THE POLITICAL ECONOMY OF PROTECTION

SOCIAL SCIENCE HISTORY

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THE POLITICAL ECONOMY OF PROTECTION

Theory and the Chilean Experience

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PREFACE AND ACKNOWLEDGMENTS

This book is interdisciplinary and influenced and supported by professionals from both political science and economics. My hope is that it demonstrates that research which crosses the boundaries separating disciplines within the social sciences can be done rigorously and can also inform policy discussions.

The work was completed thanks to Max Corden's relentless support. His gentle pressure during this process forced me to complete the research. More importantly, I must thank Professor Corden for his scholarly writings on trade policy, which guided my thinking on the political economy of protection. Carol Wise was always available to discuss my work. Jim Riedel made great efforts to teach me trade theory and provided insightful comments to an earlier version of this manuscript. I am deeply grateful to Sarath Rajapatirana of the American Enterprise Institute for providing detailed comments. I am indebted to Sebastian Edwards of the Anderson School of Management at UCLA for teaching me econometrics and for allowing me to use our joint work on the political economy of unilateral liberalization in Chile. Guillermo Perry of the World Bank allowed me to take time off from the office to finish this book. William Maloney was always a pleasure to talk to and provided comments on preliminary econometric results.

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My wife and longtime companion, Lisa Goldblatt, pressed all the right buttons at the crucial moments. This book would not have been finished without her. Thanks, my dearest friend.

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Introduction

Research on the political economy of trade policy in economics and political science experienced a renaissance during the 1980s and continued to grow rapidly in the 1990s. Broadly speaking, this literature attempts to explain why trade policies that protect national industries exist and change over time. Especially for economists, the existence of protectionism is a policy phenomenon worth studying because of an existing consensus that freer trade is (usually) preferable from the point of view of a nation as a whole. Social scientists from both disciplines have addressed two analytical questions. One concerns the determinants of the *structure* of protection within countries, and the other concerns the determinants of the *level* of protection across countries or for a given country over time. Economists have also focused on the political economy of the choice of protectionist instruments.

The study of the political and economic causes of protectionism is quite extensive, dating back at least to the 1930s. For example, Schattschneider (1935) argued that U.S. tariffs raised in 1930 through the Smoot-Hawley legislation were the result of pressures exerted by organized economic interest groups. In spite of its long tradition, the literature on the political economy of protectionism remains fragmented, and different analysts tend to emphasize a variety of explanations. In addition, there are few comprehensive treatments of the political and economic determinants of trade policy in developing countries. There are very few studies of episodes of rising protection in developing countries that are systematically compared with

episodes of liberalization, Hira (1998) being an exception. Finally, there are very few statistical analyses of the evolution of "openness" indicators in developing countries for extended periods of time or of the determinants of trade policy changes in a developing country.[1]

This study is an incursion into this field. It is composed of five chapters. Chapter 1 covers the economics and political science literature on the political economy of protection. Its main contributions are, first, its interdisciplinary approach, which is more comprehensive than existing reviews; and second, the fact that it builds a theoretical framework for the purpose of illustrating the arguments presented by key authors.

This review differentiates between studies that provide explanations of the structure of protection within countries and those that explain the level of protection across countries and over time. The review also identifies authors who have paid attention to economic conditions, interest-group pressures (or distributive conflicts), domestic institutions, economic ideas, and ideologies. This categorization of the determinants of trade policies is now standard in the literature (for example, Bhagwati 1988; Odell 1990; Rodrik 1995).[2] Although work by economists also attempts to explain why certain protectionist policy instruments are chosen over others (for example, quotas versus tariffs versus subsidies), this strand of the literature is not a central feature of the material discussed in the present study.[3] This question is certainly interesting, but an appropriate treatment requires data that are not available over long periods of time (particularly for developing countries).

The level of protection is the main focus of political scientists and Latin American specialists because of the history of the so-called import-substitution industrialization (ISI) period that emerged in the region during the interwar period. Moreover, as is well known, "deliberate" import-substitution through government policies in Latin America was characterized by a complex set of multiple instruments, ranging from tariffs, quotas, and import prohibitions to industrial development banks. Hence, disentangling the political motivations behind the use of one instrument over another seems daunting and impractical (see, among many others, Macario 1964; Hirschman 1968; Kaufman 1990; Thorp 1992; Bulmer-Thomas 1994; Thorp 1998).

Chapter 2 provides an historical overview of Chilean trade policy since 1810. The main contributions of this chapter are its comprehensiveness and a new categorization of Chilean historical periods, based on concepts proposed by Goldstein (1993). The chapter covers two aspects of Chilean trade policy. The first part looks at the evolution of empirical measures of trade "openness," namely, ratios of trade to gross domestic product (GDP). In

turn, the country's trade policies since 1810 are analyzed along two dimensions: frequency of policy changes and direction. The policies, presented in chronological order in Appendix C, are classified as "protectionist" or "liberal" depending on whether they create incentives for factors of production to move into import-competing or non-tradable economic sectors.

The descriptive analyses of openness and policy changes reveal that the path toward higher levels of openness and liberal policies was interrupted sometime between 1910 and 1939. The analyses are based on data from Braun et al. (1998), on secondary sources (such as Will 1957; Cortés Douglas et al. 1980; Edwards and Edwards 1991; Ffrench-Davis et al. 1992), and on primary sources drawn from legislative debates that took place during the period of institutionalization of Chilean protectionism.

Because of the apparent importance of the period, Chapter 2 also examines the political, institutional, and ideological context from 1910 to 1940. Using the terminology proposed by Goldstein (1993), Chilean history is then divided into the following five periods: (1) the rise of the small open economy (1810–1910), (2) the period of instability and "delegitimization" of free-trade ideas (1911–1927), (3) the "institutionalization" of protectionism (1927–1956), (4) the period of macroeconomic instability and the "delegitimization" of protectionism (1956–1973), and (5) the period of unilateral trade liberalization (1974 to the present).

Chapter 3 presents the results from two complementary econometric analyses. Both rely on a newly constructed data set of Chilean economic statistics dating back to 1810 presented by Braun et al. (1998). The first econometric exercise applies time-series techniques to trade-to-GDP ratios from 1810 to 1995. The objective of this analysis is to empirically determine the years in which Chile experienced a "structural break" in these ratios. Hence, the study empirically identifies the turning point when Chile changed its historic course from a movement toward higher levels of openness to one that progressively reduced the country's exposure to international trade.

The second econometric exercise is complementary to the first, model-free approach. It attempts to empirically identify the determinants of Chilean trade policy changes from 1830 to 1995. The years of these changes are taken from the chronology presented in Appendix C. The set of explanatory variables includes economic and period-dummy variables motivated by the existing literature. The main contribution of Chapter 3 is the application of modern econometric techniques to the political economy of Chilean trade. No comparable empirical analysis has been conducted for a developing country.

Chapter 4 covers the period between 1974 and 2000, when Chile went

through a period of intense liberalization. It relies on an earlier analysis (Edwards and Lederman 1998) and provides an update of this previous work. The focus is on the role of economic ideas and interest groups in promoting this significant change in Chile's trade policy regime. In addition, Chapter 4 argues that various compensation schemes were used during the military dictatorship of General Augusto Pinochet to maintain a minimum of political support in favor of trade liberalization. This chapter's main contribution to the literature is its analysis of the political economy of reforms (as opposed to their economic consequences, which have been analyzed by many), particularly the analysis of how various groups benefited from different economic policies. Chapter 5 summarizes the conclusions of the study, briefly discusses potential avenues for future research, and speculates about the future of Chilean trade policy in light of the findings of the present study.

Chapter 1

The Political Economy of Protection

An Interdisciplinary Literature Review

The literature on the political economy of trade policy in economics and political science experienced a revival in the 1980s and continued to grow in the 1990s. Hillman (1989) and Rodrik (1995) provide selective reviews of the economics literature, although both reviews are already out-of-date. Nelson (1999) offers an economist's critique of the economic approach. Ikenberry et al. (1988) provide an early review of the political science literature on the determinants of U.S. foreign economic policy. This literature is useful for understanding various approaches applicable to the narrower topic of the determinants of trade policy. Verdier (1994, 3–60) provides a review of the voter-centered literature.

Corden (1986b), Hillman (1989), and Rodrik (1995) all suggest an analytical distinction among questions related to the imposition of protectionist policies, which can help organize the literature review. Corden (1986b, 7–8), for example, states that there are actually three questions about the "political economy issue" related to the existence of protectionist trade policies: First, why do some countries have a higher *level* of protection than others? Second, why is the *level* of protection raised one year but not another? Third, what explains the *structure* of protection across industries in a given country at any given time? The first two questions are about the determinants of the level of protection across countries or over time, and the third is about the protection granted to some industries (or factors of production) more so than to others within a given country.

Although many analysts have advocated an interdisciplinary approach to studying these three political economy questions (Odell and Willet 1990; Baldwin 1996; Nelson 1999), the literature remains segmented across disciplinary lines. The main objectives here are to summarize the literature by contrasting different emphases and to position this study within the academic literature. Several hypotheses about the determinants of trade policies are evaluated with historical examples and econometric analyses in subsequent chapters.

The economics literature has focused mainly on the determinants of the structure of protection within countries, especially in industrialized countries, and primarily in the United States. This literature has been widely reviewed (Baldwin 1985 and 1989b). The main analytical lens applied by economists emphasizes distributional conflicts, where the main actors are organized interest groups (Pincus 1975), voters (Baldwin 1982), and, sometimes, politicians seeking to maintain their political support (Grossman and Helpman 2002).

Interest groups usually represent industries and/or the owners of factors of production. Independent firms from the same industry then get organized to form trade associations; owners of capital and workers get organized and form associations, such as labor unions. The efficacy of an interest group's lobbying efforts is determined by characteristics that affect the costs of collective action. Hence, Olson's (1965) discussion of collective action and the free-rider problem is very influential in this literature. Economists have undertaken these analyses both theoretically and empirically by applying econometric techniques (Pincus 1975; Lavergne 1983; Magee and Young 1987; Trefler 1993; Lee and Swagel 1997; Gawande and Bandyopadhyay 2000).

In contrast, the political science literature puts greater emphasis on the evolution of the *level* of protection in nation states. Political scientists have explanations for general economic policy regimes in developing countries, their persistence over time, or the adoption of more general development strategies of which trade policies are but one element (Pastor and Wise 1994; Hira 1998). They have done so mainly by looking at historical episodes and making international comparisons among a limited number of developed and developing countries (Gourevitch 1986; Sikkink 1991; Waterbury 1993; Verdier 1994). More recently, political scientists have focused on the role of ideas, ideologies, and domestic institutions in determining the level of protection of a given country during certain periods (Goldstein 1993; Hira 1998). A notable trend in the literature is its move away from "system-centered" theories, such as those favored by Gilpin (1975), and the adop-

tion, in the terminology of Ikenberry et al., of "society-centered" and "state-centered" theories.

Nevertheless, there are exceptions to these characterizations. As will be discussed below, many economists do not ignore the issue of the level of protection and its persistence over time, nor have they completely ignored the role of ideas, ideologies, or institutions. Also, many political scientists acknowledge the role of interest groups in determining both the level and the structure of trade protection. In fact, there are some examples of interdisciplinary ventures, which present a challenge for the chosen literature categories.[1] But the popular themes in each discipline are clearly different.

It is useful to frame the discussion in terms of the factors that determine the demand and supply of protection as discussed by McKeown (1984), Corden (1986b), Rodrik (1995), and many other analysts from both disciplines. These factors can be interest-group pressures, ideologies, or academic ideas that affect the perception of policymakers, and/or institutions that limit the options available to policymakers. Unfortunately, the definitions of "institutions," "ideas," and "ideologies" can vary widely even within disciplines. The following review highlights variations on these themes.

The rest of this chapter is organized as follows. Section I discusses the demand-supply framework, which illustrates how various factors can determine trade policy outcomes. It does so by joining Lavergne's (1983) diagram of the costs and benefits of protection as viewed by the policymaker with Corden's (1974) theory of "domestic divergences." Section II reviews the economics literature by differentiating work that explains the *structure* of protection within countries from that which focuses on the *level* of protection across countries and over time. Section III applies the same framework to the political science literature. Section IV summarizes the differences and similarities that exist between these disciplines.

I. The Supply and Demand of Protection: A Useful Framework

As mentioned, a common framework used to organize the discussion of the political economy of trade policies is the familiar framework of supply and demand. Rodrik (1995, 1459) includes a simple schematic model of this approach. Economists have dedicated substantial attention to studying demand-side factors such as the preferences of voters or individuals, who are often thought of as tied to their narrow economic interests. Economists and some political scientists have focused on the determinants and effects of collective action by members of interest groups, which lobby the government or provide campaign contributions in exchange for special favors. On the

supply side, "ideas" and "ideologies" can affect a policymaker's preferences. However, the policy options available to the policymaker can be constrained by the "institutions" of government.

Lavergne (1983, 37) includes a helpful diagram that can further clarify how the supply side responds to policymaker preferences and demand-side pressures. Figure 1.1 shows the marginal costs (MC) and benefits (MB) of the level of protection as perceived by a policymaker.[2] The negative slope of the MB curve implies that total benefits for the policymaker rise with the level of protection, but at a declining rate. The positive slope of the MC curve implies rising total costs, but at an increasing rate.

In this model, the policymaker makes the supply decision based on the perceived costs and benefits and then chooses the level of protection to be granted to a particular interest group (industry) on the basis of this calculation.[3] The marginal costs and benefits of protection for the policymaker are, in turn, determined by self-interest and/or national welfare considerations.[4] The costs are determined by the expected losses in national welfare produced by the protectionist policy. These include any efficiency losses on the production side plus losses of consumer surplus.[5] If the protectionist policy triggers rent-seeking activities by interest groups, then the resulting deviation of resources away from economically productive activities would also raise the costs of protection. This point will be further discussed in the context of the economics literature review.

From the viewpoint of the policymaker, the benefits would include any potential *economic* welfare gains than can be achieved through protection, plus any *political* benefits that the policymaker can attain from the imposition of a protectionist policy, including a longer tenure in office. The latter includes financial contributions for political campaigns donated by protectionist lobbies, or any other form of political support. The expected losses and benefits are conditioned by the ideas and/or ideologies held by the policymaker, as well as by the broader institutional context. These considerations are present in both the economics and the political science literature.

