under the Constitution of 1917, Venustiano Carranza, was overthrown and assassinated by his own generals in 1920. His successor, Alvaro Obregón, was himself assassinated the day after he was reelected to a second term. The other leaders of the revolution were assassinated as well: Emiliano Zapata in 1919 and Francisco (Pancho) Villa in 1923. On three occasions during the 1920's the army, at times allied with politically-ambitious cabinet members, tried to overthrow the government (1923, 1927, and 1929). The 1923 rebellion came very close to success and involved six months of pitched battles between various factions. In addition, from 1926 to 1929 there was a church-state civil war, led by Catholics who opposed the anti-clerical elements of the Constitution of 1917 allied to landowners who feared agrarian reform. At both the state and federal levels, violence or the threat of violence played a central role in determining who would rule. It was not until 1929, when the last serious violent threat to the government was defeated and a political party (the Partido Nacional Revolucionario—PNR)

was formed in order to provide a non-violent forum for Mexico's generals to choose the federal executive, that a stable polity was achieved.

Some readers may wonder why we confined our empirical analysis to a single case. Why not construct multiple economic histories of unstable polities? We recognize that there are advantages to such multi-country historical case studies, and there is a sizable social science literature that employs this approach.[18] There is, however, a disadvantage to this approach that outweighs the advantages. As a practical matter, retrieving and analyzing primary source data is not an enterprise characterized by increasing returns. Thus, multiple case studies must rely on the extant historical literature. This creates a serious problem because the extant historical literature tends not to bring to bear much in the way of systematically gathered quantitative evidence about economic structure and performance. Most of the historical literature is also not written with a set of questions in mind that are of direct interest to political scientists and economists. The end result is that much of the comparative history written by social scientists pays a steep price: they are hampered by the lack of systematic quantitative and qualitative data. The resulting economic analysis therefore tends to be haphazard.

We decided that there would be a high marginal return to writing an analytic economic history of a single case. We therefore had to go back to the primary sources in order to develop quantitative and qualitative evidence, and complement that quantitative analysis with the secondary literature. In the process, we found that the history we were writing was calling into question many of the standard interpretations of Mexican economic history.

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[18] See, for example, Skocpol (1979); Moore (1967); Goldstone (1991); Levi (1988).

Chapters three through eight present this analytic economic history of Mexico. Chapter three provides an overview of the political and institutional history of Mexico during the period 1876-1929. Chapters four through eight present historical analyses of each of Mexico's most important economic sectors: banking, manufacturing, petroleum, mining, and agriculture. Chapter nine concludes.[19]

Each chapter is divided into three parts. The first discusses the institutional arrangements that sustained investment and growth before the polity became unstable in 1910. The second discusses how those institutional arrangements either weathered the impact of extreme political instability after 1910 or were replaced by institutional arrangements that were robust to instability. The third section of each chapter then presents a systematic analysis, employing tools from microeconomics, of the structure and performance of that economic sector both before and during instability.

In each chapter, we use the data sets we have developed to test three explicit hypotheses: (1) investment and output should not have grown in absolute terms after 1910 (and likely would have shrank); (2) instability should have slowed the rate of growth of that economic sector relative to

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[19] The only economic sector which we do not study in detail is transport. The reason is that Mexico's railroad system, which was the only economical mode of long distance transport until the highway system was constructed beginning in the late 1920s, was a white elephant that was effectively nationalized by the government even before the polity became unstable. Mexico's railroads created huge social savings (Coatsworth's estimates range from 25 to 39 percent of GDP in 1910), but virtually all of the savings were captured by shippers of freight, not the companies that owned the railroads. This may have been because there was cut-throat competition among trunk lines. It may have been because the Díaz government reserved for itself the right to set freight rates—as part of its agreement to provide railroad companies with production subsidies. It may have been because freight densities on Mexican railways were extremely low. Whatever the cause, one thing is clear: Mexico's major railroads lost large sums of money and were going bankrupt. The Díaz government therefore bought out the stockholders of the companies that operated the major trunk lines in 1907 and created the Mexican National Railways. For the history of Mexico's railways, see: Kuntz Ficker (2000); Kuntz Ficker and Riguzzi (1996); Kuntz Ficker (1995); Grunstein (1994); Maurer (1999), and, Coatsworth (1981).

the ten year period before Mexico collapsed into instability; and (3) rates of investment and output growth might have continued at a high rate relative to the period prior to the revolution, but they were slow relative to what Mexico could have accomplished in the absence of an unstable polity. We assess hypotheses one and two on the basis of time series analysis of economic data from Mexico. That is, our counterfactual case is Mexico itself before 1911.

Assessing hypothesis 3 is more difficult, because it requires the comparison of Mexico to a country that was like Mexico in every respect but that did not undergo a long period of instability. There is, of course, no such country. As a second best method, we can assess this hypothesis in two ways. The first is to compare lines of economic activity in Mexico against those same industries in countries where those industries resembled Mexico's. We do this, for example, in the mining industry, where Mexico and the Southwestern United States had very similar geologic endowments. The second way we assess hypothesis 3 is to make the assumption that Mexico's pre-revolutionary rates of growth in output, investment, or productivity would have continued without the Revolution. This is a very strong assumption to make, and is usually not warranted. There are occasions, however, when the assumption of continued growth on trend is reasonable. Thus, on those few occasions when it is justified by historical evidence about institutional or technological change, we draw explicit comparisons between pre- and post-revolutionary growth trends.

Some readers may ask why we went to the trouble of writing a primary source-based, analytic history. Why not instead just look at published series on Mexican GDP, or some similar measure of performance, and then compare how the economy did under both stability and instability? The answer is threefold. First, there are no estimates of

Mexican GDP for the period 1911-1920. Second, the GDP estimates that we have for the periods 1900-10 and 1920-29 are of doubtful reliability. They rest on imputed values and controlled conjectures, rather than on large bodies of empirical evidence. Mexico did not, in fact, carry out its first industrial and agricultural censuses until 1930. The first input-output matrices for Mexico were not constructed until 1950. What researchers appear to have done in estimating GDP for earlier years was to use the limited data available on the output or export of particular commodities and plug them into the 1950 input-output matrix. The accuracy of these historical projections is anybody's guess. Much the same can be said, incidentally, about the estimates of GDP for most LDC's prior to 1950.

