

# THE POLITICS OF PROPERTY RIGHTS

*Political Instability, Credible Commitments, and  
Economic Growth in Mexico, 1876–1929*

STEPHEN HABER

Stanford University

ARMANDO RAZO

Stanford University

NOEL MAURER

CIE, ITAM



PUBLISHED BY THE PRESS SYNDICATE OF THE UNIVERSITY OF CAMBRIDGE  
The Pitt Building, Trumpington Street, Cambridge, United Kingdom

CAMBRIDGE UNIVERSITY PRESS

The Edinburgh Building, Cambridge CB2 2RU, UK  
40 West 20th Street, New York, NY 10011-4211, USA  
477 Williamstown Road, Port Melbourne, VIC 3207, Australia  
Ruiz de Alarcón 13, 28014 Madrid, Spain  
Dock House, The Waterfront, Cape Town 8001, South Africa  
<http://www.cambridge.org>

© Stephen Haber, Armando Razo, Noel Maurer 2003

This book is in copyright. Subject to statutory exception  
and to the provisions of relevant collective licensing agreements,  
no reproduction of any part may take place without  
the written permission of Cambridge University Press.

First published 2003

Printed in the United States of America

*Typeface* Sabon 10/13 pt.      *System* L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> [TB]

*A catalog record for this book is available from the British Library.*

*Library of Congress Cataloging in Publication data*

Haber, Stephen H., 1957–

The politics of property rights : political instability, credible commitments, and  
economic growth in Mexico, 1876–1929 / Stephen Haber, Armando Razo,  
Noel Maurer.

p. cm. – (Political economy of institutions and decisions)

Includes bibliographical references and index.

ISBN 0-521-82067-7

1. Mexico – Economic policy. 2. Right of property – Mexico – History.  
3. Mexico – Politics and government – 19th century. 4. Mexico – Politics and  
government – 20th century. I. Razo, Armando, 1971– II. Maurer, Noel.  
III. Title. IV. Series.

HC135 .H173 2003

320'.6'0972'0904 – dc21

2002031354

ISBN 0 521 82067 7 hardback

# Contents

---

<i>List of Illustrations and Tables</i>	page x
<i>List of Abbreviations</i>	xv
<i>Acknowledgments</i>	xvii
1 Introduction	I
2 Theory: Instability, Credible Commitments, and Growth	18
3 VPI Coalitions in Historical Perspective: Mexico's Turbulent Politics, 1876–1929	41
4 Finance	80
5 Industry	124
6 Petroleum	190
7 Mining	236
8 Agriculture	285
9 Conclusions	342
<i>References</i>	359
<i>Index</i>	375

## *List of Illustrations and Tables*

---

### FIGURES

4.1	Total Size of Banking System, 1894-1929	<i>page</i> 110
4.2	Real Banking Stock Index	121
5.1	Comparison of Mexican and U.S. Stock Indexes	169
5.2	Productivity of Capital in the Mexican Cotton Textile Industry	185
6.1	Pretax and Aftertax Prices for Crude Oil Faced by Mexican Producers	225

### MAP

Mexico, 1910	46
--------------	----

### TABLES

4.1	Forced Loans from Revolutionary Governments	98
4.2	Bank Assets Held Abroad, 1925-1930	107
4.3	Real and Nominal Banking Assets, 1894-1929	109
4.4	Herfindahl Concentration Index, Mexico's Banking Sector, 1897-1929	112
4.5	Rate of Return on Equity, 1901-1929	115
4.6	Bank Liquidity Ratios, 1895-1929	116
4.7	Rate of Return on Assets, 1901-1929	118
4.8	Bank Equity Ratios, 1895-1929	120
5.1	Indices of Concentration in the Cotton Textile Industries of Brazil, Mexico, India, and the United States	132