The role of domestic or international institutions, ideas, or ideologies can be analyzed in this framework. Consider the case in which the policymaker, for some reason, changes her views about the benefits and costs of protection. Suppose for example that she is suddenly convinced that the benefits of protection for national welfare are higher than she previously believed. This change in perception by the policymaker can be caused by the influence of protectionist ideas or ideologies. Special interest groups can promote these ideas, but this effect would be independent of the strictly political effect of interest-group pressures. This realization or change in preferences is

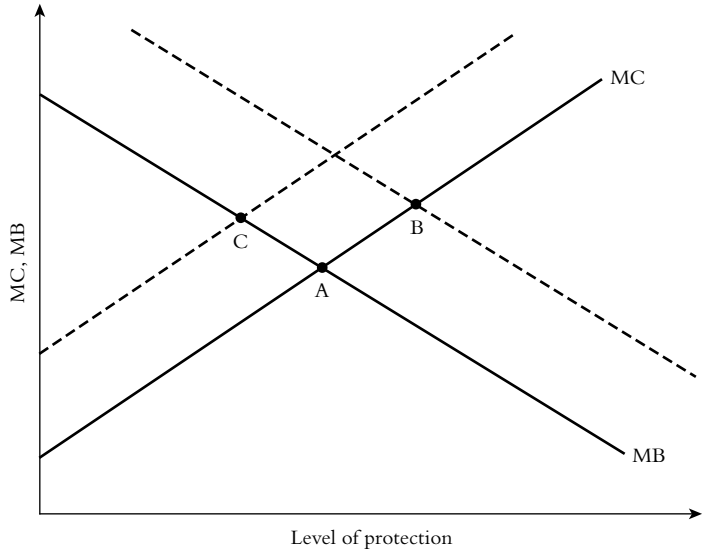

Figure 1.1. Lavergne's equilibrium model of the determinants of trade policies. Lines show the marginal costs (MC) and marginal benefits (MB) of protection for the policymaker.
SOURCE: Adapted from Lavergne (1983, 37).

illustrated in Figure 1.1 as a shift to the right of the marginal benefit (MB) schedule. This shift brings an increase in the level of protection provided by the policymaker (that is, the horizontal distance between points A and B in Figure 1.1). Alternatively, the policymaker could be convinced that the costs of protection for national welfare are higher than previously expected. This change in perception would result in a leftward shift of the marginal cost (MC) curve. The level of protection offered by the policymaker then falls by the horizontal distance between points A and C in Figure 1.1.

In the context of the theory of domestic divergences as discussed in Corden (1974, chapter 2), the benefits of protection as perceived by the policymaker would include the welfare gains from the elimination of existing domestic divergences between private and social costs.[6] The costs would include welfare losses caused by any "by-product distortion" of the chosen trade policy.

Figure 1.2 develops these points further. In this setup, the right quadrant contains the domestic supply (SS) and demand (DD) schedules for an importable good. The horizontal axis is also the international price level, thus

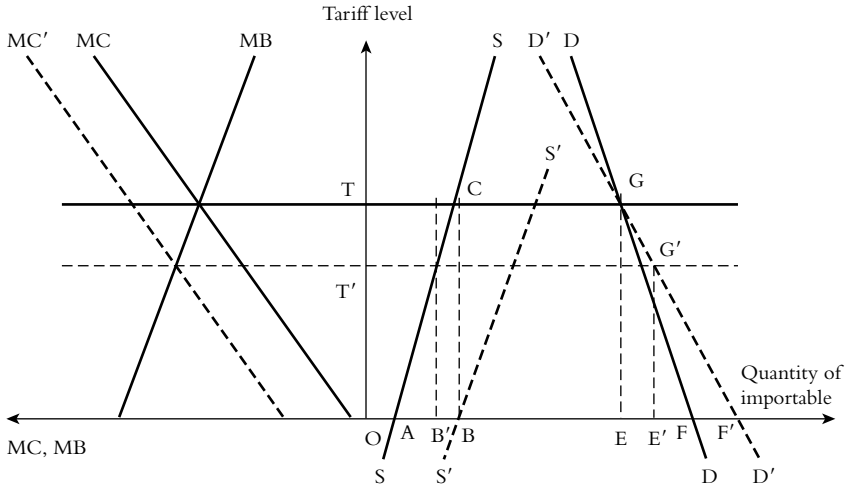

Figure 1.2. Lavergne's equilibrium model of the determinants of trade policies in the context of domestic divergences on the supply side. MC and MB lines show the policymaker's marginal costs and benefits of protecting import-competing industries. SS and DD lines represent supply and demand schedules as a function of the price of imports in the domestic market. International price of importable coincides with horizontal axis in right quadrant.

SOURCE: Author's calculations.

showing the case of a small economy that cannot affect this price. Figure 1.2 shows the case where the policymaker believes that the social and private costs of production of an import-competing good diverge. That is, the policymaker is influenced by ideas or ideologies which argue that the domestic social costs of production of the importable good are lower than the private costs. This was the case originally examined by Johnson (1965a), in which policymakers in one country could perceive higher welfare gains from domestic production of manufacturing than policymakers in other countries.

In the right quadrant of Figure 1.2, the private marginal cost schedule is labeled SS (the supply schedule), and the social marginal cost curve is represented by S′S′. Assuming that for some reason only an import tariff can be used to correct this divergence (thus I am abstracting from the issue of the choice of policy instrument), then a tariff of size OT is imposed. This policy raises domestic production by distance AB. This policy would have the "by-product" distortion on the consumption side, where the loss of consumer surplus would be equal to triangle EFG. The left quadrant in Fig-

ure 1.2 shows Lavergne's marginal cost and benefit schedules. The axes have been rotated so that the tariff-level axis is the same for both quadrants.

Only by coincidence the equilibrium tariff shown in the left quadrant of Figure 1.2 would be equal to the tariff that would completely eliminate the domestic divergence on the production side. This outcome would result only if political benefits derived from the imposition of the tariff perfectly balance the loss in consumer surplus. Otherwise, if the policymaker cares only about national welfare, the equilibrium tariff would be lower than OT. In fact, as demonstrated by Corden (1974, 12), the optimal tariff would be the one that makes the marginal welfare gains on the production side equal to the marginal welfare losses on the consumption side.

Returning to the coincidental case shown in Figure 1.2, suppose that the policymaker suddenly realizes that the domestic demand schedule is not DD but is actually D′D′. The price elasticity of demand implied by the slope of D′D′ is lower than for DD. The consumer welfare loss is higher in this case. This realization by the policymaker results in a leftward shift of her marginal cost schedule, from MC to MC′, as illustrated in the left quadrant of Figure 1.2. This shift is associated with a fall in the equilibrium tariff to OT′, which would bring domestic production down from OB to OB′ in the right quadrant. The loss of consumer welfare is now area E′F′G′, which is smaller than EF′G.

Ideas and/or ideologies can be thought of as influencing policymakers' "perceptions" regarding how the economy works, especially perceptions about the types of domestic divergences that may exist.[7] Concerns about raising fiscal revenues in the presence of tax collection costs would also be considered by the policymaker.[8] This revenue consideration would raise the relative benefits of the import tariff, which might entail lower collection costs than other tax instruments. International and domestic institutions can determine the political costs and benefits of trade taxes.

The following sections provide a more thorough review of the literature, with special attention given to the various concepts different authors use to understand the role of institutions, ideas, and ideologies.

II. The Economics Literature

Appendix A lists work by economists in chronological order. Part I shows authors who have written about the determinants of the structure of protection; part II lists works on the level of protection. The table describes the main argument of each author, and whether the author considers the role of "institutions" and/or "ideas and ideologies."

In addition, whenever possible, the description of the arguments presented in Appendix A identifies the international trade model used by each author, which determines the nature of the income distribution effects of trade policy. More specifically, the table identifies work that uses either the conventional neoclassical trade model (see Stolper and Samuelson 1941), which assumes that domestic factors of production are perfectly mobile across industries (but not internationally), or the specific factors model, which assumes that at least one factor of production is industry-specific and thus imperfectly mobile across sectors (Mussa 1974, 1982; Neary 1978).[9] The main implication of factor specificity is that interest groups will be formed across industries in this latter type of model, while in Stolper-Samuelson models the lobbies would be formed across factors of production (that is, labor versus capital).[10]

ON THE STRUCTURE OF PROTECTION

Olson (1965) did not intend to provide a theory of the determinants of trade policy, yet this author is frequently cited by social scientists working on topics in which the principles of collective action are relevant. Olson's work provides insights about collective action among independent agents, be they workers or managers, firms or voters, and is therefore often cited by students of the political economy of trade policy.

At the core of Olson's discussion is the "free-rider problem." This problem results from the public-good quality of collective action. That is, the benefits of collective action by an industry association, for example, can be absorbed by all industry participants, regardless of whether they help pay for the costs of collective action. These costs are related to lobbying, campaign contributions, and any transaction costs associated with the functioning of the group. Moreover, if the costs of collective action for each agent are greater than the benefits that can be gained from such action, potential group members will decide not to pay the costs.

According to Olson, one of the key characteristics determining the ability of industries or of any potential group of independent agents to overcome the free-rider problem is *concentration*. Both the geographic concentration of industry and the number of firms help determine the success of collective action. The reasoning is that an organization's transaction costs fall with the geographic concentration of an industry because communication and other related costs tend to be smaller when geographic distance is small.[11]

The number of potential partners, another aspect of concentration, affects the magnitude of the free-rider problem. When the number is small, the

costs of monitoring member participation are low. Moreover, the magnitude of the potential benefits of collective action for each member is likely to be higher than when the number of participants is high. Hence, each member has a stronger incentive to pay the costs of collective action.

The costs of trade liberalization (or free-trade policies) are concentrated on a finite set of industries and firms, while the gains in welfare for consumers tend to be small for each consumer relative to the costs of collective action.[12] Hence, the logic of collective action lends itself readily to analyzing the political economy of trade policy. Pincus (1975) applied the logic of collective action and tested econometrically whether industry concentration helped explain why some industries received higher levels of protection than others within the United States. This author found evidence in favor of the logic of collective action. Caves (1976) reached similar conclusions for the case of Canada. Lee and Swagel (1997) found that industry characteristics such as the rate of import penetration, rate of growth (decline), and relative size (that is, share of value added and share of the labor force, as proxies of political influence) explain the variation of tariff rates and non-tariff barrier (NTB) coverage ratios (product lines affected by an NTB divided by the number of products) across industries in a sample of forty-one industrialized and developing countries, based on data from 1988.

Most econometric studies not only include explanatory variables related to industry concentration (both geographic and in terms of the number of firms), but they also include variables that attempt to capture the degree of *political influence*. Proxies that measure the relative size of the industry or the labor force employed by it represent this variable. The intuition is that protection can be granted to sectors in which a large share of workers are employed, because, in a specific factors economy, workers' earnings are tied to the relative price of the goods produced by their industry. Baldwin (1982) provides a theoretical model in which the policymaker views the national welfare as a sum of the welfare of all individuals, which implies that the policymaker is concerned about voter preferences linked to the sectors where they are employed. Mayer (1984) is perhaps the most frequently cited author demonstrating that the U.S. tariff structure reflects the preferences of the majority of voters (the median voter).

Lavergne (1983) finds that variables such as the relative size of the region (state) in which the industry is located and total employment in the industry are the two most important industry characteristics that empirically explain the level of tariffs across U.S. industries. In fact, this author finds very little evidence that collective action by industries explains U.S. tariff structure, thus contradicting the findings of Pincus (1975), albeit these studies

used different model specifications and focused on the tariff structure of the United States during different time periods.[13]

Findlay and Wellisz (1982) made a significant theoretical contribution along these lines by developing a model in which industries balance the costs and benefits of lobbying while strategically considering the decision to lobby by other interests (which would affect the magnitude of the expected benefits from lobbying).

A related and frequently cited article is Grossman and Helpman (2002). These authors focus on the incentives of firms to make campaign contributions, which would then determine the structure of protection. Gawande and Bandyopadhyay (2000) provide econometric evidence that supports the Grossman and Helpman (GH) model. More specifically, these authors test empirically the GH model by estimating simultaneously a supply-side function of NTBs and lobbying expenditure function. Their exercise is based on U.S. data from the early 1980s. On the supply side, they find that import penetration ratios across industries are positively correlated with NTB coverage but negatively correlated with the industries that have high import penetration *and* low lobbying spending. At the same time, lobbying spending by firms is correlated with measures of industry concentration. The main point here is that models that explain the structure of protection, which have been applied mostly to industrialized countries, view industry characteristics as the main explanatory variables.[14]

Another important empirical finding contradicts the political-influence hypothesis: several studies listed in Appendix A find that industries in decline that employ low-skilled labor tend to be protected in the United States and other industrialized countries. This empirical connection appears in Cheh (1974), Caves (1976), Riedel (1977), Marvel and Ray (1983), and Trefler (1993). Some of the variables used to capture industries in decline are import penetration ratios (imports divided by domestic production), changes in import penetration ratios (Trefler 1993), and the share of illiterate labor employed in the industry. The fact that policymakers are motivated to protect declining industries, either for politically selfish reasons (that is, because their reelection depends on it) or for social concerns, has produced a number of important studies.

Corden (1974, 107) coined the term "conservative social welfare function." The main idea is that policymakers want to avoid any sudden changes in the *distribution* of income across sectors or want to prevent sudden declines in the *level* of income of any sector. Hence, this type of policymaker, who is concerned about social justice, will "lean against the wind" when economic shocks hurt some sectors. This idea has led to normative discussions about

the appropriate type of policy response that can prevent sudden declines in the income level of some industries or sectors. This consideration can justify only temporary protection for sectors affected by adverse transitory shocks. If the shock is permanent, according to Corden (1986a) the appropriate response from a national welfare viewpoint is to implement adjustment assistance programs that subsidize the movement of factors of production from losing to winning sectors.[15] This type of social concern can explain the empirical finding by Trefler (1993) discussed above, which shows that industries in developed countries that are most affected by changes in import penetration are also the ones that tend to receive protection, regardless of their characteristics that may influence their capacity to lobby or to mobilize votes.[16]

The contributions of Hillman (1982) and Cassing and Hillman (1986) deal with the closely related issue of senescent industry protection. These theoretical contributions explore the case of industries experiencing a long-term decline rather than temporary setbacks. In both studies, the policymaker is motivated to grant protection to declining industries not for social concerns, but rather because even these industries maintain some capacity to mobilize political support for the policymaker.

An interesting aspect of these models is that the politically optimal level of protection granted to declining industries is never the level of protection that would stop the industry's decline. Hillman (1982) shows that the policymaker gains political support only from the price effects derived from the instituted policy and not from the price changes caused by external factors. Hence, as the relative price of the good produced by the declining industry continues its downfall, the policymaker has an incentive to provide price protection at a decreasing rate. In Cassing and Hillman (1986) the eventual collapse of the senescent industry and its protection is due to the declining ability of the industry to mobilize resources to provide political support for the policymaker. In the Lavergne diagram, the level of protection supplied by the policymaker falls as the marginal (political) benefit of protecting the industry falls.

ON THE LEVEL OF PROTECTION

Part II in Appendix A lists several articles by economists who focused on the determinants of the level of protection, rather than on its structure. In general, however, the types of explanations for the level of protection tend to include the same sets of factors that are discussed in the literature on the structure of protection, including interest-group pressures, institutions, and ideas or ideologies.

The first work listed is Kindleberger (1951), which is remarkable for its early contribution to understanding the role of interest groups in determining the *level* of protection across countries. This pioneering article studied the responses of several European nations to the decline in the price of agricultural commodities, especially wheat, in the 1870s. For example, England maintained its relatively liberal trade regime and thus accepted the extinction of its agricultural sector, while France and Germany imposed import tariffs. The different response by Britain was, according to Kindleberger, due to the relative strength of the anti-protection export groups in that country.