We therefore have constructed detailed economic histories of Mexico's most important economic sectors from 1890 to 1929. We find essentially the same pattern in every sector we look at: output and investment fell between 1914 and 1917, but in most sectors quickly recovered its former levels and rates of growth—even though the political system continued to be unstable until 1929. One partial exception to this pattern is banking. The banking system grew more rapidly in the politically turbulent 1920s than ever before, but failed to regain its 1911 absolute size before 1930. This is because the growth of the 1920s began from an extremely low base, due to widespread predation on bank assets during 1914-17. The other exception is the petroleum industry, in which output and investment rose even during 1914-17. Mexican petroleum output during the decade 1921-30 was twice that of the decade 1911-20, and 87 times that of the (politically stable) decade 1901-10.

In an ideal world, we would be able to aggregate the data on individual industries and sectors into a composite measure of economic performance. That would require, however, knowledge of the weights of

the inputs and outputs. Our point is simply this: if investment and output rose in petroleum, manufacturing, mining, banking and agriculture, then in the aggregate the economy was growing.

In short, we advance two arguments in this book. One is a substantive argument about the way that political and economic elites form coalitions to sustain economic activity and about how those coalitions can endure the effects of revolution, civil war, and political assassination. We argue that there is no necessary connection between political instability and economic stagnation. The effects of instability will depend on the particular characteristics of individual industries and on the particular characteristics of the political coalitions that enforce the institutions that protect property rights.

The other argument we make is a methodological statement about history and the social sciences. Briefly stated, we argue that primary-source based historical analysis is a necessary input to good social science. History is, in fact, one of the few natural laboratories for testing social science theories. The choice faced by social scientists is not whether to use history. It is whether the historical evidence is systematically gathered, carefully analyzed, and independent of the subjective assumptions of the observer. At the same time, coherent history requires a theoretical framework and set of analytic tools that draws from the social sciences. The choice facing historians is not whether to use a theory. The real choice is whether the theory is internally consistent, clearly-specified, and capable of generating falsifiable hypotheses, or whether it is vague, inconsistent, and untestable.

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CHAPTER 2

Theory: Instability, Credible Commitments, and Growth

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All governments—stable and unstable—face a commitment problem: if they are strong enough to arbitrate property rights, they are also strong enough to confiscate them.[1] If the population does not believe that the government will refrain from exercising its power, then they will not invest. If there is no investment, there will be little economic activity, and there will be insufficient tax revenues to sustain the government.

The commitment problem is essentially a problem of contract enforcement. A sovereign government offers property rights protection in exchange for some kind of benefit, typically a stream of tax revenues, from the holders of those property rights. The government and the asset holders assume contractual obligations, much in the same way that any two individuals or corporate bodies can. In a contract between two private parties, of course, the government serves as the third party enforcer of the contract. When the government is a party to the contract, however, it creates a thorny problem: the government has a monopoly over the enforcement of property rights, but will only enforce those rights when it is in its interest to

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[1] Alston, Þráinn et al. (1996), pp. 129-133.

do so. In short, the crux of the commitment problem is precisely the enforcement of the contractual obligations assumed by the government.

Political disorder exacerbates the commitment problem that governments under stable conditions already face. Governments under siege, or factions aspiring to be governments, cannot afford to tie their hands. If these competing groups do not predate on property rights they will be quickly displaced by someone who will. The implication is that political instability will bring economic activity to a grinding halt. Yet as Chapter 1 has shown, there is abundant evidence that political instability does not automatically translate into economic stagnation.

The empirical paradox of growth amidst political instability discussed in Chapter One suggests that there must be solutions to the commitment problem other than the two standard models presented in the literature to date: stationary banditry and limited government. By definition, a growing economy with an unstable polity could not fall into either of these two categories.

What solution to the commitment problem could be robust to instability? How would such a system function? In order to answer that question we found it necessary to extend the extant theories of credible commitment by relaxing some of the underlying assumptions in the standard literature. We employ these relaxed assumptions to construct a solution to the commitment problem that we call Vertical Political Integration. We note that the solution we propose requires the creation of rent-seeking coalitions, that it is economically inefficient, that it has negative consequences for the distribution of income, that it implies political authoritarianism, and that it requires that the government be an inefficient provider of public services. We also note that these theoretical

implications mirror the empirical reality of many countries around the world.

The Extant Literature

We draw on two related, but distinct, literatures: the literature on the economic analysis of property rights; and the literature on the commitment problem. The first body of literature is concerned with the efficiency implications of different property rights systems. The focus of this literature is to refute the strong neo-classical view that institutions are epiphenomena. It argues that institutions matter—and matter a great deal—for a wide variety or economic outcomes. This focus of the literature has two practical consequences. First, as an empirical matter, the literature tends to focus on case studies in which institutional change enhanced property rights and had a positive effect on a given industry. This means that this literature tends not to be concerned with the macroeconomic consequences of different systems. Second, it means that this literature does not have to consider the political foundations of those systems. It takes them as given.[2]

The second literature, on the commitment problem, is concerned with the political foundations of macroeconomic growth. It, too, focuses on property rights, but its concern is not the economic analysis of different property rights systems. Rather, it is concerned first and foremost with one particular type of property rights regime—that which gave rise to the economic success of Western Democracies. It therefore focuses, as an empirical matter, on how credible commitments were made by governments. For this reason, it does not attempt to model the wider range

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[2] See, for example, Alston, Þráinn et al. (1996).

of property rights regimes that are mentioned in the economic literature on contracts and property rights.

One implication of the lack of integration of these two literatures is that there exists a central, unresolved issue regarding whether property rights are public or private goods. The literature on the economic analysis of property rights recognizes that property rights have both public and private goods aspects. Private contracts, for example, often create property rights that are not fully excludable--they are in the public domain. In this sense, a private contract has a public goods aspect. Similarly, when a government creates a property right as a public good, the enforcement of that property right is frequently (if not mostly) private—the benefits from the adjudication of any particular dispute are usually excludable. In this sense, what is perceived as a public good also has a private goods aspect.[3]

What remains unresolved in this literature, however, is whether property rights can be first and foremost specified as a public or private goods. Some researchers, such as North, have suggested it is possible for a sovereign to create a property rights system that reflects his own interests and act as a discriminating monopolist vis a vis asset holders. Implicitly, in this literature, property rights may be a private good.[4] Other researchers, however, have maintained the view that property rights must, first and foremost, be a public good.[5] This ambiguity in the literature, however, has

[3] See, for example, Barzel (1997).