*Illustrations and Tables*

5.2	Exit and Entry in the Mexican Cotton Textile Industry, 1895–1929	156
5.3	Probit and Logit Survival Regressions, 1910–1920	157
5.4	Probit and Logit Survival Regressions, 1900–1910	159
5.5	Capacity, Output, and Value of Physical Plant in Fundidora Monterrey (Mexico’s Steel Monopolist), 1903–1929	161
5.6	Capacity and Output in Mexico’s Cement Industry, 1906–1929	162
5.7	Mexican Beer Production, National and Cervecería Cuauhtémoc, 1900–1929	163
5.8	Mexican Cotton Textile Industry, 1883–1929	164
5.9	The Mexican Cigarette Industry, Output and Investment, 1899–1928	165
5.10	Output and Consumption of Dynamite, 1918–1929	166
5.11	Power Generated by the Mexican Light and Power Company for Commercial Purposes, 1907–1927	167
5.12	Stock Price Indices of Mexican Manufacturing Compared with U.S. Manufacturing, 1900–1930	168
5.13	Combined United States–United Kingdom Industrial Machinery Exports to Mexico, 1900–1929	173
5.14	Top Ten Companies in the Mexican Cotton Textile Industry, 1910–1929	178
5.15	Ownership and Share of Output of Top Twenty Cotton Textile Companies, 1929	178
5.16	Rates of Ownership Change in the Mexican Cotton Textile Industry, 1895–1929	179
5.17	Indices of TFP in the Mexican Cotton Textile Industry, 1850–1929	182
5.18	Indices of Capital Productivity, Mexican Cotton Textile Industry	184
5.19	Indices of Aggregate Labor Productivity, Mexican Cotton Textile Industry	186
6.1	Estimates of Mexican Petroleum Output	199
6.2	Wells Drilled and Capacity	214
6.3	Fixed Assets of Major Mexican Oil Companies	218
6.4	Estimates of Petroleum Equipment Exported to Mexico from the United States, 1907–1929	220
6.5	Estimates of Mexican Petroleum Taxes and Prices	222
6.6	Estimates of Mexican Petroleum Pre- and Post-tax Prices, U.S. Dollars	224

*Illustrations and Tables*

6.7	Estimated Rate of Return on Assets, Mexican Petroleum Companies	227
6.8	Estimated Rate of Return on Assets, International Petroleum Companies	228
6.9	Counterfactual (No Tax) Analysis of Oil Company Rates of Return	230
6.10	Index of Real Stock Prices, Mexican Oil Companies	232
6.11	Index of Real Stock Prices, International Oil Companies	233
7.1	Mexico's Major Mining Products	255
7.2	Prices of Mexico's Major Mineral Products, 1900-1929	257
7.3	The State of Mexican Mining Companies in 1922	267
7.4	The State of Mexico's Cyanide Refining Plants in 1922	268
7.5	Lead and Copper Smelters in 1922	269
7.6	Mexico's Lead Smelting Companies, 1913 and 1919	270
7.7	Mexico's Copper Smelting Companies, 1913 and 1919	271
7.8	Estimates of Mining Equipment Exported to Mexico from the United States and the United Kingdom, 1907-1929	272
7.9	Pumps and Pumping Machinery Exported from the United States to Mexico, 1900-1929	274
7.10	Mining Properties	277
7.11	Dynamite Consumption in Mexico, 1918-1929	277
7.12	Market Shares of Mexico and the United States in Silver, Lead, and Copper	280
7.13	Estimated Taxation Rates for Mexican Mining	283
8.1	Mexico's Net Corn Imports from the United States, 1894-1929	318
8.2	Mexico's Net Bean Imports from the United States, 1905-1929	320
8.3	Mexico's Net Rice Imports from the United States, 1894-1929	321
8.4	Mexican Banana Exports to the United States, 1905-1929	325
8.5	Mexican Coffee Exports to the United States, 1894-1929	327
8.6	Mexican Cotton Consumption, Production, and Net Imports, 1895-1929	328
8.7	Mexican Sugar Exports to the United States, 1894-1929	332
8.8	Mexican Fresh Tomato Exports to the United States, 1924-1929	333
8.9	Mexican Chickpea Exports to the United States, 1924-1929	334

*Illustrations and Tables*

8.10 Mexican Henequén (Sisal) Exports to the United States, 1894-1929	336
8.11 Mexican Tampico (Ixtle Fiber) Exports to the United States, 1894-1929	337
8.12 U.S. Fertilizer Exports to Mexico, 1900-1929	338
8.13 Combined U.S. and U.K. Agricultural Machinery Exports to Mexico, 1900-1929	340