Kindleberger (1975) argued that the rise of liberal trade policies in Europe during 1850–1875 could be explained by the rising influence of laissez-faire ideas. This author argued that modest liberalization in Britain during the first half of the nineteenth century, for example, could be explained by the emergence of export industries that pressured for liberalization. As mentioned, Kindleberger thought that policy responses to the agricultural deflation of the 1870s could be explained by the interest-group approach. However, the "second wave" of liberalization that began in 1846 when Britain repealed its infamous Corn Laws could not be explained by the interest-group pressures hypothesis. Export-manufacturing interests were not more concentrated than agricultural interests, and hence an Olson-type theory of pressure groups could not explain the repeal of the Corn Laws. The historical record shows that Richard Cobden and other influential industrialists from Manchester used the ideas of Adam Smith and David Ricardo, especially those concerning the losses to consumers (not export industries) from protection, which eventually gained the political initiative.

Johnson (1965a) wrote another seminal article, its main innovation being that it moved away from traditional approaches similar to the theory of domestic divergences discussed above. From this traditional vantage point, second-best trade policies were seen as being justified only if there exists some domestic distortion that could be eliminated by the imposition of a trade restriction.[17] In a significant departure from this view, Johnson treated industrial production as an element in a society's collective welfare: "the electorate is willing to spend real resources through government action in order to make the volume of industrial production and employment larger than it would be under free international competition" (Johnson 1965a, 259). In this model, the government or policymaker protects the industrial sector up to the point at which the "marginal collective utility" derived from the increased industrial production is just equal to the marginal excess private cost of protected industrial production.

This type of welfare consideration does not significantly change the analy-

sis with the Lavergne diagram. Even in this model the increased production of industrial goods would enter as a benefit in the policymaker's calculations. Johnson's contribution was remarkable in that it introduced the concept of collective utility from production (as opposed to pure consumption). In this way, Johnson took a significant step toward relating welfare considerations to social preferences, and thus ideologies. This connection will be explored further upon reviewing the political science literature.

Diaz-Alejandro (1970) performed an early analysis of the level of protection in a developing country (Argentina) during the interwar period. The objective of the author was to dispel the conventional wisdom of the time that viewed Argentina and other Latin American economies as being liberal economies until the Great Depression hit them in 1930 (not 1929).[18] The main contribution of this article was factual: it presented data on the average import tariff and on the structure of import tariffs in Argentina from 1906 to 1940. The data show that the average tariff was high at the beginning of the period, declined between 1918 and 1923, and rose again thereafter.[19] The tariff structure of Argentina during this time was favorable to manufacturing industries. Finally, the main ideas about or justification for the tariff during this period came from influential economists who argued that industrialization through protection was needed in order to diversify the productive structure of the Argentine economy.

According to Diaz-Alejandro (1970, 288–289), the most prolific protectionist in Argentina during the 1906–1940 period was Alejandro E. Bunge, whose writings anticipated many of the developmentalist ideas that were later popularized by Raúl Prebisch (1950) and the United Nations Economic Commission for Latin America (ECLA). Hence, protectionist ideologies were very much alive in Latin America even before the Great Depression, and at least in Argentina, the tariff level and structure were consistent with these ideologies.

Wellisz and Findlay (1984) explained theoretically why less developed countries (LDCs) tend to have higher levels of protection than developed countries.[20] Their answer was related to the political economy of protection. The intuitive argument was that protection in developing countries with a "surplus labor force" is usually granted to manufacturing industries, which encompass a relatively small share of the total labor force in LDCs. Therefore, the impact on economy-wide real wages tends to be low, and agricultural interest groups or other potential anti-protection forces do not have strong incentives to exert political pressures against protectionism. The Wellisz-Findlay model thus focuses on lobbying costs and benefits for firms. As the potential benefits of lobbying in favor of liberalization are low rela-

tive to the costs of organizing an effective liberal lobby group, protectionism persists in LDCs. These authors argued that idea-based theories of the persistence of protectionism in LDCs could not explain the rampant protectionism in these economies. In contrast, in this model manufacturing interests have much to gain from lobbying, and the revenue-raising motivation makes the State (policymakers) receptive to the protectionist lobby.

The Wellisz-Findlay model predicts that if the share of manufacturing employment grows, then pro-liberalization forces have stronger incentives to organize and pressure for liberalization. Note that this interest-group explanation contradicts the prediction of the political-influence hypothesis. The latter would predict that, in a specific factors model of trade, as the labor force in a particular industry grows, then the median voter's interest would become increasingly linked to the interest of manufacturing workers. Thus protection would tend to rise as manufacturing employment grows.

An article by Velasco (1994) on the Chilean case also emphasized interest-group conflicts as the determinant of economic policies. His theoretical model views policies as the outcome of a strategic game played among identical groups that compete for government revenues. This simplification helps the reader focus on the effect of new entrants into the distributive conflict. When a new group emerges, the equilibrium regime that existed is no longer stable. Hence, the emergence of a new organized lobby can lead to political and economic crisis, which then results in a policy change. This is Velasco's interpretation of the causes of Chile's move away from protectionism in the 1970s. Interestingly, the groups that emerged during the 1950s and 1960s in Chile, according to Velasco, were rural laborers and poor urban dwellers. Hence, implicitly, Velasco is applying a Stolper-Samuelson model of trade in which interest groups are formed across factors of production rather than across industries. Also, in this model it is the emergence of a new group that leads to crisis and regime change, rather than economic crisis leading to regime change by relegating distributive conflicts to a lower level of influence over policymaking.

Magee and Young (1987) empirically assessed the determinants of the (average) level of protection in the United States during the twentieth century. Interestingly, this work shows that the most important explanatory variables are macroeconomic. They argue that unemployment, inflation, and variations in the terms of trade explain approximately two-thirds of the variation in the U.S. average tariff during 1900–1984. In my view, this evidence supports theories in which the level of protection is determined by policymakers' concerns about the macroeconomy. This is the main argument of Eichengreen (1989), who showed that the Smoot-Hawley tariff of

1930 could have had an expansionary effect during a deflationary period. That is, tariffs or any other form of trade protection tend to raise domestic prices, thus counteracting the deflationary impetus and promoting domestic production. These arguments are consistent with the social concerns view of policymakers.[21]

Another example of a macroeconomic approach is Krueger (1993). This author takes a broader view, focusing on economic reforms more generally, and develops a theory of policy "cycles" driven by the interaction of economic conditions with political considerations. She describes the dynamics of these policy cycles as follows:

> The initial imposition of controls . . . sets in motion economic responses that to a considerable extent defy the intent of those imposing controls. Politicians' responses, as they attempt to control the economy and to thwart the market, result in [a period of rising controls]. Unsatisfactory economic performance then sooner or later generates a political mandate to "try something" to change the outcome. . . . If the underlying political-economic situation is sufficient so that the reform program is sufficiently far-reaching and credible, underlying economic performance can improve. That can permit further liberalization, while simultaneously strengthening the political influence of new groups. (Krueger 1993, 137).

Although Krueger's insights provide a coherent description of liberalization attempts, they begin with the assumption that controls are imposed for some unknown reason. Krueger does not acknowledge that even "good" policies can be blamed for bad outcomes.

These types of explanations that focus on macroeconomic conditions are consistent with several theories that attempt to explain economic reforms during periods of economic crisis. For example, Alesina and Drazen (1991) argue that stabilization programs are delayed until the costs of inflation overwhelm distributive conflicts.[22] Fernandez and Rodrik (1991) similarly argue that the protectionist status quo caused by uncertainty about the potential gains from liberalization can be broken in the context of severe crises.

This reasoning is also found in Rodrik (1994), who attempts to explain the sudden wave of trade reforms in developing countries during the 1980s and 1990s. Rodrik introduced a political cost-benefit function, in which the political benefits of protection are markedly reduced under macroeconomic crises since distributive conflicts become less influential. The same reasoning is also present in Tornell (1995), who argues that Mexican trade and fiscal reforms were launched once this economy faced inflationary pressures

after the debt crisis of 1982–1983. Bruno and Easterly (1996) show that inflation crises are often followed by periods of economic growth that exceed the previous rates. These authors interpret these results as being consistent with the idea that inflationary crises promote market reforms.

Rajapatirana (1996) and Rajapatirana et al. (1997) make similar arguments about the role of macroeconomic conditions in determining trade policies in Latin America. The first article strongly argues that Latin American governments have been reluctant to accept the inflationary consequences of currency devaluations, and thus have often used trade policies to facilitate the "switching" of factors of production into domestic tradable industries and of consumption in favor of non-traded goods. This "switching" effect then reduces the current account deficit without requiring nominal exchange rate depreciation. This logic makes sense only to the extent that nominal devaluations are likely to lead to inflationary spirals but increases in trade restrictions are not. In Rajapatirana et al. (1997), the authors also argue that trade policy changes in Latin America during 1965–1994 were driven by macroeconomic conditions. Furthermore, trade liberalization was possible only when governments in the region were "willing and able to implement a broader package of reforms." What these articles do not explain is why the level of protection persists over time, even after the economic crises that triggered the policy change have passed.

How do these articles fit into the Lavergne framework? Macroeconomic considerations can be seen as entering into the policymaker's cost-benefit assumptions. If the policymaker believes, for example, that the inflationary effects of currency devaluations are greater than those of raising import prices through protection, then a balance of payments crisis that threatens an inflationary spiral will be reflected in a shift of the policymaker's MB curve (see Figure 1.1). However, according to this logic, the MB curve should shift back after the crisis ends. Hence, it is not clear how macroeconomic shocks can have permanent effects on the level of protection, although they could certainly predict *changes* in trade policies.

Regarding the over-time persistence of trade policies, I already mentioned the seminal work by Fernandez and Rodrik (1991). These authors developed a model in which individual-level uncertainty about the distribution of the gains of liberalization in the future makes people support the status quo. Cassing (1991) analyzes the persistence of trade policy with an interest-group model of policy determination. The idea is that regime switches are caused by sudden economic shocks that are sufficiently large to trigger interest-group lobbying activities. But this occurs only when the

shocks are such that the costs for the interest groups (without a policy switch) are larger than the costs of collective action.

It is interesting to note that social concerns approaches, such as Corden's conservative social welfare function, justify only temporary protection for unexpectedly affected sectors. In contrast, Cassing's model of trade policy persistence over time relies on self-interest motivations of the policymaker. In the Lavergne diagram, Corden's approach would be reflected in a temporary shift of the MB curve, and in Cassing's model, the MB curve would be permanently shifted until the next unexpected shock occurs.

Staiger and Tabellini (1987) present a credibility-based model of trade policy, which can also explain the persistence of protectionism over time. Their main argument concerns discretionary trade policy. The authors argue that interest groups know that promises of future protection are not credible; therefore, these groups lobby for protection in the present. In the end, the level of protection never falls because the government is continuously subjected to interest-group lobbying in favor of protection.[23] In the Lavergne framework, the MB curve is permanently shifted because the political benefits to granting protection are permanently increased as a result of interest-group lobbying. In general, the *persistence* of protection over time seems to be more easily explained by interest-group pressures than by ideas or ideologies that affect the policymaker's perceptions about how the economy works.[24] However, in anticipation of the discussion of the political science literature, contributions to the latter argue that when ideas or ideologies are "institutionalized," the level of protection persists over time.

The contribution by Rama (1994) is important for its empirical inclination. This author developed a creative measure of the level of rent-seeking (lobbying) activities in Uruguay from 1925 to 1983. This variable was constructed on the basis of the legislative record. Laws that were aimed at specific industries, factors of production, or other interest groups were considered to be the result of rent-seeking activities by the beneficiaries. The number of group-specific laws was then divided by the economic size of the group. This measure of rent seeking is correlated with the level of protection, thus providing scarce evidence about how protectionism itself breeds interest-group rent-seeking activities. It is now well known that such activities are harmful for national welfare because they deviate factors of production away from economically productive activities (Krueger 1974; Findlay and Wellisz 1982; Wellisz and Findlay 1984). In the Lavergne diagram, this welfare consideration implies that when the MB curve shifts because of lobbying that increases the policymaker's political benefits, the policymaker's

MC curve should shift in the opposite direction as the costs of protection increase with the diversion of productive resources into lobbying activities.[25]

A recent unpublished paper by Williamson (2003) contains interesting empirical observations concerning the potential determinants of "effective" tariff rates around the world during 1789–1938.[26] The author examines three motivations for high tariffs: protection of the scarce factors of production in the spirit of the Stolper-Samuelson theorem, strategic trading concerns related to the terms of trade with respect to the main trading partners, and revenue needs. The panel-data regressions presented by the author indicate that all three motivations were present across the world during that period. Although there is no air-tight empirical investigation, and this one could be criticized on various technical grounds (for example, inadequate control of unobserved international heterogeneity), this paper is the first one to tackle this important question in a solid empirical framework.

In sum, this review of the economics literature has shown that the most common view in the literature is the interest-group approach. Economists have tested this approach empirically and have made significant extensions. This seems to be the case for explanations of both the structure and the level of protection. However, the self-interest approach is by no means the only approach used by economists. Corden's conservative social welfare function and other welfare considerations are examples. Nevertheless, it seems that the coupling of the theory of domestic divergences with Lavergne's cost-benefit diagram is sufficient to illustrate most of the theoretical arguments.

III. The Political Science Literature

The political science literature has emphasized ideological and institutional factors associated with the adoption of certain development strategies, with varying degrees of effectiveness. Appendix B lists selected articles in chronological order that were either written by political scientists or published by journals whose main audience is composed of political scientists.

ON THE STRUCTURE OF PROTECTION

The political science literature frequently cites Schattschneider (1935), who was by training a specialist in public policy. Perhaps the reason why economists also appreciate his work is that it was one of the first attempts to systematically document the actions of pressure groups in trade policymaking. However, although Schattschneider's main focus was the role of interest groups that sought relief through the Smoot-Hawley tariffs, he did pay close attention to the institutions within the U.S. legislature that set the stage for

the actions of interest groups. The author traces the role of pressure groups in public hearings, legislative committee decisions, and the final vote. He also notes that the predominant ideology of the Republican Party at that time was protectionist, as many party members shaped nationalist sentiments in favor of the tariff.

A second noteworthy contribution is by Dixit and Londregan (1995).[27] This article made an important contribution to understanding the role of ideologies and political parties in the formulation of economic policies with distributive effects, including trade policy. The authors' key insight is that the effectiveness of lobbying by interest groups is affected by the internal cohesion of the group. In other words, besides the factors identified by Olson (1965) and others as being determinants of collective action, Dixit and Londregan argue that shared ideological beliefs also reduce the costs of collective action. Consequently, the structure of trade protection within countries is likely to be determined not only by industry characteristics related to concentration and political influence, but also by the ideological cohesion of the individuals that form the political action group.