[4] There is some ambiguity even in this literature regarding the public or private goods nature of property rights. North (185), for examp le, refers to "quasi-public" goods. See, for example, North (1981), Chapter 3. Also see North (1990), p. 7,

[5] For example, Pejovich (1998), pp. 39, 60-61, requires that all citizens be subject to the same laws, and by implication, to the same protection of property rights. In fact, property rights are conceived as being a "constitutional guarantee." Eggertsson (1990), p. 59-60, notes that the state becomes the single agent of society in a contract in which states protect

meant that the literature does not directly address the actual efficiency losses that arise when universal property rights protection does not exist. Despite the fact that some researchers recognize that some intermediate cases may occur, the literature makes a distinction between efficient property rights regimes (that satisfy the universality requirement) and inefficient property rights regimes (lumping together regimes with selective property rights protection with regimes that provide no protection at all).

This ambiguity regarding the public or private nature of property rights does not exist in the literature on credible commitments. Indeed, the assumption that property rights are a public good underpins both the limited government and stationary bandit solutions to the commitment problem. In both solutions, the government is presumed to have a binary choice: the protection of property rights for everyone in society, or no property rights protection at all. Any rational actor with a long time horizon and a low discount rate who is faced with this constraint will choose to protect property rights.

The mechanism by which the government is constrained differs dramatically in the two solutions. In limited government, formal political institutions provide sanctions against a government that predates on property rights. In stationary banditry, the despot's own long-run self-

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property rights for the rest of society. A similar view is held by Brennan and Buchanan (1985), who argue that agreements between the state and citizens must be inclusive. Pejovich (1990) also notes that except for providing public goods and solving externalities, the role of the state is to maintain a competitive environment, which requires, inter alia, private ownership of all resources. Moreover, he argues that entrepreneurs need indiscriminate protection of property rights to invest (pp. 29, 79). Kasper, Streit et al. (1999) argue that if "the principle of universality is abandoned…property users will incur rapidly rising transaction costs…A legal order that erodes property rights tends to clash with a competitive economic order."

interest limits his predatory behavior. If a despot predates on the property rights of any individual asset holder he signals all other asset holders that he is no longer operating with a long time horizon.[6] Asset holders will react accordingly. They will heavily discount the future, investing only in those lines of activity that produce rates of return that exceed their discount rate. The result will be a decline in investment and exchange—and hence tax revenues. In short, both solutions assume that any move by the government against any individual asset holder's property rights will work against the government's own self-interest.

This set of simplifying assumptions has allowed researchers to develop a set of useful tools with which to understand the interaction of governments and economic agents. As we pointed out in chapter one, however, it creates an empirical paradox: economic growth should grind to a halt under political instability.

Assumptions

In order to explain how credible commitments can be possible amidst political instability, we must relax some of the implicit assumptions of the extant literature on credible commitments about the public goods nature of property rights. Instead, we adopt a set of assumptions from the property rights literature that allow property rights to be a private good. We then model the economic implications of the resulting property rights system.

We start by making three assumptions about the interaction between governments and asset holders. First, governments do not need to make a credible commitment to protect property rights for everyone in society. Many governments may, as a practical matter, lack the ability to protect

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[6] To use Olson's language, he will be operating as a "roving bandit," not a "stationary bandit." Olson (2000), Chapter two.

everyone's property rights. They may only be in a position to offer the selective protection of property rights. Indeed, under certain circumstances, a government might find it in its interest to only protect some subset of society's property rights, even if the government had the ability to protect property rights universally.

Second, asset holders do not demand that the government protect everyone's property rights. Obviously, an asset holder receives utility from the universal protection of property rights, because this makes her assets more liquid, and therefore more valuable. This does not mean, however, that asset holders *necessarily require* that property rights be universally protected in order for investment to take place. We suggest that it is more realistic to assume that asset holders care first and foremost about their own property rights. Any profit-maximizing actor would readily accept the exclusive protection of her property rights, providing that it produced net benefits to that actor.[7]

Third we assume that there may be information asymmetries between the government and asset holders. This means that it may be difficult for asset holders to monitor the impact of the government's actions or policies upon their property rights. The reason is that there are numerous margins on which governments can tinker with property rights and the revenues they generate. There are institutions that define the rules regarding the possession, use, and transfer of property. It is these rights to property that governments abrogate by, for example, nationalizing them or

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[7] In fact, to the extent that economic agents appreciate the public nature of the protection of property rights, they may have an incentive to influence government to offer such protection on a selective basis. This is reminiscent of the literature on captured agencies, in which economic agents use the power of the state for private gain. See Stigler (1971), and Peltzman (1976).

transferring them to another private party. There are also, however, a whole range of government policies or regulations that affect the ability of those who hold property rights to earn returns from that property.[8] These include tax regimes, tariffs, labor laws, monetary policies, exchange rates, and a whole host of other regulations that can effectively reduce the returns to property rights. From the point of view of asset holders, these are both important because an asset that provides no revenue is, by definition, valueless—even if the putative right to the property has not been abrogated.[9] As a practical matter, it may be difficult for asset holders to monitor the government on each and every policy dimension that affects the value of their property rights. Both the intent of reforms and their actual economic consequences may be difficult for asset holders to determine ex ante. This is especially the case if the government is carrying out the simultaneous reform of multiple regulatory institutions, some of which potentially enhance the value of property rights and some of which reduce them.

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[8] Eggertsson (1990), p. 37, presents three categories of property rights: (1) the right to use an asset; (2) the right to earn income and contract with other individuals; and (3), the right to alienate or sell the asset.

[9] Permit us a discussion of import tariffs to make the distinction between property rights and the returns from property clear. Imagine a situation in which a particular industry has grown under a protective tariff. Industrialists own the factories and the related assets (buildings, land, and the like) *and* they earn a stream of revenues from those assets. Now imagine that the government eliminates the tariff, pushing product prices down below the level where industrialists can earn a positive rate of return on their assets. The property rights of industrialists have not been abrogated—they still own the factories. Their returns, however, have been reduced , and this, in turn, reduces the value of the factories.

Implications

The assumptions that we make about governments and asset holders means that commitment problem is *not necessarily* about the interaction between a government and all of society. Governments can offer selective property rights protection in exchange for some type of economic benefit (typically tax revenues) from a particular asset holder. Property rights can be a public good, but whether or not they are offered as such is subject to the discretion of government. The government can surely create a property right that is excludable. Indeed, it can protect some individuals' property rights at the same time that it abrogates the property rights of others.[10] What is more, the government has incentives to discriminate among potential beneficiaries of secure property rights. Property rights can, in effect, be exchanged with an individual asset holder or an organized group of asset holders in exchange for a stream of tax revenues or other benefits directed toward the government. [11]

From the point of view of asset holders, one may argue that selective protection has a big disadvantage: assets are less liquid (and hence less valuable) than they would be if property rights were universally protected. If selective protection of property rights does take place, then asset holders must therefore be compensated on some other margin: they must earn a rate

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[10] Gambetta had a similar insight about the Sicilian Mafia. Mafias protect property rights, but they do so on a selective basis, in exchange for a share of the rents generated by those selective rights. Curiously, Olson draws on Gambetta's insight about the mafia to argue that "stationary bandits" will protect property rights as a public good. See Gambetta (1993).