## *List of Abbreviations*

---

AGN	Archivo General de la Nación, Mexico City
AHBNM	Archivo Histórico del Banco Nacional de México, Mexico City
APPM	Association of Petroleum Producers in Mexico
ASARCO	American Smelting and Refining Company
Banamex	Banco Nacional de México
Banxico	Banco de México
BLM	Banco de Londres y México
CNB	Comisión Nacional Bancaria
COCACO	Confederación de Cámaras de Comercio (Federation of Chambers of Commerce)
CONCAMIN	Confederación de Cámaras Industriales
CPOI	Caja de Préstamos Para Obras de Irrigación
CROM	Confederación Regional Obrera Mexicana
LDC	Less Developed Countries
MSOA	Miners and Smelters Owners' Association
PLM	Partido Laborista Mexicano
PRM	Partido de la Revolución Mexicana
PNR	Partido Nacional Revolucionario
PRI	Partido Revolucionario Institucional



# I

---

## *Introduction*

We began this book in order to address a puzzle in political economy: why is it that political instability does not necessarily translate into economic stagnation? In the process of answering this question, we found that we had to draw on methods and approaches from what are usually thought of as three distinct disciplines: political science, economics, and history.

First, we had to develop a theory. That theory had to explore the conditions under which political violence, coupled with unpredictable and recurring change in the identity of the government, did not affect the underlying property rights system. Constructing that theory required, in turn, that we develop a theory about how governments can specify and enforce property rights as private (not public) goods. It also required that we explore the mechanisms that would make such selective commitments by governments credible – even if the identity of the government changed repeatedly.

Second, we needed to test that theory. Testing the theory required that we explore the functioning of a real-world case of such a selective property rights system under conditions of political stability and political instability. We therefore focused on Mexico, which created a selectively enforced property rights system during the long dictatorship of Porfirio Díaz (1876–1911) and which then underwent a prolonged period of revolutions, civil wars, political assassinations, and coups from 1911 to 1929. Our empirical exploration of the Mexican case required, in turn, that we learn about the specific features of the property rights system in individual economic sectors, and how that property rights system evolved over time, under both conditions of political stability and political instability.

Third, we had to measure the performance of those economic sectors. That meant, in turn, that we had to construct firm- and industry-level data sets that spanned the decades of Porfirian peace and revolutionary

instability. We also had to employ quantitative tools drawn from microeconomics in order to analyze those data sets.

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 1876 to 1929. We realize that this means that different readers are likely to approach this book in different ways. We therefore think it appropriate to provide a guide as to how we came to write this book, a discussion of the concepts and methods we employ, and an explanation of the argument we advance.

#### THE PARADOX OF GROWTH AMID INSTABILITY

Our motivation in writing this book is 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 empirical literature on the determinants of growth cannot, however, detect the predicted relationship.<sup>1</sup>

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 dilemma: if they do not find a way to tie their own hands, they will not have sufficient resources to insure their own survival.<sup>2</sup>

<sup>1</sup> As we discuss in detail later, to the degree that any relationships can be detected, they are not statistically robust; are not causally linked; are sensitive to even modest alterations in data sets, conditioning variables, and regression specifications; and are weak tests of the instability–negative growth hypothesis.

<sup>2</sup> The problem of commitment has been around since the creation of the first state systems in the ancient Near East. It regularly weighed on the minds of medieval kings, who were especially concerned with the problem of making credible commitments to foreign merchants, who feared the king would expropriate their wealth. (See, e.g., Greif, Milgrom, et al. 1994, p. 747.) The commitment problem loomed throughout the debates surrounding the writing of the U.S. Constitution. Indeed, it figures as

## Introduction

The extant theoretical literature offers two solutions to the commitment problem: stationary banditry and limited government.<sup>3</sup> The 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.<sup>4</sup> 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.<sup>5</sup> 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

a major theme in Madison’s writings in the *Federalist Papers*. In the modern social science literature, the commitment problem reemerged in North’s discussion of the neoclassical theory of the state (in North 1981, chap. 3). The problem was discussed even more explicitly in North and Weingast (1989) on the economic effects of the Glorious Revolution, and was later pursued by Weingast (and various coauthors) in a series of articles. Hence, the commitment problem is sometimes referred to as Weingast’s dilemma. There exists now a broad literature on various problems related to credible commitment. For representative works, see Barro and Gordon (1983); Levi (1988); Root (1989); North (1990); Shepsle (1991); Miller (1992); Greif, Milgrom, et al. (1994); Hoffman and Norberg (1994); McGuire and Olson (1996); Alston, Eggertsson, et al. (1996), pp. 129–33; Weingast (1997a, 1997b); Qian and Weingast (1997); North, Summerhill, et al. (2000); Olson (2000), chap. 1; and Bates (2001).