These two contributions share an insight: ideological factors determine the efficacy of collective action by pressure groups. In terms of the Lavergne diagram (see Figure 1.1), this consideration would not be reflected in changes in the perception of the policymaker about the existence of domestic divergences or welfare costs of protection. Rather, the ideological cohesion of interest groups affects their lobbying effectiveness and thus the political benefits of protection, if the more cohesive groups are protectionist. If the more cohesive groups oppose protection, then the impact of ideological cohesion of the pressure group would be reflected in the location of the policymaker's MC curve by raising the political costs.

ON THE LEVEL OF PROTECTION

The rest of the literature cited in part II of Appendix B covers the work of political scientists that deal with the determinants of the level of protection. Gilpin (1975) is a classic application of the structural realist theory of international relations to issues of economic policy.[28] Gilpin's main argument was that the transformation of the international economic system after the Second World War and the rise of the multinational corporation was feasible because this new liberal system was sustained by the power and influence of the United States, which was (and perhaps still is) the hegemonic leader in the international system.[29] This type of explanation could also be extended to explain why Europe liberalized during the nineteenth century under Britain's hegemonic influence. Krasner (1976) and Lake (1983) similarly ap-

plied the structuralist approach to trade policies. They argued that U.S. trade policies could be explained by the relative position of the United States within the international system.

Lazer (1999) provides a more recent analysis of the rise of free trade in Europe during the nineteenth century, which is consistent with the structuralist approach. He argues that Britain's move toward bilateral trade negotiations provided an incentive for countries left out of the agreements to jump onto the free-trade "bandwagon."[30] The logic of the argument is that when Britain and France signed the Cobden-Chevalier Treaty in 1860, "third-party exporters were at a decisive disadvantage in the French market" (Lazer 1999, 471). Hence, other governments had to respond to interest-group pressures from exporters to seek similar treaties with France and Britain.

Lazer conducts quantitative simulation exercises that explain why Britain's bilateral negotiations led to the rapid emergence of a network of most-favored nation trade agreements in the 1860s. In particular, he illustrates (460–466) how the relative economic size of Britain, the rising level of international trade, and reductions in transport costs all are likely to have jointly determined the rise of free trade. Hence, the link between Lazer's work and the structuralist tradition is that Britain's economic dominance was at the center of this expanding network of trade agreements. Yet Lazer's argument also links the structuralist argument with interest-group pressures.

In Figure 1.1, the policymaker in a small state that is unable to influence the international system would consider the costs of not following the lead of the hegemonic power. In the traditional structuralist approach, in which the latter threatens retaliation if the small country maintains some level of protection, the expected losses should be captured in the position of the MC curve. In the Lazer structuralist approach, as export interests lobby for trade agreements that reduce the level of protection, this effect would be illustrated by a leftward shift of the MC curve that would represent an increase in the political costs of protection.

Katzenstein (1978) and Krasner (1978) noted that system-centered theories could not explain why countries that could be placed at more or less the same position in the power hierarchy would respond differently to similar challenges. Their answer was that "strategies of foreign economic policy of the advanced industrial states grow out of the interaction of international and domestic forces" (Katzenstein 1978, 7). Hence, these authors brought in domestic political institutions as possible determinants of international economic policies, including trade policy.

Mares (1990) applied Katzenstein's framework to the case of Colombia

during 1951–1974, when Colombia shifted from import substitution to export promotion as the guiding principle of its economic policies. Mares acknowledges the influence of the international system by noting that international constraints helped determine Colombian trade policies. In particular, support from the International Monetary Fund, the World Bank, and the U.S. Agency for International Development during economic crises usually constrained the options of Colombian policymakers. Liberalizations implemented during a crisis usually were reversed quickly thereafter because of the influence of interest groups. This logic was broken in 1966–1967, when a 1967 law implemented an economic program that combined liberalization of imports, promotion of exports, and a move from the fixed exchange rate to a crawling peg regime.

According to Mares, this policy shift was due to institutional innovations, not to pressures from abroad. In fact, President Carlos Lleras Restrepo refused to follow the recommendations of the international financial authorities, which had called for a float of the currency, because he feared a devaluation-inflation spiral. Also, the shift cannot be explained by interest-group pressures because the only effectively organized group of exporters, the coffee growers, already had a specific policy regime that addressed their main concern—the volatility of the international price of coffee. Hence, there were no special interests able and willing to support the policy shift.

The relevant institutional reforms in Colombia were the following: (1) the formation of the National Front coalition government formed by the two elite political parties in 1957, which was established by referendum and written into the constitution; (2) the establishment of a technocratic bureaucracy (the Planning Department) during 1958–1962; and (3) the passing of a constitutional reform that transferred the initiative on budgetary matters to the executive branch in 1968. The latter was approved by the legislature only after the president threatened to resign, which would have undermined the stability of the National Front. In any case, the argument is that the policy shift would not have been possible without these institutional innovations.

This modified structural theory fundamentally changes the analysis based on the demand-supply framework. The reason is that the role of institutions in determining the costs and benefits of protection for the policymaker is not clear. Do institutions limit the range of the level of protection? If so, then the MB and MC curves in Figure 1.1 would be truncated. This could be the case when institutions limit the range of options. However, if institutions do not impose perfectly binding limits, the range of options is not really truncated. Generally speaking, this is probably the most common case

because institutions can be changed through political initiatives. In this case, the main issue is what events trigger such changes? This question is analyzed historically and econometrically for the case of Chile in the following chapters.

McKeown (1986) attacked the Katzenstein-modified structuralist approach. In an earlier contribution, McKeown (1984) argued that the level of protection is the outcome of interest-group demands. Namely, firms demand protection under adverse economic conditions. It is remarkable that this economic explanation of commercial policy was reborn in the political science literature during the 1980s as a reaction to the system-centered theories. However, McKeown renamed the demand for protection as "societal demands." Along the same lines, the work by Gallarotti (1985) developed a model in which the level of protection varies with the business cycle. Again, it is notable that empirical work by economists, such as Magee and Young (1987), supports this type of business-cycle theory of protection. These considerations have already been discussed in the context of the Lavergne framework.

The pioneering work of Rogowski (1989) reversed the direction of causality suggested by McKeown, Gallarotti, and other critics of the structuralist approach. Rogowski's key argument is that permanent changes in the patterns of international trade (that is, changes in relative prices) shake up the domestic political equilibrium. The contribution by Garret and Lange (1996) was similar to Rogowski's in the sense that these authors looked at the domestic political consequences of changes in the international economy. Their emphasis, however, was on the impact that global economic phenomena, such as "internationalization," have on domestic institutions. Their key argument was that the rise of international trade and financial flows (that is, internationalization) can change the nature of distributive conflicts, as argued by Rogowski (1989), but these effects are constrained by domestic institutions, which tend to change slowly.

In the composite diagram shown in Figure 1.2, a fall in the international relative price of the underproduced good would be reflected in a drop of the horizontal axis. Hence, if the ideology or perception of the policymaker is not changed, and without considering the actions of domestic pressure groups, then the level of protection should rise. Since the protected group eventually loses political influence because its relative economic size declines (similar to the processes of industry decline discussed earlier), then slowly but surely the political benefits of protection would fall. In other words, the domestic coalitions approach defended by Rogowski (1989) and his followers is analytically similar to the cases examined by economists Hillman

(1982) and Cassing and Hillman (1986). Unfortunately, Rogowski (1989) never attempts to reconcile his arguments that concern long-term changes in the pattern of trade with the earlier political science literature that emphasized societal demands for protection, especially during temporary adverse economic conditions.

Bates et al. (1991) also look at the impact of international economic shocks. They argue, much like Cassing (1991) and Corden (1974), that uncertainty about international relative prices, in the absence of insurance markets, determines why certain countries are more protectionist than others. That is, countries that suffer greater terms of trade uncertainty will also tend to have higher levels of protection than others. This may explain why developing countries tend to have higher levels of protection than developed countries.[31] Again, the motivation for the policymaker to provide this type of social insurance can be driven by social concerns, as in Corden (1974), or by the collective action responses of the affected industries, as in Cassing (1991) and Gallarotti (1985).

Pastor and Wise (1994) explored the origins of trade liberalization in Mexico.[32] Their main conclusion was that Mexico's liberalization of trade in the 1980s was driven primarily by concerns about the macroeconomy, especially inflation. Hence, the authors stress economic conditions and their political effects as important factors determining the direction of trade policy. More specifically, the authors argue that the political cost-benefit ratio of implementing economic reforms, as developed by Rodrik (1994), tends to fall when economic conditions worsen. However, it seems that this logic would also apply in reverse: if the economic conditions worsen significantly when an economy is under a liberal trade regime, then it is also likely that the cost-benefit ratio of staying the course will rise. This was the policy cycle described by Krueger (1993) and may be a suitable explanation of the liberalization of trade policies in Latin America since the 1980s, which was also discussed by Rajapatirana (1996) and Rajapatirana et al. (1997).[33]

The remaining literature listed in Appendix B includes work that mostly supports state-centered or society-centered explanations of the level of protection. In particular, this literature tends to focus on institutions and the emergence of economic ideas or ideologies. Goldstein (1993) emphasizes the role of economic ideas to the extent that "political rules and norms formed in response to and in support of an economic idea fundamentally influence the environment for future political choices" (Goldstein 1993, 3). For Goldstein, economic policy "ideas" are "shared causal beliefs" about how the economy works (Goldstein 1993, 11), and thus this definition is consistent with our treatment of policymakers' perceptions embraced by the theory of

domestic divergences. Goldstein's work is comprehensive in that it addressed three issues related to the adoption of economic ideas by policymakers: (1) the generation of ideas and why they are selected by policymakers and the public, (2) how ideas get institutionalized, and (3) how this institutionalization affects future policy decisions.

The generation and selection of ideas can be analyzed in stages. Although economic ideas, protectionist and liberal alike, are always available to the policymaker to justify economic policies, often the adoption of ideas does not follow the logic of interest-group pressures. Incumbent ideas go through a period of delegitimization, which is often associated with deep economic crises. This delegitimization opens opportunities for policy experimentation. Finally, ideas become institutionalized when their implementation into policy is associated with positive outcomes, even if the most rigorous economic ideas at the time argue against this causal relationship. In this way, economic ideas can become dominant ideologies, at which point policymakers with different party affiliations and different constituencies legislate in favor of the dominant ideas. This reasoning explains why even the liberal Democrats were responsible for enacting protectionist legislation in the late nineteenth and early twentieth centuries in the United States.

Goldstein's framework can also be used to explain trade policy cycles, as Krueger (1993) analyzed for the case of developing countries. Policymakers, as a result of interest-group pressures, first adopt protectionist policies. Politicians then adopt protectionist ideas, and sometimes these ideas are associated with positive outcomes, thus providing impetus for the institutionalization of these ideas. The cycle is reversed when economic conditions change so that the incumbent ideas get delegitimized, and the cycle starts anew (Goldstein 1993, 242). While Goldstein's work relied on the U.S. historical experience, mostly comparing the period of institutionalized protectionism during 1870–1930 with the liberalization period after 1934 (which according to many specialists started after the passage of the Reciprocal Trade Agreements Act of 1934), many of its insights are applicable to other countries and periods of time.

Hiscox (1999) argued, like Goldstein (1993), that the passage of the Reciprocal Trade Agreements Act of 1934 was a watershed in the political economy of U.S. trade policy. The reason is that this legislation allowed Congress to delegate the authority over tariff setting to the executive. In turn, this institutional innovation allowed the predominant liberal ideology that subsequently emerged to overcome interest-group and party politics. More recent work by Karol (2000) has emphasized similar points. He argues that dominant ideologies are particularly important when one party controls

the legislature while the executive branch belongs to the other party. Karol disputes the conventional wisdom that divided government leads to higher levels of protection in the United States.[34] The logic of the conventional wisdom breaks down when presidents are free-traders, perhaps because this is the dominant ideology. Divided governments are consequently not necessarily more protectionist than single-party governments.

Karol (2000) tests this hypothesis econometrically by looking at senatorial and congressional voting patterns over trade issues during 1945–1999, the era of "presidential liberalism." The econometric results show that liberal presidents were able to obtain the authority to negotiate reductions in the level of protection by attracting votes from the free-trade party (the Republicans) regardless of whether the president belonged to the same party. Hence, it seems that the emphasis on predominant ideologies fits the historical record of the United States.

Sikkink (1991) examines how institutional arrangements affected the effectiveness of the developmentalist (that is, protectionist) policies in Brazil and Argentina. She concludes: "Ideas alone do not account for the different outcomes in Brazil and Argentina. Rather, the degree of ideological consensus on economic policies in the two countries is one of the primary variables explaining consolidation of [the developmentalist] economic model [originally embraced by Raúl Prebisch and ECLA]" (Sikkink 1991, 251). In other words, the degree of ideological consensus determines the extent to which ideas are institutionalized.

Hira (1998) adds another factor to the framework provided by Sikkink and Goldstein and applies it to the case of Chile. This author introduced a new set of actors, namely, "economic knowledge networks." These networks are composed of academics and technocrats with shared beliefs about how the economy functions, and their membership can be international. Policymakers can adopt "policy paradigms" provided by such networks, and the adoption of these paradigms provides legitimacy to the networks. This feedback between policymakers and knowledge networks is not impervious to interest-group pressures. Interest groups and/or the public influence the adoption of policy paradigms by policymakers. Also, interest groups can finance the activities of these knowledge networks (Hira 1998, 29). For the case of Chile, Hira investigates the role of ECLA in promoting the structuralist development model in Chile and the role of the Chicago-trained economists who influenced Chile's trade liberalization in the mid-1970s. In an earlier contribution, Waterbury (1993) highlighted the crucial role of "change teams" in promoting changes in economic policies in several developing countries, which is consistent with Hira's analysis.

Verdier (1994) maintained that voters in democracies play a crucial role in determining trade policy. His arguments are consistent with many economists' views, including Mayer (1984). But Verdier introduced the concept of the "rational-ignorant voter." This concept describes voters who are selfish in the sense that they will vote for policies that benefit their economic self-interest, but have less than full information to assess which economic programs proposed by politicians will best protect their interest. Rational-ignorant voters use broader ideologies as a filter for their interests. Hence, trade policy can be simultaneously determined by the median voter's self-interest and by ideologies.

The political science literature, although not completely ignoring the issue of the structure of protection, focuses mostly on the determinants of the level of protection. When it deals with developing countries, the literature turns to the determinants of the overall development strategy, of which trade policy is but one element. The disenchantment with the system-centered or structuralist approaches led first to an emphasis on societal demands that is very similar to the economists' interest-group approach. In the 1990s, the main emphasis of the literature was on ideas, ideologies, and institutions. Hence, the work by (and for) political scientists has evolved into a comprehensive framework. It links economic ideas about causal effects with knowledge networks and interest groups. The emerging approach indicates that all these factors determine the extent to which ideas are institutionalized in developed (Goldstein 1993) and developing (Sikkink 1991; Hira 1998) countries.

IV. Summary

This review distinguished, within disciplines, between contributions that explain the level of protection across industries within countries, and work that explains the level of protection across countries and over time. The review covered both theories and empirical analyses. Finally, it attempted to place the various approaches used in both economics and political science in the context of a supply and demand framework. This framework joined the theory of domestic divergences, as presented by Corden (1974), with Lavergne's (1983) model of the supply of protection.