[11] We assume that in cases where the government is making a contract with a group of asset holders that those asset holders can solve coordination problems within the group. Thus, one would expect in such a system to observe the formation of various producers associations, commissions, conventions or other organizations.

of return high enough to justify not taking their wealth to a society that does have universal property rights protection. The implication is that such a system will require that the select group of asset holders be allowed to earn economic rents. These rents may be generated in a number of ways. Some of them may be a function of the asset holders specialized knowledge of technologies or markets. Some may be generated by the government, either by using its regulatory powers to constrain competition or by providing a subsidized input to production. What is crucial, however, is that the government must make a credible commitment to protect whatever set of property rights arrangements allows the asset holders to earn those rents.

Private Contracts and Credible Commitments

If property rights can be a private good, then why should an individual asset holder believe that the government will honor a contract after the asset holder has deployed her wealth in productive assets? What keeps the government from unilaterally altering the terms of the contract (by, for example, raising the tax rate), or abrogating it entirely by seizing the assets?

There are essentially three ways that an individual contract between the government and an asset holder can be made credible. The first is when the government earns more from imposing the profit maximizing tax rate than it would earn from abrogating the asset holder's property rights and running the industry itself.[12] This occurs, for example, when the asset holder has specialized knowledge of technologies or markets that the government cannot replicate. The government, in this situation, will not

[12] We assume that governments incur costs in protecting property rights and that taxes create dead-weight losses by distorting the incentives of producers. A government will therefore raise taxes only to the point that marginal increases in tax rates will yield marginal increases in *net* tax revenues.

raise the *tax rate* because doing so would reduce its *tax revenues*. (We assume that the government is already taxing at the profit-maximizing rate for that industry.) It will also refrain from abrogating property rights because it would earn less from running the industry itself than from taxing it at the profit-maximizing rate.

This type of self-enforcing solution to the commitment problem does *not* depend upon the government's desire to preserve its reputation among other potential domestic entrepreneurs. One might argue that governments that can profitably confiscate rather than tax assets might be constrained from confiscating them out of a desire to preserve their reputation among other asset holders. That argument, while correct, depends upon the assumption that these *other* asset holders possess some type of asset that the government cannot replicate. In the case of potential foreign investors, that asset is the wealth that they might bring into the country.[13] For potential *domestic* entrepreneurs, however, the *only* reason the government would wish to preserve its reputation for complying with contracts is because it believes that domestic entrepreneurs possess specialized knowledge that the government cannot quickly reproduce. If potential future domestic entrepreneurs did not bring such knowledge, the government would not need to maintain its reputation among them, since it could easily confiscate their existing wealth.

Therefore, this type of self-enforcing solution to the commitment problem fundamentally depends on an informational asymmetry that favors the asset holder. To the extent that the government can overcome this

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[13] See Veugelers (1993). In Veugelers's model, the investors are foreign, and their assets *cannot* be confiscated until they have been deployed inside the country. This is not the case for domestic entrepreneurs. The government could, in theory, confiscate their liquid wealth and invest it in fixed assets itself.

asymmetry by learning over time, the incentives to refrain from *ex post* opportunism will diminish. Contracts would have an expected lifetime equal to the amount of time necessary for the government to replicate enough of the asset holder's knowledge that running the industry itself would produce more revenue for the government than leaving it in the asset holder's hands and applying the revenue maximizing tax rate. Note that the government does not have to be able to run the industry as efficiently as the asset holder. It simply needs to be able to run the industry *efficiently enough* that the stream of revenues it earns through expropriation exceeds the stream of revenues it can earn through taxation. This implies that self-enforcing mechanisms in a system of selective property rights contracts are going to be difficult to sustain.

When self-enforcing contracts are impossible to write, the parties must devise other mechanisms to constrain the government. One such mechanism is the proffering by the government of a hostage—an asset that would be seized by the asset holders in the event that the government reneged on its promises under the contract.[14] The value of such a hostage would have to be sufficiently large that it exceeded the value of the stream of income that would be earned by the government from expropriating the asset holder and running the industry itself. Moreover, by virtue of the fact that the government is the sole arbitrator of property rights within the borders of its own territory, the assets that compose the hostage would have to be held abroad. In short, as a practical matter, such hostage mechanisms are difficult, although not impossible, to create.

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[14] Such hostages were quite common in antiquity, as a way to maintain peace between two rival states. The hostages in this case would often be the children of the king or other nobles, who would reside in the household of the king of the rival state. Their fate, quite literally, would be linked to their father not reneging on his agreement to keep the peace.

A final—and we shall argue quite common—mechanism to constrain the government is a third party that can punish the government. In private contracts, of course, third party enforcement occurs all the time: the government serves as the third party. A third-party enforcer is a more complicated matter when one of the parties to the contract is the government. Such a third party could not be the government because the government would be acting as both party to and enforcer of the same contract.

The government's conflict of interest implies that some other party must fulfill the role of third party enforcer. This third part must be some organized group with the incentives and ability to punish the government. The third party's payoffs must directly depend on the ability of asset holders to obtain favorable treatment from the government. This provides the incentives for the third party to monitor and punish the government.[15]

The ability of a third party to punish the government necessarily implies that the government must not be strong enough to establish a genuinely despotic state. A credible violent threat to the government must exist. The threat may be active or latent, but all parties to the contract—the government, the asset holders, and the third-party enforcers—must be aware of the potential for violence should the contract be broken.

Who could the third party be? In some cases, the third party could be a foreign state. This tends to occur when one party to the contract is a citizen of that foreign state (usually a very wealthy and influential citizen)

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[15] The most intuitive way to think about this punishment—and its most common shape—is a violent revolt, but it may take other forms, such as general strikes, street demonstrations, or other forms of political protest. The key is that the punishment be severe enough to deter the government from behaving opportunistically toward or predating upon the asset holders.

or is the foreign state itself. In most cases, however, some domestic group must have the ability to serve as the third party enforcer. This domestic third party must receive a stream of rents from asset holders. It may be any group that can credibly threaten the government if its rents are interrupted and is not itself an asset holder. Two elements are crucial. First, the third party must be group that is politically essential for the government. Second, asset holders must align the third party's interests with their own.