<sup>3</sup> There are other institutions that work in special cases without governments. 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 the parties are low. There are historical cases of such mechanisms at the city-state level. The ability of these mechanisms to produce credible commitments breaks 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 a wide variety of institutions that sustained trade before the development of nation-states, see Greif (1989, 1997, 1998); and Greif, Milgrom, et al. (1994).

<sup>4</sup> This discussion is drawn from Olson (2000), chap. 1; McGuire and Olson (1996); and North (1981), chap. 3. In North’s discussion, the despot acts as an efficient monopolist, practicing discriminatory pricing for his services. Implicit in this discussion is the notion that the despot might provide protection for only some members of society. In McGuire and Olson, and Olson, the despot–stationary bandit provides property rights protection as a public good. In both cases, however, it is assumed that the ruler is a long-run revenue maximizer.

<sup>5</sup> For example, if an increase in taxes from 50 percent to 51 percent causes economic activity to decline from 100 to 98, then the despot would receive an income of 49.98 (0.51 times 98) rather than 50 in income (0.50 times 100).

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.

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. As his discount factor decreases, the despot will increase taxes, cut spending on public goods, and become increasingly likely to seize property. Hereditary monarchy is an attempt to solve this problem. Historically, this solution does not work as well in practice as it does in theory.<sup>6</sup> Consider England, an archetypal "stable" monarchy. Between 1066 and 1715, 18 out of 31 royal successions produced a political crisis.<sup>7</sup>

The theoretical problem is that the despot's commitment to protect property rights is purely volitional. No real mechanism constrains the despot other than his own goal of long-run revenue maximization. Historical evidence, however, indicates that despots cannot usually see how the exercise of their own power diminishes their own accumulation of wealth. Moreover, even a despot who gains a reputation for protecting property rights, in order to encourage investment, may later on have strong reasons to behave in an opportunistic or predatory fashion. The longer a despot is in power, the greater is the stock of accumulated assets on which he can prey. Simultaneously, the longer he is in power, the older he will be, and the higher the rate at which he will discount the future. Ultimately, the predatory incentives are huge, and the despot either seizes property or taxes away all of the income it produces. In short, just like mutual funds, under despotism past performance is no indication of future returns.<sup>8</sup>

The other well-known solution to the commitment problem is limited government. Limited governments respect individual rights as a matter of law, 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.

<sup>6</sup> See Olson (1993).

<sup>7</sup> See DeLong and Shleifer (1993).

<sup>8</sup> See Veugelers (1993).

## *Introduction*

The literature is just beginning to specify the exact configuration of the institutions that force limited governments to respect their own laws regarding individual political and economic rights. There are numerous models but, as yet, no general theory. The literature suggests, however, that what is key 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.<sup>9</sup> 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 professionalized civil service that staffs executive federal agencies. 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.<sup>10</sup> Precisely because the government cannot act in an arbitrary manner – because its own political institutions prevent the government from arbitrarily confiscating assets and the economic returns from those assets – asset holders will invest. They do not fear government predation.<sup>11</sup>

Limited government is the theoretically optimal solution to the commitment problem. First, commitment no longer depends on individual volition. Commitments are made credible by the self-enforcing nature of the institutions that underlie limited government. Second, because limited governments involve more than one actor, they will bear more of the deadweight costs of their own rent-seeking behavior than would a

<sup>9</sup> 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 onward, 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 (2002).

<sup>10</sup> 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 also blocked *ex ante* from abrogating a citizen's rights. For a discussion of multiple, overlapping veto points in the U.S. case, see McCubbins, Noll, et al. (1987a, 1987b).

<sup>11</sup> The literature on limited government is exemplified by North (1981), pp. 154–57, and (1990); Levi (1988); Weingast (1997a, 1997b); North and Weingast (1989); North, Summerhill, et al. (2000); and Bates (2001), chap. 3.

despotic government. In fact, the actors that make decisions within a limited government may have or represent interests that are harmed by rent seeking and opportunism. Thus, the self-interest of many individuals, interacting through a set of formal institutions that govern decision making, serves to check and balance the opportunistic inclinations of any individual actor.<sup>12</sup>

For both theoretical and empirical reasons, the group of countries that are typically characterized as unstable and the group of countries that are ruled by limited governments do not overlap. 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 (e.g., political assassinations), more widespread (e.g., coups), or more generalized (e.g., civil war or revolution).<sup>13</sup> 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, 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 that fell into instability was even smaller still. As a matter of history, limited government is, in fact, a very rare phenomenon.