The most common view in the economics literature is that interest-group pressures determine the structure of protection. Economists have tested this approach empirically and have made significant extensions. In fact, several articles discussed in this book use the interest-group hypothesis to explain the level of protection across countries and over time (Staiger and

Tabellini 1987; Cassing 1991). However, the self-interest approach is by no means the only approach used by economists; Corden's (1974) conservative social welfare function and other welfare considerations are examples. Nevertheless, it seems that the union of the theory of domestic divergences with Lavergne's cost-benefit diagram is adequately equipped to illustrate most of the economic theoretical arguments.

The political science literature, although not completely ignoring the issue of the structure of protection, focuses mostly on the determinants of the level of protection. When it deals with developing countries, the attention of the literature usually turns to the determinants of the overall development strategy, of which trade policy is but one element (Sikkink 1991; Waterbury 1993; Pastor and Wise 1994; Hira 1998). The disenchantment with the system-centered or structuralist approaches led first to an emphasis on societal demands that is very similar to the economists' interest-group approach (McKeown 1986). In the 1990s, however, the main emphasis of the literature was on ideas, ideologies, and domestic institutions (Mares 1990; Sikkink 1991; Goldstein 1993; Hira 1998).

I now return to the framework presented in Figure 1.2 to summarize the results. Starting with the role of ideas and ideologies, economists distinguish between different types of possible divergences between private and social costs, which justify some sort of government intervention to correct the domestic divergence. Most of the ideologies discussed by political scientists can be analyzed in these terms. For a policymaker who is at least partially concerned about raising economic welfare, the existence of a domestic divergence increases the marginal benefits of protection. By-product distortions of trade protection increase the marginal costs of protection. This aspect of the framework is unaffected by the political science literature.

On the demand side, collective action by interest groups can affect the political benefits of protection. When pro-trade interest groups are effective, the political costs of protection rise; when protectionist groups are effective, the benefits rise. This view appears in both economics (Pincus 1975 and many others) and political science (McKeown 1984; Gallarotti 1985). In the latter, the focus on interest groups usually falls under the heading "societal demands." Dixit and Londregan (1995) made the additional argument that ideological cohesion helps determine the effectiveness of interest-group lobbying efforts.

However, political scientists have made important contributions to understanding why the influence of economic ideas persists over time and why the effectiveness of their implementation can vary across countries. Goldstein (1993) and others explained this persistence by emphasizing that ideas

become institutionalized. Sikkink (1991) argued that the degree of ideological consensus affects the extent to which ideologies (or economic ideas about causal effects) become institutionalized. Waterbury (1993) and Hira (1998) emphasized the role of teams of technocrats (who believe in certain ideas) in producing policy changes. Thus, policy shifts often require major institutional changes (Mares 1990), which can often be implemented only in the context of economic crises and/or effective lobbying by influential interest groups (Goldstein 1993; Hira 1998).

The two disciplines also seem to follow different methods for testing hypotheses. Political scientists usually compare the determinants of trade policy (or development strategies) across a few countries or follow the evolution of policies in a few countries over time. The theoretical models proposed by political scientists usually are formalized, if at all, through schematic models. Economists, on the other hand, tend to test hypotheses using data-intensive econometric techniques. Their models tend to be mathematical, often aided by diagrammatic representations of the models. Nevertheless, political scientists have enhanced the sophistication of their modeling and empirical testing methods. For example, Lazer (1999) uses a structural simulation model to assess the quantitative impact of various variables on the spread of free-trade agreements in nineteenth-century Europe, and Karol (2000) tests many of the hypotheses about the effects of divided government on trade policy–making in the United States by applying econometric analysis. In spite of the methodological differences across disciplines, there does not seem to be a fundamental disagreement regarding the set of factors that determine both the structure and level of protection. Economic conditions, interest groups, ideas and ideologies, and institutions are potential determinants of commercial policies in developed and developing countries.

Chapter 2

Searching for Chilean Trade Policy Cycles

"Openness" and Policies

Chapter 1 reviewed the academic literature on the determinants of the level of protection. Many important contributions suggest that trade policies may follow periodic cycles. Goldstein (1993) argued that cycles are related to the dynamics of the "institutionalization" of economic ideas. Krueger (1993) suggested that such cycles are driven by economic outcomes, which may or may not be related to the policies themselves. Several others analyzed the potential causes of policy "persistence," defined as the continuity of policies over time, and the factors (such as severe economic shocks, including variations in the terms of trade) that determine the probability of policy changes (Cassing 1991; Bates et al. 1991; others). An implication that can be derived from these contributions is that policy regimes should be identifiable over the course of history. In this chapter I argue that the main move toward protectionism in Chile occurred right after the First World War, when severe economic conditions prompted changes in trade policies that became increasingly institutionalized during the 1920s.

The identification of policy cycles in Chilean economic history is already a cottage industry. This chapter reviews four perspectives on the historical periodization of Chilean trade policy (Cortés Douglas et al. 1980; Behrman 1976; Boeninger 1997; Luders 1998). This review reveals that there is no consensus, as claimed by Luders (1998), about the identification of periods in Chilean economic history. Hence, the remainder of this chapter examines the evolution of the level of "openness" of the economy from 1810 to

1995 and Chilean international trade policies during this period with the objective of identifying policy cycles. The episode of liberalization after 1973 is treated comprehensively in Chapter 4.

This chapter is organized as follows. Section I briefly reviews the four perspectives on Chilean political economy periods. Section II provides a brief conceptual discussion about how to characterize trade policy regimes. Following Rodrik's (1995) call to study the political economy of trade policies that produce an "anti-trade bias," which is analytically identical to Corden's (1974) "home-market bias" distortion, this section argues that policies are "protectionist" if they produce incentives for factors of production to move out of exports into import-competing sectors. Policies that have the opposite effect on the allocation of factors of production are characterized as "liberal." Simple diagrams are used to analytically distinguish among three policy regimes that create home-market biases in the structure of production. The effect of these regimes on the observed level of "openness" of the economy is also briefly discussed in this section.

Section III presents a descriptive analysis of the evolution of outcome indicators of "openness." Openness is measured by the ratio of trade flows (exports, imports, and their sum) to gross domestic product (GDP), both measured at constant domestic prices. The underlying assumption is that trade policies, by permanently changing relative prices, affect the economy's structure and its trade shares. This is so because *permanent* changes in relative prices provide incentives for factors of production to migrate across economic sectors into those with higher relative prices for their products. The use of data at constant prices avoids the direct effects of transitory variations in relative prices that do not necessarily produce changes in the allocation of productive resources across sectors. Calculating indicators of the level of protection based on policies is virtually impossible, as argued by Pritchett (1996), and thus the trade shares are the only plausible substitute.[1]

Long-run trend values of these trade ratios are likely to be reduced by trade-related policies with particular home-market biases, namely, export taxation and import substitution. In Section III, long-run trends of these openness indicators are calculated by applying the Hodrick-Prescott filter (Hodrick and Prescott 1981), which decomposes the data series into their cyclical and permanent components. This book is mainly concerned with the evolution of the latter. This analysis finds that Chile's long-run openness declined briefly during the 1870s and over a long period of time ranging from about 1910 to the late 1950s, with a very brief interruption from 1920 to 1924.

Other factors can produce changes in the trade-to-GDP ratios. Key fac-

tors are the international prices of exports and imports, which are not necessarily determined in the domestic market. Variations in the terms of trade can affect the import-GDP and export-GDP ratios measured at constant prices if they either produce persistent changes in the real exchange rate (that is, the ratio of the prices of tradable goods to prices of non-tradables) or they produce changes in macroeconomic conditions, which then lead to trade policy changes.[2] Also, it is possible that economic shocks, including terms-of-trade changes, create economic conditions that lead subsequently to policy changes.[3] Therefore, this section also evaluates the magnitude of terms-of-trade variations from 1910 to 1940.

Section IV discusses actual trade policies implemented in Chile from 1810 to 1995. The complete chronology of trade policies, compiled from secondary sources, is presented in Appendix C.[4] The overview of Chilean trade policies during this period focuses on two aspects of trade policies: direction and frequency. The direction of trade policy can be either protectionist or liberal, as defined in Section I. Frequency is defined as the average number of policy changes per year during ten-year periods.

Section V explores plausible hypotheses concerning the political economy of Chilean trade policies implemented from 1897 to the 1950s. More specifically, various episodes of trade policy changes (for example, in 1897, in 1921, and during the 1950s) are analyzed by focusing on the role of trade taxes as public revenues and the effect of inflation on trade policy. Special attention is then given to the political, institutional, and ideological contexts of the period from 1910 to 1939.[5] The description of policy debates is based on information provided by secondary and primary sources, including transcripts from legislative debates. Finally, this section proposes a new categorization of Chilean trade policy periods, which is based on concepts proposed by Goldstein (1993). Section VI summarizes the main findings of this chapter.

I. Policy Cycles in Chilean History: Four Perspectives

Table 2.1 shows periods of Chilean trade and development policy from the following four perspectives: Cortés Douglas et al. (1980), who are foreign-trained Chilean economists; Behrman (1976), who is a renowned professor of economics in the United States (this book was his contribution to the Foreign Trade Regimes Project led by Bhagwati [1978] and Krueger [1978] for the National Bureau of Economic Research);[6] Boeninger (1997), who is a leading Chilean political thinker and a former chief of staff for President Patricio Aylwin in the early 1990s; and Luders (1998), who was minister of

TABLE 2.1

Four perspectives on political economy periods in Chilean history

Cortés Douglas et al. (1980)	Behrman (1976)	Boeninger (1997)	Luders (1998)
1810–1830: Independence	1810–1849: From phase I to phase III		1820–1878: Liberal economy, phase I
1830–1860: Stability and boom	1850–1860: Phase VI	1830–1891: Oligarchic Republic	
1860–1900: Liberal	1861–1877: Phase V		1880–1929: Liberal economy, phase II
	1878–1882: Phase III or II consensus	1891–1932: Rupture of social	
1900–1930: Pre-Depression	1883–1929: Phase IV or V	1932–1958: Import-substituting industrialization	
1931–1938: Depression policies and normalization	1931–1955: Phase I and III		
1938–1952: Radical period			1940–1970: Forced import substitution
1956–1958: Klein-Saks	1956–1958: Phase III		
1958–1964: Alessandri	1958–1961: Phase IV	1958–1964: Alessandri	
1964–1970: Frei	1962–1964: Phase II	1964–1970: Frei	
	1965–1970: Phase III		
	1971–1973: Phase II	1970–1973: Allende	
		1974–1989: Dictatorship	1974–present: Social market economy
		1990–present: Democracy	

SOURCE: Compiled by the author.

finance in Chile in the early 1980s and is professor of economics at the Catholic University of Chile. Luders uses data from Braun et al. (1998) to analyze how economic performance (namely, the level of income per capita in dollars) varied relative to the U.S. and other economies during the three periods he identified.

Table 2.1 makes it clear that the four contributions listed do not necessarily agree on specific historical periods. This apparent disagreement is partly the result of different criteria and objectives the authors use to identify historical periods. Cortés Douglas et al. (1980) and Behrman (1976) attempt to categorize historical periods based only on Chilean trade and exchange rate policies. Yet, even their periods do not coincide. For example, in Cortés Douglas et al., the Liberal Era ends in 1897, when Law No. 980 revised import tariffs for the explicit purpose of protecting national industries (see Appendix C). In contrast, with a brief interlude during the War of the Pacific (1879–1883), Behrman extends the Liberal Era (that is, phases IV or V in the Bhagwati-Krueger nomenclature) until 1929.

Boeninger (1997) is concerned with broader issues of governance and institutional development. In fact, this author argues that his analysis focuses on the interactions between the political, economic, and social orders. Particular ideas, institutions, and the organization of interests characterize each "order" (Boeninger 1997, 27–34). Accordingly, the Oligarchic Republic (1830–1891) was characterized by institutional stability, which ended with civil war in 1891 (see Appendix D). However, this period is also marked by increasing public expenditures, fiscal imbalances, and macroeconomic populism (as in Dornbusch and Edwards 1990), which led to recurrent inflationary episodes.[7] This rise of state intervention in the economy and macroeconomic mismanagement occurred in the context of an "authoritarian" republic governed by the Creole aristocracy, without effective pressures from marginalized social groups (Boeninger 1997, 49). The period between 1891 and 1932 is then characterized as a time of political instability and experimentation with economic policies. Hence, it is not clear how this assessment can be compatible with those of the other authors listed in Table 2.1.

Luders (1998) considers economic policies that go beyond trade policies, thus emphasizing the broader question of the role and size of the public sector relative to the economy. He identifies the period from 1940 to 1970 as "forced import substitution." However, this period includes years when governments made valiant attempts to reduce the level of inflation and simplify the structure and reduce the level of protection. These efforts were launched initially with the Klein-Saks mission of foreign advisers to Chile in 1956. Hence, the other authors distinguish among subperiods that coincide

with the Klein-Saks mission and the administrations of Jorge Alessandri (1958–1964) and Eduardo Frei Montalva (1964–1970). This comparison at least reveals that the search for historical patterns of trade policy regimes in Chilean economic history is controversial.

II. Trade Regimes and Openness

Perhaps the strongest point Rodrik (1995) raised in his critique of the economics literature on the political economy of trade policy is that the key question to answer is why governments impose policies with an "anti-trade bias" rather than policies that promote trade. Corden (1974, 24–26) analyzes a by-product distortion, the "home-market bias," created by certain trade policies (tariffs and non-tariff barriers to imports) that is not produced by a policy regime of nondiscriminatory production subsidies combined with nondiscriminatory taxes on consumption. Corden analyzes the home-market bias of trade barriers in a three-sector economy and relies on a simple flow diagram.

Corden's approach is useful here, but I consider three different sectors: exportables (X in Figure 2.1), the import-competing sector (M), and non-tradables (NT). In Corden's treatment, the economy had three sectors. The export sector was divided into agricultural and manufacturing exports; the import-competing sector was only manufactures. The advantage of consolidating the export sectors into one and adding the non-tradable sector is that this setup allows for the analysis of the effects of exchange controls and other policies that attempt to maintain the price of tradables relative to that of non-tradables at a particular level. This consideration is important for the present study because exchange rate policies and controls were often used in conjunction with other protectionist instruments in Chile, while promotion policies without the home-market bias (that is, subsidies for the export of manufactures) were rare.[8]

POLICY REGIMES AND THE ALLOCATION OF PRODUCTIVE FACTORS

Figure 2.1 presents the framework, which focuses on only the production side of the economy while ignoring demand-side distortions (see Chapter 1). The objective is to analyze the impact of three policy regimes on the allocation of factors of production within the economy, which will then allow an assessment of the effect of these regimes on long-run trends in the level of trade openness.