Clearly, one implication of such a system is that it must be incentive compatible for all three parties. The interests of the asset holders, the government, and the third party must be aligned. The creation and distribution of rents to all three parties—the asset holders, the government, and the third party—is the most obvious way to align the interests of all the members of the coalition. The government offers selective protection of property rights and other favorable policies to a particular group of asset holders. This property rights system allows this group of asset holders to earn returns above the competitive level. Some of the returns to the asset holder's investment are also diverted to the government, in the form of tax revenues. An additional portion of the rents must also be apportioned to the third party, which will enforce the contract in exchange for this stream of rents. In short, the system we have in mind not only permits rent seeking, it requires it.

A second implication is that this property rights system will be stable only to the extent that the third party will always be able to police and enforce the arrangements between the other parties to the contract. This has three further implications. First, a third party that is well organized—that is to say, when the individuals who comprise a third party can coordinate their actions—will be more effective than an unorganized third party whose actions must be coordinated by moves of the asset holders. Second, an

institutionalized third party (or third parties) will be more effective than a group of individuals. If the third party were an individual or set of individuals, asset holders would not necessarily believe that government predation could be deterred in the future when key individuals passed away. An institutionalized third party, however, will increase the expectation of other actors that third party enforcement will last for a long time. Finally, a third party that is embedded into the governance structure will be more effective than one outside of it. Such a third party will not only be able to punish the government if it reneges on the contract, should the need arise, but it will also prevent the government from even contemplating making such a move. The most effective third parties, of course, will therefore be institutionalized bodies directly linked to decision-makers (or *the* decision-maker) inside the government.[16]

What keeps the government and the third party from colluding and jointly expropriating the asset holders? Two factors mitigate—but do not entirely preclude—this possibility. The first is that third party enforcers have a strong incentive to provide protection across a wide array of industries or economic sectors. The more asset holders they protect, the more rents they will receive. If a third party enforcer colludes with the government and allows predation in one industry, it will never be invited to enforce a contract in any other industry. In sum, competition by third party

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[16] Paradoxically, the more effective third party enforcers are, the more difficult it will be for a society with a selectively enforced property rights system to make the transition to limited government. The reason is simple: an institutionally embedded third party enforcer will have the incentives and the ability to thwart reforms of the political system that will diminish the revenues it receives for providing property rights enforcement.

enforcers to offer "protection" in various markets minimizes the incentives to collude with the government.[17]

The second factor mitigating the possibility of collusion between the government and the third party is that enforcement of property rights is based on the implicit threat of violence. The third party and the government therefore have strong incentives not to let one another get too powerful. An extremely powerful government could cut the third party out of its share of the rents altogether, and vice versa. Thus, the third party and the government each get disutility from increases in one another's revenues. A metaphor from Brooklyn may illustrate the point. Imagine two small-time gangs, each skimming off five percent of the gross income earned by a candy store. The first gang may tell the other that it won't have to go around to the candy store anymore—the first gang will insure that the second will get its five percent. The problem is that the second gang knows that the first would not make such an offer unless it was going to get substantially more than its original five percent—which it could use to buy more guns and recruit more gangsters and eventually cut the second gang out of the picture altogether.

Information Asymmetries and Vertical Integration

The system we have just described (a rent-seeking coalition made up of asset holders, a government too weak to establish a despotic state, and a group that receives rents in exchange for enforcing the contract between the

[17] Even if a third party monopolized protection across all markets, it would take an extremely powerful government to be able to expropriate all industries simultaneously. Piecemeal expropriation—even in collusion with the third party enforcer—would only prompt all remaining asset holders to cease investment and liquidate their assets in advance of expropriation.

asset holders and the government) *assumes* that the asset holders and the third party can easily monitor the government. Such monitoring may in fact be quite costly and imperfect. As a practical matter, asset holders may find that it is difficult to know the intent and estimate the consequences of government policy changes *ex ante*, particularly when the government is engaging in multiple institutional reforms simultaneously. In other words, these information asymmetries mean that there are many margins on which governments can behave opportunistically vis-a-vis asset holders.

In such a situation, it may be difficult for asset holders to assess the net impact of multiple reforms of the laws that govern their property rights and revenues from those property rights. They will only be able to do so *ex post,* and even then their analyses will be clouded by any number of other intervening events that will affect their revenues but that will be difficult to control for in estimating the impact of the property rights reforms. More importantly, the consequences of these simultaneous changes in property rights and the distribution of the revenues generated by those property rights may affect different asset holders in varying degrees. Some may be better off as a result of the reforms. Some may be worse off. In short, the government may well know that it is behaving opportunistically, but the asset holders *as a group* can at best only know this *ex post*. Moreover, because such behavior will take place on the margin, the use of a third party to threaten the government over the new property rights system may be too blunt an instrument for the task facing asset holders.

How can asset holders check marginal opportunistic behavior by the government in the presence of information asymmetries? An insight into this problem is provided by the literature on transactions and contracts between private firms. Private firms often possess incentives to engage in

opportunistic behavior vis-a-vis one another.[18] Often the scope for opportunistic behavior depends upon whether the contracting firms can monitor each other. If information asymmetries between the two firms are high, then firm A can never be certain whether firm B is behaving opportunistically, or is just trying to renegotiate the contract because of external events beyond its control. Under these circumstances, vertical integration between the two firms can reduce the incentives for opportunistic behavior because information asymmetries are lower within an integrated firm than between two separate ones.[19]

Obviously, it is not possible for a government and an asset holder to form a "firm." It is possible, however, for the line between the government and private asset holders to become blurred—so blurred, in fact, that as a practical matter is becomes difficult to distinguish precisely where the government ends and the asset holders begin.

The exact form that this "vertical integration" takes will vary. Governments may ask private bodies to write their policies, or the heads of the government's executive agencies might be drawn from the most prominent asset holders in the country. It is not a strict requirement, however, that there be formal organizational innovations for effective

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[18] Such opportunism typically occurs when firms have formed specialized relationships, especially where a monopolist provides a crucial input to a second monopolist. Both firms, in such a situation of bilateral monopoly, will have incentives to hold one another up. Moreover, both firms have made substantial sunk investments in specific assets that cannot be redeployed to another use. Both firms, therefore, have an incentive to engage in opportunistic behavior to appropriate the value produced by the specialized assets—*even after they have signed a contract.* Under such circumstances, the costs of contract enforcement are very high. See Klein, Crawford et al. (1978) and Hart (1995). A classic case is the sugar industry. See Dye (1998).