Countries ruled by stationary bandits and countries that are usually characterized as unstable are overlapping sets. Once a country ruled by a stationary bandit becomes unstable, however, the stationary bandit can no longer provide a credible commitment to protect property rights. The result should be economic collapse, stagnation, or, at best, very slow growth. The reason is that 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. The higher the probability that his government will fall, the shorter will be his time horizon, and thus the greater the incentive to abrogate property rights. In fact, the logic of political instability will force a stationary bandit to abrogate property

<sup>12</sup> See McGuire and Olson (1996). Also see McCubbins and Schwartz (1984).

<sup>13</sup> The empirical growth literature measures instability using instrumental variables such as assassinations, coups, and revolutions. See Barro (1991), p. 432; Alesina, Özler, et al. (1996), pp. 191–92.

## *Introduction*

rights and behave like a roving bandit. If he does not become predatory, someone else will, and will use those resources to overthrow him.

In point of fact, 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 threat of violence shortens the time horizons of governments (and of factions aspiring to be governments). They must seize property or tax away all of its income, or be overthrown. The leader of such a government knows, of course, that seizing assets and 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. In the first place, unstable countries will not be ruled by (economically efficient) limited governments. In the second place, it is not possible to make credible commitments to protect property rights via stationary banditry if the polity is unstable. This causal link between instability, the inability to make credible commitments, and economic stagnation is explored by North, Summerhill, and Weingast as an explanation for the differences in the economic performances of the United States and Latin America in the nineteenth century. In their model there is an endless feedback loop between political disorder and economic stagnation: authoritarianism produces politicized property rights systems designed to produce rents for some select group, which produces strong incentives for other groups to capture the state, which produces political disorder, which produces slow growth, which produces incentives for some group of agents to capture the state, establish an authoritarian system, and establish a property rights system designed to provide them with opportunities for rent seeking, *ad infinitum*.<sup>14</sup>

Given what seemed like a straightforward connection between political instability and economic stagnation, economists engaged in cross-country growth accounting exercises began to code their data sets for unstable countries. Their goal was to determine the exact costs, in terms of forgone growth, of having an unstable political system. 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

<sup>14</sup> North, Summerhill, et al. (2000).

slow growth did not all reach the same conclusion. Some studies detected a correlation between political instability and slow economic growth; other studies, which used different data sets, regression specifications, and instrumental variables, failed to replicate those results.<sup>15</sup> 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.”<sup>16</sup> Third, work that used 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: “[T]he evidence that SPI [sociopolitical 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.”<sup>17</sup> Londregan and Poole obtained similar results.<sup>18</sup> Related work on the impact of instability on investment did find a causal relationship, but that relationship, contrary to expectations, was *positive*: an increase in the level of instability caused an increase in investment.<sup>19</sup>

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 produce stagnation or economic collapse, not just slow growth. The reason is not hard to divine. The more unstable a polity, the shorter will be the time horizon of governments and potential governments. They must prey on assets (or the revenues they produce) today in order to have a chance of remaining in power tomorrow. Thus, the more unstable the situation, the

<sup>15</sup> Seminal work in this field includes Londregan and Poole (1990, 1992); Alesina, Özler, et al. (1996); Barro (1991, 1997), especially chap. 2.

<sup>16</sup> Levine and Renelt (1992), p. 943. Brunetti obtains similar unstable results when using Extreme Bound Analysis to test for the sensitivity of various measures of instability and the sensitivity of various regression specifications. See Brunetti (1997), especially pp. 60–79.

<sup>17</sup> Campos and Nugent (2002), pp. 164–65.

<sup>18</sup> Londregan and Poole (1990), p. 174.

<sup>19</sup> Campos and Nugent (2000).



## *Introduction*

more governments, factions, and the general population will discount the future.

Two interrelated results follow from 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 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 protect property rights and enforce contracts. Private parties will therefore abstain from contracting, because it is far from certain that 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.

### METHODS AND APPROACHES

The lack of fit between theoretical predictions and empirical results produces a curious puzzle: we should be able to observe a strong (and robust) relationship between political instability and economic performance, but the expected empirical results are elusive. All other things being the same, the economies of unstable countries do not collapse, stagnate, or even grow more slowly than stable countries.