As in Corden (1974), the arrows illustrate the direction of the flows of

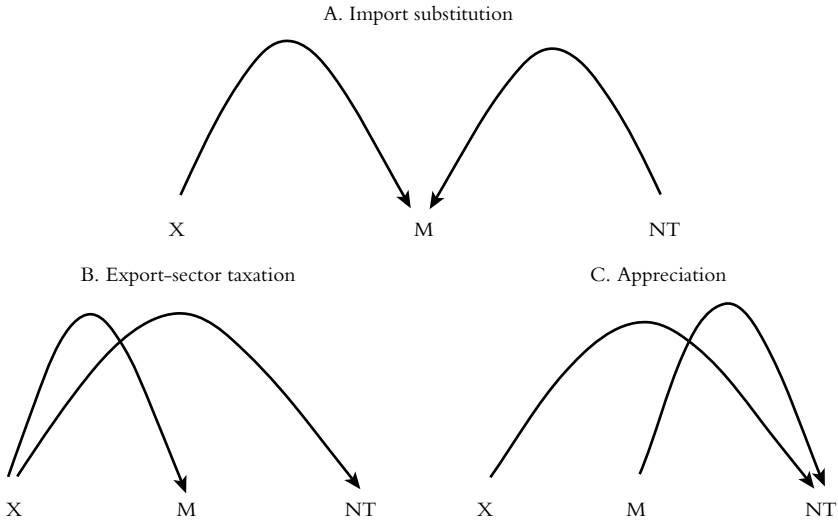

Figure 2.1. Three policy regimes and their home-market biases. Arrows show the movements of factors of production across industry aggregates that would be motivated by each policy regime. X indicates exportables; M, import-competing sector; and NT, non-tradables.

SOURCE: Author's adaptation of figures presented in Corden (1997, 19–20).

factors of production. Regime A is the well-known import-substitution regime. It results from the imposition of taxes or other restrictions, including discriminatory foreign exchange rationing, on imports. These restrictions result in an increase in the price of imports in the domestic market. It can also be caused by production subsidies for import-competing firms, which would not result in an increase in the price of these products for consumers. The restrictions or subsidies then raise the returns to factors used in the import-competing sector. Hence, factors of production flow into this sector and out of the other two. The export tax regime (Regime B) is one in which exports are taxed or otherwise restricted. The relative price of exports in the domestic market falls relative to the prices of imports and non-tradables. Hence, productive resources move out of exports and into the other two sectors.

The appreciation regime (Regime C) in Figure 2.1 illustrates the resource flows caused by policies that maintain an overvalued real exchange rate. When exchange controls of various types are imposed to reduce capital outflows, the relative price of non-tradables in the domestic market is set arti-

ficially high. If this effect lasts for some time, then it also will have resource allocation effects that favor the expansion of the non-tradable sector relative to the tradable sectors (exports and import-competing).[9] It is debatable whether this regime can be maintained indefinitely or whether it can effectively prevent capital outflows, because it leads to an imbalance in the current account as exports fall and imports rise. The resulting imbalance would need to be financed by additional capital inflows (or by disaccumulation of reserves in the short run).

This regime nomenclature is used here to differentiate among types of policies implemented throughout Chilean history. Appendix C presents the trade policy chronology and classifies policies as either "protectionist" (P) or "liberal" (L). P policies are those that increase the home-market bias of production *and* reduce the level of "openness" (that is, Rodrik's anti-trade bias). I return to the trade policy chronology in Section IV.

TRADE REGIMES AND OPENNESS

In an economy with the three productive sectors X, M, and NT, domestic production or GDP (call it Y) is the sum of the production or value-added by the three sectors. The value of production by each sector is proportional to the quantity of factors occupied in each. In the import-substitution regime, exports fall relative to Y because the X sector declines. As import-substituting industries grow, the value of imports falls, as does the ratio of imports to Y. Consequently, the sum of both ratios also falls. In the export-taxation regime, the contraction of X due to the migration of productive factors into the other sectors leads to a decline in X/Y. Moreover, some productive resources move into the import-competing sector and M/Y falls. Hence, the sum of the export and import ratios also falls.

In the real-appreciation regime, the growth sector is NT. The X sector declines and therefore X/Y also falls. The M sector declines, and thus M/Y rises. Hence, the effect on the trade share of Y is ambiguous. As Chile often applied export taxes, import barriers, and capital controls simultaneously, the analysis of the evolution of openness focuses on the three indicators of openness, namely M/Y, X/Y, and their sum.

Readers should also be aware that the ratios of international trade flows relative to GDP can fluctuate with changes in the costs of international commerce relative to the costs of domestic commerce. If such relative costs fall, then an economy will naturally experience an increase in trade-to-GDP ratios independently of changes in trade policies. Thus our analyses presented below need to be interpreted with caution because international transport

costs declined markedly during the nineteenth century (see O'Rourke and Williamson 1999).[10]

From a political economy viewpoint, however, increases in trade due to declining transport costs could have similar political ramifications as trade stimulated by trade liberalization. In other words, increases in international competition could be viewed as a threat by domestic interest groups or policymakers, depending on their ideas about how the domestic economy operates, even if trade is rising due to reductions in international transport costs. Indeed, Williamson (2003, 25) argues that "effective" tariff rates were rising around the world before 1900 partly as an urge by governments to protect their scarce factors of production at a time when imports were rising due to the fall in transport costs. All this implies that univariate econometric analyses of trends in trade ratios can capture changes in policy as well as changes in such costs. When international transport costs are falling and protection rises, but trade rises faster than domestic production, then such techniques will not capture a structural change in the behavior of this variable. This result implies that protection was not high enough to fully compensate for the rise of trade due to falling transport costs. If, in contrast, the estimates indicate a structural change in the behavior of the incidence of international trade on domestic production and consumption, whereby the ratio's trend turns from positive to negative when transport costs are rising, then this can be interpreted as evidence that policies were sufficiently protectionist to compensate for rising trade due to falling transport costs.

III. Overview of Chile's Openness

The conventional wisdom about the origins of import substitution in Latin American countries is that the turning point between liberal trade policies and protectionism occurred during the Great Depression of the early 1930s. Bulmer-Thomas (1994, 232), a reasonably moderate voice in the debate, states that although the 1930s were not a turning point in terms of the growth rates of the industrial sector in most Latin American economies (except Argentina), "changes in the 1930s can be seen as laying the foundations for a transition toward the pure import-substitution model, which reached its most extreme form in the 1950s and 1960s." In contrast, more recent work by Coatsworth and Williamson (2002) shows that Latin American import tariffs were far higher than elsewhere in the world during the nineteenth century, well before the Great Depression.

For the case of Chile, there is an alternative view represented by Hurtado

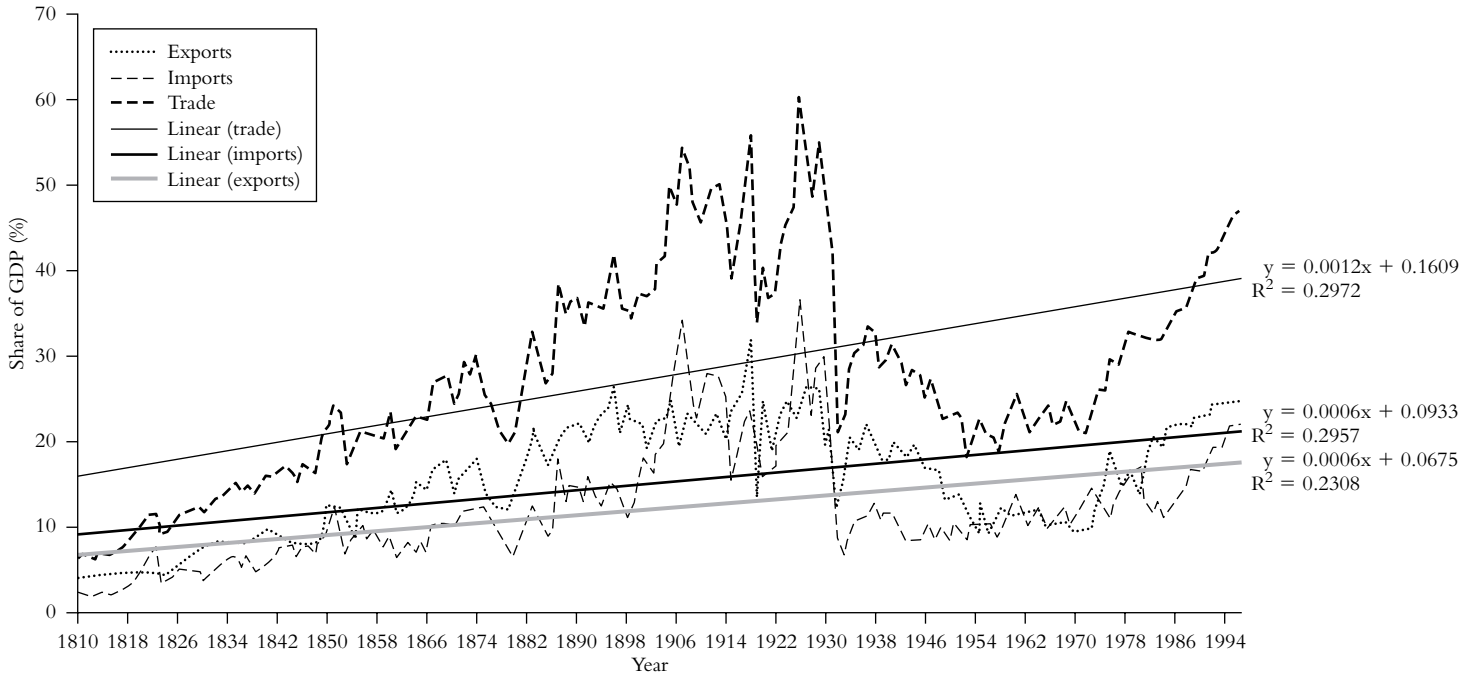

Figure 2.2. Trends in trade-to-GDP ratios in Chile, 1810–1995. Lines show the long-run trend in the three variables concerning the incidence of exports, imports, and their sum as a share of gross domestic product (GDP).

SOURCE: Author's calculations based on data from the economic history database at the Catholic University of Chile as described in Braun et al. (1998).

(1984) and Palma (1984), who argued that the transition away from liberalism occurred a decade before the Great Depression in Chile. Lagos Escobar (1966), Muñoz Goma (1967), and Palma (1984) present evidence of vigorous manufacturing growth during 1910–1925, which might be consistent with increases in the level of protection offered to manufacturing production during that period.[11]

This section provides a descriptive evaluation of when Chile turned away from its path to higher levels of openness.[12] The key result of this analysis is that the decline in the long-run (or trend) level of openness in Chile occurred approximately in 1910, and this decline accelerated after 1930.

THE EVOLUTION OF CHILE'S OPENNESS, 1810–1995

Figure 2.2 shows the three measures of openness (imports/GDP, exports/GDP, and total trade/GDP) for the whole period of 1810–1995. The three measures of openness tend to move together, albeit with some noticeable short-term deviations. This fact may create circumstances in history where one of the series experiences a structural break while the others do not. Therefore, the econometric tests presented in Chapter 3 are applied to the three time series separately.

The upward sloping regression lines in Figure 2.2 correspond to ordinary least squares (OLS) regressions with the trade shares of GDP as the dependent variables, and a constant (intercept) and the time trend as explanatory variables. The coefficients of the time trend are the slopes of the lines, which are positive. The estimated coefficient of the time trend for the total trade share implies that, on average for the whole period, the trade-to-GDP ratio rose by 0.12 percent per year.

The level of openness reached a zenith before the 1930s. The trade share reached 60 percent of GDP in 1926. The peak of the import share also occurred in 1926 when it reached 26.7 percent. In contrast, the export share reached its high point of 32.1 percent in 1918. Moreover, it is difficult to pinpoint a turning point from an upward to a downward trend in the measures of openness by simply looking at Figure 2.2 because such a break point could have occurred in any year between 1907 and 1930.

THE "TREND" COMPONENT OF CHILE'S OPENNESS

As mentioned above, trade policy regimes are more likely to affect the long-run trend than factors that have only transitory effects on trade shares together with secular and permanent declines in international transport costs. For this reason it is worthwhile to examine the evolution of the trend component of Chile's trade shares. The Hodrick-Prescott (1981) filter is a com-

mon technique used to isolate the trend component of time series. The trend component of the trade share (call it $\overline{R}$) is the one that minimizes the following sum:

$$\sum_{t=1}^{T} (R_t - \overline{R}_t)^2 + \lambda \cdot \sum_{t=2}^{T-1} [(\overline{R}_{t+1} - \overline{R}_t) - (\overline{R}_t - \overline{R}_{t-1})]^2. \qquad (2.1)$$

T is the time dimension, or the number of observations over time. For data from 1810 to 1995, $T = 184$. The first element in equation (2.1) is the square of the cyclical component of the openness series. The second element includes the smoothing parameter λ, for which, for annual data, the commonly used value is 100. The second element also includes the square of the difference in consecutive changes around year t in the trend level of openness. The Hodrick-Prescott filter estimates the trend component of the series as the value of $\overline{R}_t$ that *minimizes* annual (squared) changes in the level of openness plus (squared) deviations from that trend. In Figure 2.2, the OLS trend lines would be similar to the filtered data if the smoothing parameter λ, which penalizes variability in the trend component, were set to infinity. The advantage of the Hodrick-Prescott filter is that it allows for a more precise estimation of the trend values over time, which permits for over-time changes in the "trend" component of the series.[13]

Figure 2.3 shows the resulting trend values of the trade shares. The trend component rose for most of Chilean history. The import share declined briefly during the 1850s, and the three shares also declined briefly during the 1870s. But the most significant period with declining trade shares was roughly from 1910 to the 1950s, and it is unlikely that this turnaround was due to international transport costs, which continued to decline during this period. Also during this period, the total trade and import shares experienced only a short-lived increase in 1919–1925. The export share rose rapidly after the War of the Pacific (1879–1883), when Chile acquired the nitrate fields from Peru and Bolivia. It remained relatively stable after 1892 until 1925, when it declined until the late 1950s.