[19] See Arrow (1974), Green and Porter (1984), and Riordan (1990).

integration between government and asset holders. In authoritarian polities such integration might be accomplished informally. If a dictator can determine property rights systems by decree, then all that needs to happen is that a group of asset holders is close enough to him that they have his ear on a continuous basis.

Asset holders gain three things from integration. First, they gain the opportunity to shape the policies that govern their own activities. Second, they obtain the ability to monitor the government to ensure that it is not trying to alter these policies. Third, they gain the ability to signal the government that they have detected attempts at opportunistic behavior. What the government gains is the confidence of the asset holders, who will now be more likely to deploy more of their wealth in productive investment, thereby generating tax revenues for the government.

This process of vertical political integration—the blurring of the lines between the asset holders and the government—is not in and of itself a commitment mechanism. It is a new form of contract between government and asset holders that reduces the government's ability to behave opportunistically undetected. Like all contracts between a government and an asset holder it must be enforceable if it is to be credible. After all, what would keep the government from simply dissolving the arrangements that allowed asset holders to shape and monitor the policies that affect their property rights? Enforcement of these arrangements would have to come from the exact same mechanisms that we discussed earlier in regard to other contracts between the government and the asset holders: (1) asset holders' specialized knowledge of markets or technology, (2) the proffering of a hostage, or (3) third party enforcement.

Third party enforcement will probably be the most common of the three available commitment mechanisms. First, if the initial contract

between government and an asset holder was being enforced by the asset holder's specific knowledge of markets or technologies, the asset holder would not likely need to monitor the government closely. The government's own self-interest in profit-maximization would constrain it from behaving opportunistically. Thus, industries with this character are not likely to need to become "vertically integrated" with the government in the first place.

Second, hostages are also a candidate as an enforcement mechanism, but, as previously noted, the creation of an effective hostage is a difficult matter when it is a government that proffers the hostage and an asset holder that holds the hostage. The hostage would have to be quite large, and it would have to be held outside of borders of the country. Otherwise the government could simply seize it at the same time that it reneged on its integration contract with the asset holders.

The third reason why we would expect third party enforcement to be the most commonly used commitment mechanism is that the process of integration itself increases the strength of the social and political links between the government and private asset holders. This may give the asset holders additional levers with which to punish the government should it renege.[20] The punishment inflicted on the government by these levers may be small. The ability to inflict small punishments commensurate with small acts of opportunism, however, makes the threat of punishment more

[20] The threat of social exclusion by the government's close cronies is one example. Tumultuous and unpleasant cabinet meetings—where the cabinet members act as the "third party enforcer" for all asset holders party to the contract—are another. The possibility of hostile family relations—in the case of intermarriage between the relatives of government officials and asset holders—is a third. In these cases the government's cronies, advisors, or family members act as third party enforcers—*in addition to* any other enforcers.

credible. One does not credibly deter shoplifting by threatening the death penalty.

Can the parties that monitor and signal the government and the parties that enforce the contract with the government be one and the same individuals or groups? After all, one might imagine a scenario in which the individuals who monitor the contracts and the individuals who enforce the contracts might both be highly placed government officials. The contract might be monitored, for example, by an agent of the asset holders who is appointed to a cabinet level position. It is this privileged position—say, the Secretary of the Treasury—that allows this person to effectively monitor and signal. The contract might be enforced by other individuals who are in the government—say, a group of senior army generals who are given positions on the boards of directors of the companies owned by the integrated asset holders. It is this privileged position that allows this group to make credible threats to the government. If our rents dry up because you change policies, we will replace the government. In short, *as a practical matter*, both monitoring and enforcement in such a scenario would be carried out by individuals who are senior members of the government.

We need to be clear, however, that *as a conceptual matter*, these functionaries are performing distinct *roles* in the VPI coalition. Moreover, this conceptual distinction is crucial if VPI is to work. An individual (or group of individuals) can be part of the government structure and remain an effective monitor so long as she is perceived by the asset holders to be sufficiently independent that she functions as *their* agent. An individual (or group of individuals) can be part of the government structure and remain a viable enforcer, so long as she is perceived by the asset holders to be sufficiently independent that she functions as *their* agent. If these distinctions break down—if the interests of monitors and enforcers become

closely aligned with those of the government—the distinction between the government, the third party, and the monitors will cease to exist. If their interests are identical (which is quite likely to happen if the monitor and enforcer are the same individual, and that individual is embedded in the government) there can no longer be credible monitoring or enforcement. In short, as a practical, empirical matter, it may be difficult to identify where monitors end and enforcers begin. As a conceptual/theoretical matter, however, the distinction is crucial.

We wish to stress that there is nothing inevitable about the evolution of VPI. Obviously, an agreement between a government and a group of asset holders that allows the asset holders to monitor and signal the government, and that is enforced by an institutionally-embedded third party enforcer—what we would call a VPI system-- will provide the strongest credible commitment possible in a system in which property rights are a private good. This is not to say, however, that this combination of monitoring and enforcement mechanisms is a unique solution to the commitment problem when governments are not required to provide property rights on a universal basis. There are, in our view, multiple possible outcomes, some of which will involve VPI and some not, some of which will involve third parties, and some not. In our view, both VPI and the development of institutionally embedded third parties will likely come out of an iterative process in which asset holders learn how to constrain the government from behaving opportunistically. It is, in short, a historical process in which each of the players in the game, the government, the asset holders, and (where applicable) third parties continually try to garner for themselves larger shares of the available pool of revenues generated by the property rights system.

Characteristics of Vertical Political Integration

What are the implications of a fully developed VPI system? That is, what are the political and economic implications of a property rights system in which the lines between the government and asset holders have become blurred via an implicit contract to "integrate" the two groups, and in which a third party enforces the contract? How is VPI different from limited government and stationary banditry?

In stark contrast to limited government and stationary banditry, under VPI the security of property rights is a function of the amount of rent earned and distributed. Rent seeking may occur in limited government and stationary banditry, but is not essential to their functioning. In VPI, on the other hand, the asset holders must receive a stream of rents in order to induce investment. The government must receive a portion of these rents, in order to finance its own operations. Rents must also be transferred to the third party enforcers, otherwise they will have no incentive to check the government should it attempt to abrogate the property rights of the asset holders. Indeed, the potential losses from incurring the wrath of the third party enforcer must be less than the amount of rents being transferred to the government through VPI for the coalition to be stable. In short, VPI not only enables rent seeking, it requires it.