Clearly, it would be an overstatement to say that political instability has no effect on growth. In fact, one can point to numerous cases of unstable countries that grew slowly or that did not grow at all. The evidence does strongly indicate, however, that there must be conditions under which political instability hinders growth, and conditions under which growth is unaffected by instability.

Our goal in this book is to explore those conditions. This requires, however, that we depart from the standard theoretical and empirical approaches. As a theoretical matter, we have to depart from the extant solutions to the commitment problem, because those solutions (as we discuss

in this introduction) logically imply that instability should produce slow growth, economic stagnation, or complete collapse.

The solution we propose, and that we develop in full in Chapter 2, draws on the literature on the microeconomic analysis of contract and property rights.<sup>20</sup> We integrate this literature with the related (but distinct) literature on credible commitments and the political foundations of growth. In so doing, we expand upon an insight in both literatures that is frequently made but whose implications have not yet been fully explored: investors, first and foremost, care about the sanctity of *their* property rights; they do not require governments to protect property rights as a public good in order for investment to take place.<sup>21</sup> Once the requirement that property rights enforcement be a public good is relaxed, there are a number of mechanisms that can create the necessary credible commitment to a select group of asset holders. These mechanisms neither require the rule of law nor a stable polity. What they require is credible threats of retaliation by investors. These credible threats may come from the possibility of intervention by a foreign state on behalf of its citizens, a financial hostage, or the existence of a powerful political group whose interests have been aligned with investors through the formation of a rent-seeking coalition. Indeed, as we shall show in both theory and practice, there are circumstances under which these mechanisms work better when the polity is unstable.

We also realized that 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

<sup>20</sup> For an introduction to this literature, see Barzel (1997); Eggertsson (1990); and, Mantzavinos (2001).

<sup>21</sup> The idea that governments can enforce property rights selectively (i. e., as a private good) is implicit in North (1981), chap. 3. It is explicitly made in Weingast (1997a, 1997b) and in North, Summerhill, et al. (2000). In these treatments, however, the focus tends to be on the disadvantages created by the selective enforcement of property rights. In North, Summerhill, et al. (2000), for example, the selective enforcement of property rights is assumed to lead to political disorder and economic stagnation. The coup traps that North, Summerhill, and Weingast have in mind are certainly a very real possibility. They are not, however, a necessary outcome of a selective property rights system. World history suggests numerous cases in which selective property rights systems permitted the development of authoritarian regimes of long duration. Examples would include Mexico under Díaz, Taiwan under Chiang Kai-shek, the Dominican Republic under Trujillo, the Philippines under Marcos, Indonesia under Suharto, Brazil under Vargas, Haiti under the Duvaliers, and Zaire under Mobutu.

## *Introduction*

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 short, cross-country regressions, even when they rely on panel data, are too blunt an instrument to understand the formation and functioning of political coalitions over the long term.

The need to analyze economic performance and institutional change over time, comparing growth under both stability and instability, required that we take an explicitly historical approach. We focused on Mexico, which after 35 years of political stability (1876–1910) endured 19 years of extreme instability (1911–29). 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 counterrevolutionary 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 1920s 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 four 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 anticlerical 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. Not until 1929, when the last serious violent threat to the government was defeated and a political party (the Partido Nacional Revolucionario, or PNR) was formed in order to provide a nonviolent forum for Mexico's generals to choose the federal executive, was a stable polity achieved.

The extant theories of credible commitment would predict that from 1911 to 1929 the Mexican economy should have performed badly. In order to see whether the extant theories or the one we develop in Chapter 2 better fits the evidence, we constructed an analytic economic history of Mexico from 1876 to 1929. Chapter 3 provides an overview of the political and institutional history of Mexico during the period 1876–1929. Chapters 4 through 8 present historical analyses of each of Mexico's most important economic sectors: banking, manufacturing, petroleum, mining, and agriculture.<sup>22</sup>

In each chapter, we proceed in three steps. First, we discuss the institutional arrangements that sustained investment and growth before the polity became unstable in 1910. Second, we discuss 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. Finally, we present a systematic analysis, employing tools from microeconomics, of the structure and performance of that economic sector both before and during instability.

<sup>22</sup> The only economic sector that 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 (Coastworth'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 construction 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 (1995, 2000); Kuntz Ficker and Riguzzi (1996); Grunstein (1994); Maurer (1999); and Coastworth (1981).