In equation (2.1), the only parameter under our control was the smoothing parameter λ, for which I used the standard value for annual data of 100 that is commonly used in the relevant literature. However, as pointed out by Ahumada and Garegnani (2000, 263), it is worth examining the resulting series with alternative values of λ. Two observations are in order. First, the resulting cyclical components from these calculations are *stationary*[14]; that is, they behave as expected in the sense that they tend toward a constant average of zero. Second, when alternative values for λ were used (for ex-

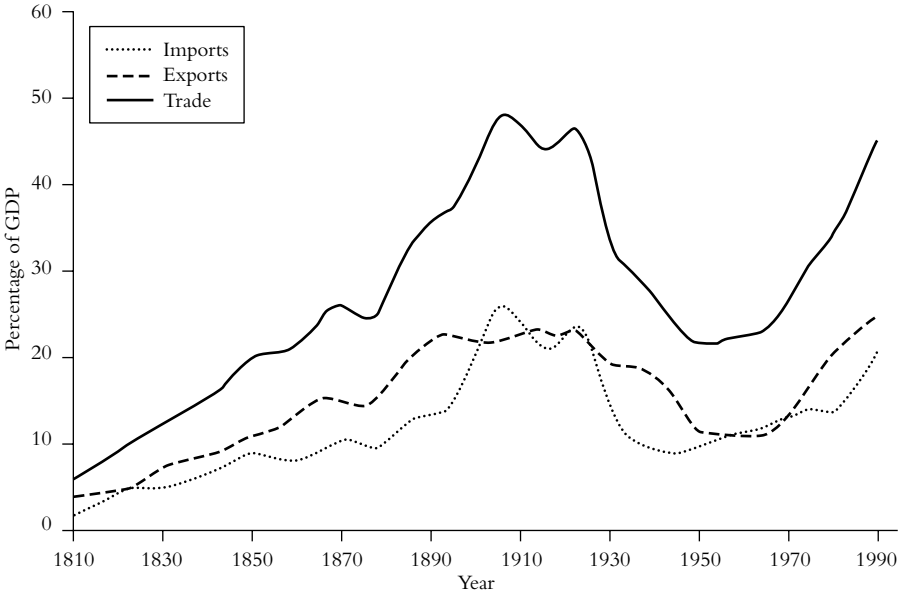

Figure 2.3. Trend components of the incidence of exports, imports, and their sum over gross domestic product (GDP). The curves show the evolution of the filtered series of the ratio of trade to GDP using the Hodrick-Prescott filter.

SOURCE: Author's calculations based on data from the economic history database at the Catholic University of Chile as described in Braun et al. (1998).

ample, 1,600, which is usually the value applied to quarterly time series), the resulting trend components were, as expected, smoother and had fewer inflection points. The resulting cyclical components were not stationary, however, and hence they were not truly "cyclical." Therefore, the results presented are not misleading or spurious.

The stability of the trade shares during the late nineteenth century, however, are consistent with rising trade barriers in Chile combined with reductions in international transport costs. The next section takes a closer look at Chilean trade policies, but first, I consider other factors that might have affected the trade ratios. Because of the apparent uniqueness of the period after 1910, the discussion below examines one factor that might be related to the evolution of Chile's openness during this time, namely, its terms of trade.

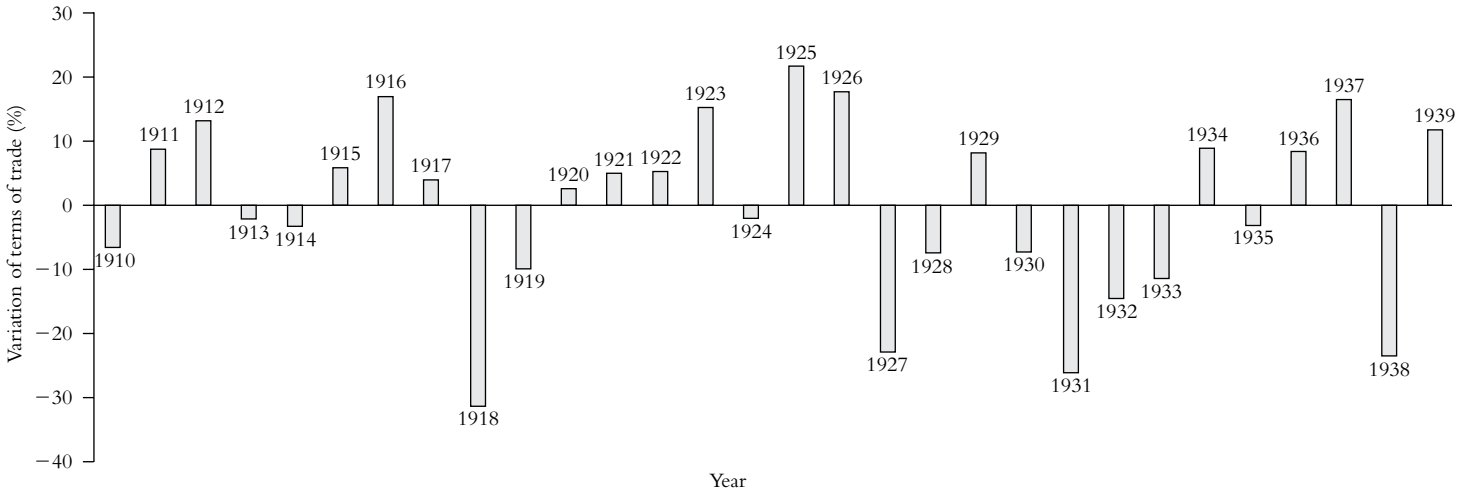

Figure 2.4. Annual percent variation of Chile's terms of trade, 1910–1939.

SOURCE: Author's calculations based on data from the economic history database at the Catholic University of Chile as described in Braun et al. (1998).

CHILE'S TERMS OF TRADE, 1910–1940

As mentioned above, the performance measures of openness can be affected by trade policies, which might be the response to economic shocks, as discussed in Chapter 1. Also, the trade-to-GDP ratios can be affected by variations in the relative price of exports (imports) with respect to domestic prices. Here I examine the magnitudes of terms-of-trade shocks and the evolution of the real exchange rates affecting exports and imports. The data set from Braun et al. (1998) fortunately provides the necessary information about the prices of Chile's imports and exports.

Figure 2.4 shows the annual variations of the terms of trade during 1910–1939. This variation was calculated as the percent change in the unit price of exports minus the percent change in the unit price of imports. It is noteworthy that the largest annual decline of Chile's terms of trade occurred in 1918, when the country's terms of trade deteriorated by 31.4 percent. This large deterioration was driven by the fall in the price of Chile's main export—nitrates—which were used for the manufacture of explosives and agricultural fertilizers during the First World War. However, when the conflict ended the demand for nitrates fell precipitously. Also, synthetic substitutes for nitrates were invented during the war.[15] The second largest deterioration happened in 1931 (26.3 percent), followed by the deterioration in 1938 (23.5 percent) and 1927 (22.7 percent). However, the decade of the 1930s contained the highest number of episodes of declines in terms of trade (six). During the 1920s there were only three years of negative variations in the terms of trade, and there were five during the 1910s.

The changes in the terms of trade on their own may be misleading in the sense that they are not an accurate measure of the magnitude of those changes relative to the domestic economy. For this purpose, Balassa (1986) proposed a current-account accounting approach for calculating the incidence of terms-of-trade shocks as a share of GDP. In order to isolate the impact from changes in prices of exports and imports, the accounting approach measures the magnitude of the change in prices relative to the previous year's export and import values over GDP:

$$\text{Export Price Effect} = \dot{p}_{x,t} \cdot \left(\frac{X_{t-1}}{Y_{t-1}} \right), \text{ and} \tag{2.2}$$

$$\text{Export Price Effect} = -\dot{p}_{m,t} \cdot \left(\frac{M_{t-1}}{Y_{t-1}} \right) \tag{2.3}$$

where the values of $\dot{p}$ are the annual percent change in the unit prices. X stands for the value of exports, M for the value of imports, and Y for GDP,

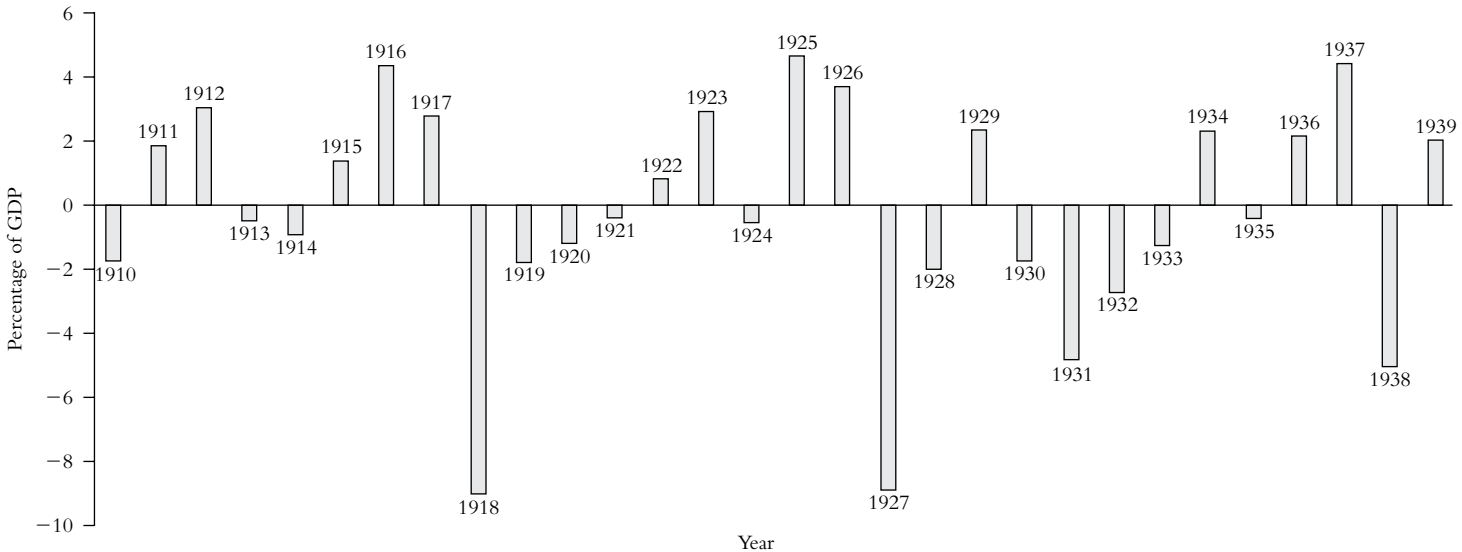

Figure 2.5. Terms of trade shocks as a share of Chile's gross domestic product (GDP), 1910–1939.

SOURCE: Calculations by the author as explained in the text, using data from the economic history database at the Catholic University of Chile as described in Braun et al. (1998).

all in domestic currency. The total terms-of-trade effect is simply the sum of equations (2.2) and (2.3). In words, this indicator tells us how big the terms-of-trade variations are relative to the preexisting level of openness of the economy.

Figure 2.5 shows the magnitude of the terms-of-trade shocks relative to the domestic economy. The largest deterioration occurred in 1918, which amounted to 9.0 percent of Chile's GDP. The second largest shock, similarly large, occurred in 1927, reaching 8.9 percent of GDP. The magnitudes of the shocks that Chile experienced during the 1930s were significantly smaller and did not exceed 5 percent of the country's GDP.

The question of interest here is whether the terms-of-trade shocks during the 1920s and 1930s can explain the behavior of the trend in the measures of openness during the 1920s. Shocks to the terms of trade can change the trend of the measures of openness because, as discussed in the previous chapter, economic shocks can lead to changes in policies, which in turn can produce persistence or hysteresis in the level of openness. In particular, the large magnitude of the terms-of-trade shocks experienced during 1918 and in subsequent years may have produced political pressures in favor of protectionism (see Chapter 3). The trade policies implemented during these period are analyzed in Section IV.

However, terms-of-trade shocks can also affect the level of openness (that is, the trade shares) by affecting the relative price of exports (imports) relative to domestic prices (or prices of non-tradables), as discussed earlier. This price ratio is affected directly by the changes in the export and import prices in international markets and by the behavior of the nominal exchange rate. This relative price can be thought of as being the real exchange rate of imports and exports. Hence, I now turn to the evolution of the real exchange rate for exports and imports separately.

EXPORT AND IMPORT REAL EXCHANGE RATES, 1910–1940

As mentioned, macroeconomic shocks can also be caused by sudden variations in the real exchange rate. Moreover, the real exchange rate for exporters can be different from the one for import-competing industries, as shown by the dramatic variations in the terms of trade. Hence, I constructed two indexes of the real exchange rate, one for exports and one for imports:

$$XRER = \frac{e \cdot P_x}{P_{GDP}} \quad \text{and} \quad MRER = \frac{e \cdot P_m}{P_{GDP}}, \tag{2.4}$$

where e is the nominal exchange rate, P the corresponding price indexes with base year 1910, subscripts x and m exports and imports, and P_{GDP} the

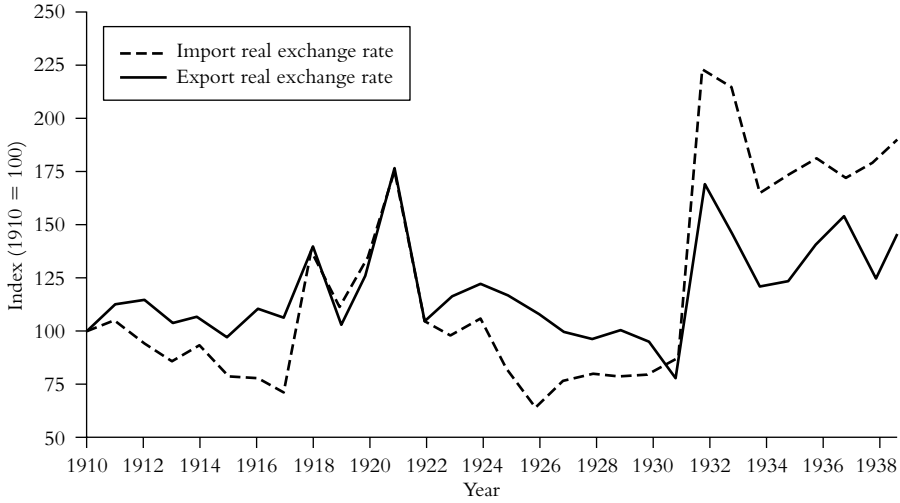

Figure 2.6. Export and import real exchange rates in Chile, 1910–1939. The lines show the evolution of the index of the price of exports and imports in domestic currency relative to the gross domestic product deflator price index as explained in the text. Both indexes were calculated to equal 100 in 1910. A rise in the indexes represents a real depreciation or an increase in the relative price of exports or imports.

SOURCE: Author's calculations based on data from the economic history database at the Catholic University of Chile as described in Braun et al. (1998).

GDP deflator price index. Again, the data come from Braun et al. (1998). Depreciations are captured by increases in these indexes, and appreciations by declining indexes. When the prices of exports (imports) fall (rise), and the nominal exchange rate rises, a real depreciation is observed only if the latter is greater than the former.

Figure 2.6 shows the evolution of these two indexes during 1910–1940. Between 1910 and 1917, the MRER appreciated by more than 25 percent, and the XRER remained relatively stable. In 1918, both depreciated, the XRER by more than 30 percent and the MRER by more than 90 percent. After a brief appreciation in 1919, both indexes continued their depreciation in 1920–1921. However, between 1922 and 1931 both appreciated considerably. In 1932, the ERER depreciated by 119 percent and the MRER by 157 percent.

How do variations in the real exchange rates affect the measures of open-

ness at constant prices? *If* nothing else changes, real depreciations should be followed, with a lag, by increases in X/Y and declines in M/Y, as the production of tradables becomes relatively more profitable than that of nontradables. This is the opposite effect of the appreciation regime shown in Figure 2.1. However, the evidence presented in Figure 2.3 does not support this reasoning. After 1920, the trend X/Y actually declined and M/Y rose. After 1932, X/Y declined again, while M/Y did decline as expected. The results for 1921–1925 could be explained by exogenous increases in the quantity of imports from abroad due to the recovery of the economies engaged in the First World War, and by the anti-trade bias of protectionist policies imposed during 1914–1921, especially in 1921. The stagnation of X/Y and fall of M/Y after 1932 are consistent with the imposition of policies with anti-trade biases. Hence, it seems that policy changes, perhaps in response to the macroeconomic crises associated with the terms-of-trade changes and currency depreciations, led to changes in trade shares.