In further contrast to limited government, under VPI the law by itself is not a commitment mechanism. Under limited government, laws bind both the government and private actors. Going outside the rule of law subjects all parties to sanctions, and these sanctions are prescribed by the law. In VPI systems, however, the mere existence of a law does not bind the government. The government is only bound to obey the law—or any contract, for that matter—under a credible threat from a third party enforcer.

That is, commitments under VPI are not a function of the rule of law but of an implicit threat of violence.[21]

The fact that VPI coalitions are held together by the threat of violence does not mean that the law is completely meaningless under VPI. The integrated asset holders and the government will need to codify the property rights system. Once they have done so, however, this property rights system may generate positive externalities for other, non-integrated asset holders. To the degree that integrated asset holders and the government have fashioned a property rights system that erects high barriers to entry, these positive externalities will be small. As a practical matter, however, it is not always feasible to create insuperable barriers to entry. This is particularly the case in economic activities that are geographically dispersed, that have small minimum efficient scales, and that do not rely on proprietary technology—agriculture being the most obvious example.

The possibility of positive externalities does not mean that the integrated asset holders do not earn rents from integration. In fact, if they knew that their rents would be immediately dissipated they would not join a coalition in the first place. The government and the integrated asset holders avoid this problem by insuring that the integrated asset holders obtain substantial first mover advantages. Imagine the following heuristic example, this one not drawn from Brooklyn. A group of asset holders makes a deal with the government that they will receive tariff protection in exchange for founding a new industry. The government is also interested in

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[21] This is not to say that VPI is characterized by omnipresent violence. Quite the contrary. violence only occurs in a stable VPI system when the government breaches the contract with asset holders. Because the government knows that the outcome of such a breach will be violence, it does not breach the contract in the first place.

obtaining some of the rents generated from protection for itself, so it establishes an income or excise tax on the industry. It then grants the integrated group a full or partial exemption from that tax. Protection from foreign competition will induce other groups to enter the industry, dissipating some of the rents of the integrated asset holders. These new competitors, however, will be subject to the full weight of the income or excise tax. The government, seeking to maximize revenues, will set these taxes at a rate that does not produce an insuperable barrier to entry. The result would be higher than normal returns for the integrated asset holders, trade protection for the unintegrated asset holders, and a stream of tax revenues for the government.

The implication is that VPI is more economically efficient than stationary banditry. A despotic government has no incentive to maximize the polity's total economic output. Rather, its goal is to maximize its net revenues. It raises *tax rates* until the deadweight losses caused by its taxes create distortions so large that they lower the government's *tax revenues*.[22] A VPI coalition is also not trying to maximize the polity's total economic output. It does, however, have a much broader "encompassing interest" in the overall economic health of the polity than does a despot.[23] Asset holders in a VPI coalition may extract rents from the rest of society. The rest of society, however, is also the asset holders' market. Rent extraction, therefore, makes their customers poorer. At some point, the losses from having poorer customers outweigh the gains from extracting rents. In

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[22] If an increase in taxes from 50 percent to 51 percent causes economic activity to decline from 100 to 98, then the the despot would receive an income of 49.98 (.51 times 98) rather than 50 in income (.50 times 100).

[23] For a detailed discussion of the logic behind the idea of an "encompassing interest," see McGuire and Olson (1996).

addition, the asset holders have to share rents with the government and the third party enforcer. This means that the asset holders bear all the costs of reduced markets but gain only some of the rents. The implication is that asset holders will not join a coalition unless the overall level of rent extraction is lower than under stationary banditry. In point of fact, since there are multiple asset holders in multiple industries, the level of rents extracted by a VPI coalition may be still lower. Any rents transferred to any individual asset holder may reduce the income of another integrated asset holder. The end result is that integrated asset holders in a VPI coalition are better off than they would be under a despotic stationary bandit. Unintegrated asset holders are *no worse off* than they would be under a despot, and may, in fact, be better off.

VPI coalitions may also be more efficient than stationary banditry because both the government and the third party enforcer worry about the other becoming too powerful. Each of them has an incentive to reduce the rents received by the other as part of the coalition. Such incentives may serve to reduce the amount of rent extracted from the rest of society.

VPI may be more efficient than stationary banditry, but it is less economically efficient than limited government.[24] First, the requirement that rents be generated and distributed through the political system means that there will be a serious misallocation of resources in the economy. Industries will exist that would not exist otherwise, monopolies and oligopolies will exist in industries that should be more competitive, and opportunities will be denied to entrepreneurs with the required skills and assets, but without political access or protection. Second, the rents necessary to sustain VPI must come from somewhere: usually everyone

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[24] Provided, of course, that all three alternatives are feasible: stationary banditry, selective protection, and, especially, limited government.

and anyone outside the coalition.[25] Thus, VPI has negative distributional consequences. Third, VPI coalitions will only be stable when the government earns rents above and beyond the cost of providing public services. If the government is not earning such rents, then it will have an incentive to predate on property rights. The implication is that the government will be an inefficient provider of public services.[26]

VPI also has negative political consequences compared to limited government. The very nature of VPI—a series of contracts between select economic agents and the government—means that the particular features of those contracts cannot be debated and revised through a transparent and open process. The government must be able to make deals in smoke filled rooms without the necessity of public review and approval. This is especially crucial because VPI governments are inefficient providers of public services. In a democratic system, the electorate would remove the government and replace it with a government that was more efficient. In addition, electoral democracy and its accoutrements make it easier for the losers from rent seeking to mobilize and defend their interests. In short, VPI is not consistent with high levels of political democracy.

VPI and Political Instability

Are VPI contracts credible if governments continually change hands violently and unpredictably? Under some circumstances, political

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[25] We assume that not all groups in society can solve the coordination problems involved in organizing a rebellion, and therefore rents can be extracted from them with impunity.

[26] Rents may be distributed within the government by employing public functionaries who do nothing, by tolerating routine corruption in the course of carrying out public services, or by public works programs of dubious social utility.

instability may actually make the government's commitments to asset holders more credible. Two factors are key. First, is there private knowledge that makes it difficult for the government to expropriate and run the industry in the short run? Second, are the revenues provided by the asset holders so crucial to the government that even their brief interruption could cause the government to fall?[27] If both conditions hold, then instability may make property rights under a VPI coalition *more* secure.

Even if the above two conditions do not hold, the nature of third-party enforcement may mean that any government that comes to power will have to respect the property rights system laid down by the previous VPI coalition. The necessary condition is that any government that *may come to power* must require the political support of the existing third party enforcer. Under this condition, asset holders will behave as if the polity were stable. The identity, ideology, and expected lifespan of the government in power is not relevant. Presidents, prime ministers, and cabinets may be shuffled willy nilly. In fact, they may even be shuffled at gunpoint. From the point of view of the integrated asset holders, however, there will have been no change in the institutions that govern their property rights and the revenues from those property rights.

Is there a threshold of instability at which VPI no longer functions? VPI breaks down when third party enforcement is no longer credible. This can happen if any of two conditions holds. The first condition is if asset holders or third party enforcers can no longer coordinate their actions. If political violence should eliminate their coordination mechanisms, then battling factions can predate with impunity. Once that happens, asset holders will no longer invest, although fixed assets that cannot be

[27] For an example of this type of asymmetric holdup, see Chapter Six, on the oil industry in Mexico during the 1910's and 1920's.

redeployed elsewhere will continue to be operated. The assets may be run either by the old owners, or by political factions that have confiscated them. (See Chapters 5 and 8 for examples).

The second condition under which extreme violence may disrupt VPI is if a government comes to power that does not need the support of the previous third party enforcer. Obviously, threats of punishment by this group will no longer constrain the government. This most intuitively occurs when the third party enforcers are dead on the battlefield. Less extremely, the new government may be invulnerable to the previous third party enforcer used to threaten the government. For example, third party enforcement by a dictator's family or close cronies may no longer be effective once the dictator loses power. Without third party enforcement, property rights can no longer be protected, and markets can no longer function. Investment will not occur. There will be diminishing rents for political combatants to extract. Without access to rents, the only source of resources to finance military action is the confiscation of assets. Predation will provoke its victims to back opposing factions—which will need to predate on further victims to finance their military activities, ad infinitum. In short, the society could become locked into a coup trap: a self-replicating cycle of violence, predation, and zero growth.[28]

Are there exits from the coup trap? Limited government is not an option. The historical record provides *no* examples of a polity that made a direct leap from political instability to limited government. The reason is not hard to divine. If a political faction violently fighting for its existence creates institutions to tie its hands and prevent predation, a less scrupulous faction that does not hesitate to predate in order to gain resources to use against its opponents will defeat it. Hence, any promise made by a

government to not predate is known in advance not to be credible. Everyone knows that political contenders under instability must engage in predation in order to remain in the game.[29]

Despotism is also a problematic exit from political instability, in terms of economic growth. One faction may engage in widespread predation and use the resulting resources to slaughter all potential sources of opposition and seize uncontested power. The problem is that in order to make a credible commitment to protect property rights the new government would have to accomplish two very difficult tasks. First, it would have to eliminate *all* of its enemies. Second, it would have to establish a regime that is perceived by the populace to have an extremely long time horizon. Satisfying both conditions is not impossible, but it is a rare feat in world history. There have been lots of despotic governments following periods of political instability. There have been very few, however, that have succeeded in producing growth at anything more than a very modest level.

It is easier to reconstitute a VPI system that has been disrupted by extreme instability than it is to create a despotic government capable of

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[28] Londregan and Poole (1990).

[29] It may appear that the Glorious Revolution of 1688 and the American Revolution of 1775-83 violate this prediction. Close examination reveals that the transition from instability to limited government was slow and characterized by governments which were neither despotic nor limited. In England the constitutional arrangement of 1688 did not immediately spring into its final form. Rather, it came at the end of 50 years of decreasing civil strife. In 1660, Charles II was restored to the throne by a "convention," rather than the full Parliament. The designers of the 1688 arrangement also admitted that their convention was, in fact, "irregular."

The American case is even clearer. The Peace of Paris was signed in 1783, but limited government was not established until the Constitution came into effect in 1789. See Wood (1998), p. 311.

sustaining economic growth. Unlike establishing despotism, reconstituting VPI does not require the government to eliminate all of its political enemies. Nor does it require the populace to perceive that the government will be long-lived. Both of the essential preconditions of despotism are therefore relaxed.

The only essential requirement to reconstitute VPI is that there be a shared belief system about how a VPI coalition is formed. As long as this condition holds, VPI can be reconstituted even if the identities of the government, the asset holders, and the third party enforcers have changed. Third party enforcers can be eliminated by military action. Some subgroups of asset holders can be eliminated as a social class. Nevertheless, it is not a secret to any of the consequential actors in society about how to constitute a viable coalition to govern the country and mobilize resources. In short, because everyone understands the rules of the game, asset holders, political factions, and social groups that are politically crucial will all seek out one another. A new coalition will emerge, but the basic structure of the political and economic system will be reconstituted. The result will be the resumption of economic activity in fairly short order.

A VPI coalition formed under instability must provide large rents to asset holders and third party enforcers. The reason is that the presence of uncertainty, even calculable uncertainty, means that asset holders and third party enforcers that choose to integrate under instability face a first-mover problem. The first groups to integrate assume the risk that the government will fall, or the faction they are integrating with will fail to take power, leaving them at the mercy of enemies who will need to punish them in order to maintain their own credibility. The rewards from restoring order,

however, are not excludable, unless the integrating asset holders and third parties earn rents to compensate them for this ex ante risk.[30]

One might argue that all of this rent seeking must necessarily push economic activity below the point that existed before instability. That argument misses two key points. First, what is being reconstituted is a rent-seeking coalition just like the one that governed before instability. Economic activity in the short run may be lower than that which existed before instability, but once VPI agreements produce a new, stable coalition, the rents demanded by first movers will fall. In the medium term, the economy will return to its pre-instability growth path. Second, it is true that this rate of growth will be modest by the standards of limited government. Our point is simply this: limited government is not a feasible option immediately following instability. When the first best solution is infeasible, the second best solution is the Pareto improving solution. For all of its shortcomings, VPI is more efficient than the *feasible* alternatives: absolute despotism or continued anarchy.[31]

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[30] Governments, or factions aspiring to be governments, may also increase the amount of rents they require in order to finance political and military actions against their enemies.

[31] We make no claims about how long VPI must last. VPI systems may, in fact, provide the basis for limited government in the future. Recent history certainly offers numerous examples of polities that appear to have made the transition from being governed by VPI coalitions to being ruled by limited governments. We only contend that after severe episodes of political instability a direct jump to limited government is impossible.

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