IV. Overview of Chile's Trade Policies, 1810–1995: Frequency and Direction

Combined with the previous analysis of the evolution of the level of openness, this and the following section suggest a new categorization of periods in the political economy of Chilean trade policy over the course of history. The new proposed periods are as follows: The rise of the small open economy during 1810–1910, which includes the first explicitly protectionist tariff of 1897 imposed in the middle of an economic crisis; the period of delegitimization of liberal economic ideas during 1911–1927; the period of institutionalization of protectionism during 1927–1956; the period of delegitimization of protectionism during 1956–1973, which was due to protectionism's association with high inflation; and the period of intense unilateral liberalization from 1974 to the present.

Appendix C presents a detailed chronology of trade policy; the same information is presented in Figure 2.7. The framework discussed in Figure 2.1 was used to identify policy changes that raised the level of protection by increasing any of the three types of home-market biases (that is, those with a value of −1 in Figure 2.7). Episodes of policy changes that tended to reduce the home-market biases are labeled as episodes of liberalization (or +1 in Figure 2.7).

Figure 2.7 makes it clear that policy *frequency* or activism in this chronology was higher toward the right of the figure. Regarding the *direction* of

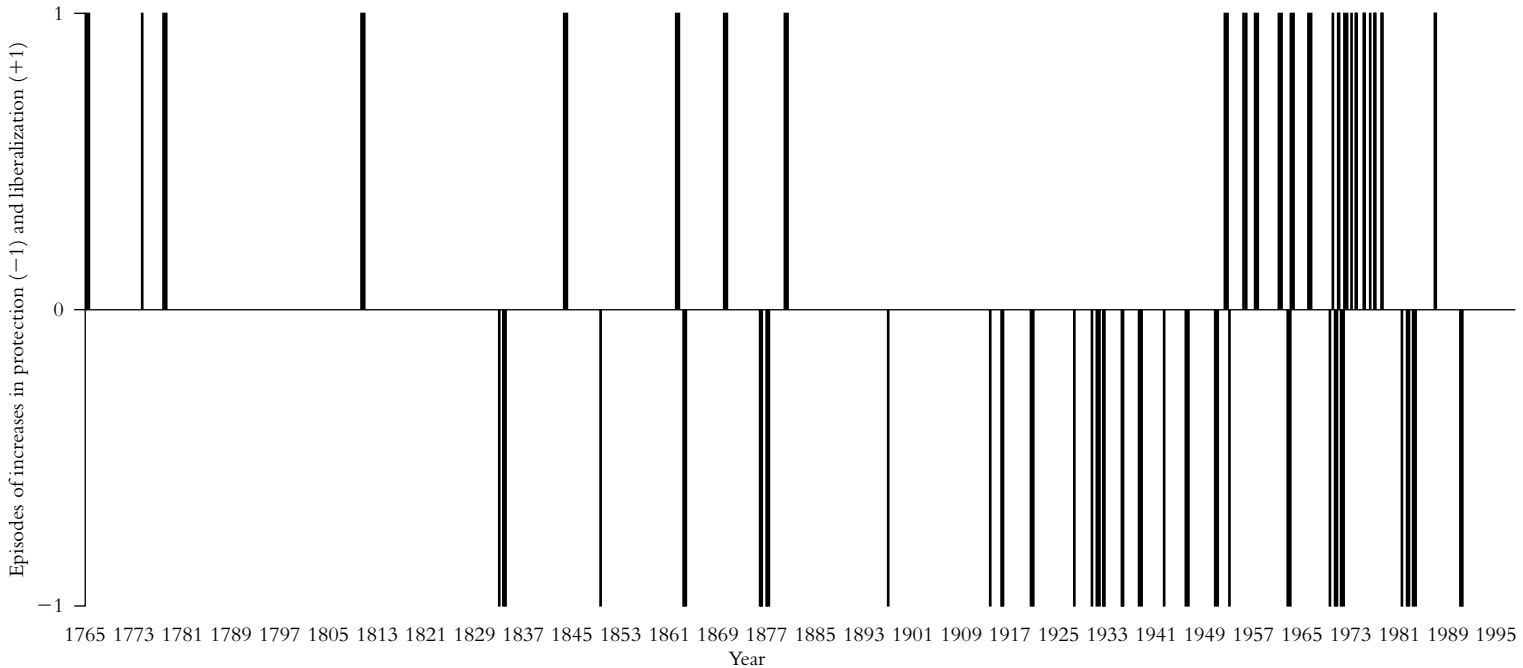

Figure 2.7. Trade policy changes in Chilean history, 1765–1995. The figure identifies years when trade policy was liberalized (value of +1) and when policy was made more protectionist (value of −1).

SOURCE: Data compiled by the author from various sources as summarized in Appendix C.

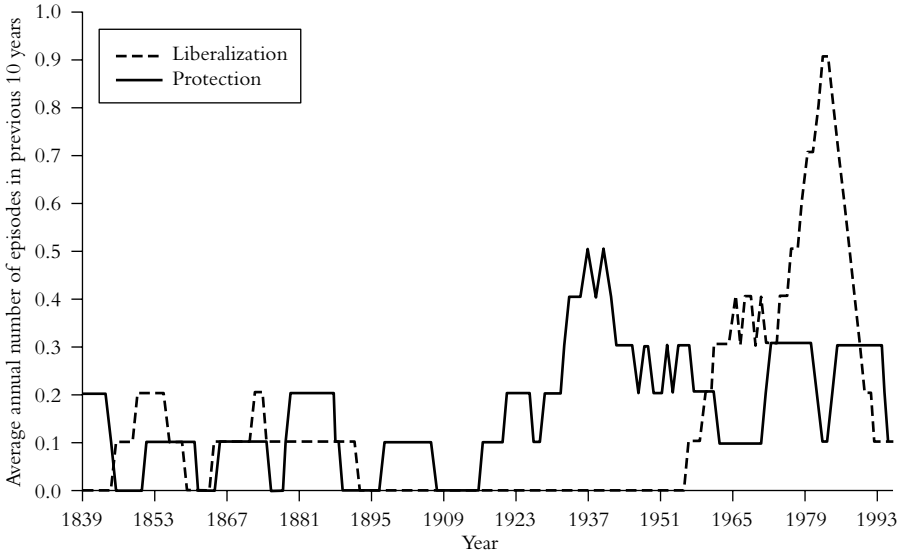

Figure 2.8. Frequency of trade policy changes in Chile, 1839–1995. The lines show the evolution of the average annual number of trade policy changes in periods of ten years.

SOURCE: Author's calculations based on data compiled by the author from various sources as shown in Appendix C.

policy changes, it seems that between the late 1910s, beginning in 1914 with the outbreak of the First World War, until the late 1950s, the general direction of the changes was toward higher protection (or increasing home-market biases).

These two observations are more clearly illustrated in Figure 2.8, which shows the average yearly occurrence of trade policy changes in both directions during ten-year periods. Policy activism jumped from 0.0 protectionist changes per year in 1887–1896 to 0.1 in 1898–1907. After a brief respite, protectionist policy activism jumped in 1924–1933 to 0.3 and rose to 0.5 by 1931–1940. Liberalization was more frequent in the 1960s, when it reached 0.3 and 0.4, and exploded during the period of intense unilateral liberalization between 1974 and 1982.

A major shift in the direction of policy activism occurred in the late 1890s, through the 1920s, when protectionist policy changes became more common than liberalization. In contrast, liberalization became more frequent during the late 1950s and early 1960s, and it exploded in the 1970s (see Chapter 4).

V. The Political Economy of the Rise of Protectionism in Chile

The academic literature reviewed in Chapter 1 highlighted several plausible hypotheses about the determinants of protectionism. Here, I explore a few of them in a descriptive and qualitative manner. More specifically, I examine the fiscal revenue motivation, the economic crises hypotheses, and the role of economic ideas or ideologies. These and other hypotheses are tested econometrically in Chapter 3.

TRADE TAXES AS FISCAL REVENUE AND THE TARIFF HIKE OF 1897

Figure 2.9 shows the evolution of the share of public revenues captured by trade (import and export) taxes during 1884–1957, based on a five-year moving average. The data sources are the Oficina Central de Estadística (1927), which covers 1880–1925, and the Ministerio de Hacienda (1959), which covers 1926–1957. The story is quite clear: trade taxes were a major source of public revenue throughout the latter part of the nineteenth century, through the early 1920s. During this time trade taxes provided, on average, between 70 and 80 percent of public revenues.

However, it is unlikely that the tariff hike of 1897 (see Appendix C), which was explicitly justified as a protectionist device, was motivated only by the need to raise public revenues.[16] The country entered into recession in 1896, when the growth of GDP per capita at constant prices declined by 0.6 percent. In 1897, it declined by 3.3 percent (Braun et al. 1998). Also, this increase in the level of protection was introduced amidst a short-lived attempt to establish a fixed exchange rate regime based on the gold standard during 1895–1898.[17] According to Hurtado (1984), this brief experiment with the gold standard was associated with a real appreciation, which led to a "commercial crisis." It was at this time that import-competing interests hurt by the appreciation and effectively represented by the Sociedad de Fomento Fabril (SOFOFA), which had been established in 1883, were able to get the protective tariffs they had been seeking since 1887 (Hurtado 1984, 43 and 50). Finally, the series of product-specific subsidies for certain import-competing goods, such as sugar beets, sulfuric acid, and fisheries, enacted at the turn of the century were obviously not motivated by revenue considerations (see Appendix C). Nevertheless, as discussed earlier, the trend level of openness did not begin to decline until 1910.

The importance of trade taxes as sources of public revenues began a steady decline in 1918, which lasted until 1925. This downfall is explained by the fall of export revenues caused by the collapse in the prices of Chile's

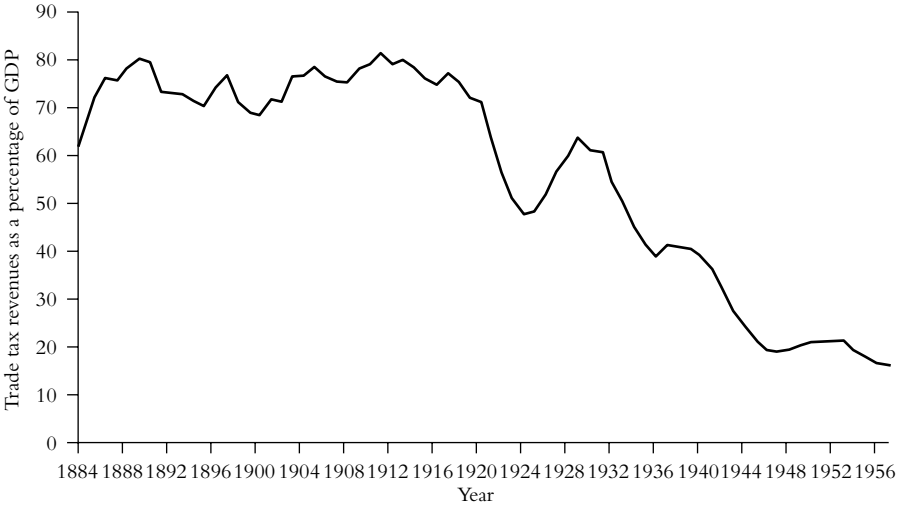

Figure 2.9. Trade tax revenues as a share of total public revenues in Chile, 1884–1957. The line shows the evolution of the percent contribution of trade-related taxes to total public revenues during this period. Each observation is the five-year annual average. GDP indicates gross domestic product.

SOURCES: Data from 1880 to 1925 come from Oficina Central de Estadística (1927). They refer to the ratio of trade (export and import taxes) over ordinary plus extraordinary revenue, excluding railroad revenues. Data from 1926 to 1957 come from Ministerio de Hacienda, Departamento de Estudios Financieros (1959). They refer to the ratio of trade taxes over total tax receipts of the Central Government.

major exports during the war. Although import quantities, especially of manufactures, increased during this time because of the recovery of supply by the former belligerents, prices remained relatively depressed. According to Mamalakis (1976, 29), the value of exports declined by 4.4 percent per annum in 1920–1925, and imports declined by 2.2 percent during the same period.

The increase of the share of trade taxes in public revenue during 1925–1929 could be due to the change in the source of the data series from 1926 onwards (see Figure 2.9). However, Mamalakis (1976, 29) reports that exports grew by 1.7 percent per annum during 1925–1928 and by 16.0 percent in 1928–1929. In any case, after the implementation of the income tax in 1924 and the supplementary income tax (*global complementario*) in 1925, the revenue motivation for imposing trade taxes declined.[18] This does not mean, however, that trade barriers would not be imposed under certain eco-

nomic conditions, such as during the balance of payments crises of 1930–1931 (and much later in the 1960s and 1980s), to aid the adjustment of the current account, perhaps to prevent the inflationary consequences of exchange rate depreciations.

INFLATION AND LIBERALIZATION ATTEMPTS IN THE 1950S AND 1960S

Inflation was historically a major concern of Chilean policymakers and specialists in economic development (Fetter 1931; Davis 1963; Hirschman 1963). Chapter 1 reviewed the work of several academics who focused on the political economy effects of inflation on trade policy decisions. High inflation seems to be associated with attempts at trade liberalization, either because liberalization lowers the price of imports (hence contributing to stabilization) or because inflation crises themselves open windows of opportunity for implementing broader economic reforms (Rodrik 1994; Pastor and Wise 1994; Bruno and Easterly 1996). In the case of Chile, inflation played a major role in promoting liberalization efforts, especially in the 1950s when inflation reached unprecedented levels and contributed to the delegitimization of the protectionist ideology.

Figure 2.10 shows the evolution of a ten-year moving average of the annual consumer price inflation rate. After the Second World War, in 1945, the average inflation rate rose above 10 percent. More importantly, as mentioned above in the review of four perspectives on Chilean historical periods, inflation reached unprecedented levels in the mid-1950s, coinciding (as shown in Figure 2.8) with the decline in the frequency of protectionist policies, which was followed by liberal activism in the late 1950s and 1960s. Consequently, the protectionism that dominated policies during 1897–1939 lost its allure with the rise of persistent inflation in the 1950s. While the Allende years (1970–1973) did represent a reversal of a trend toward lower levels of protection that started with the Klein-Saks mission in 1956, the degree of polarization and lack of consensus of the time at least reflect that there was no longer a predominant ideology.[19]

THE INSTITUTIONALIZATION OF PROTECTIONISM IN THE INTERWAR PERIOD

Initial Effects of the First World War There are three important economic analyses of the period between the First World War and the 1920s, one written by a Chilean national (Subercaseaux 1922) and two by U.S. economic advisers (Kemmerer 1926; Fetter 1931). These publications share several

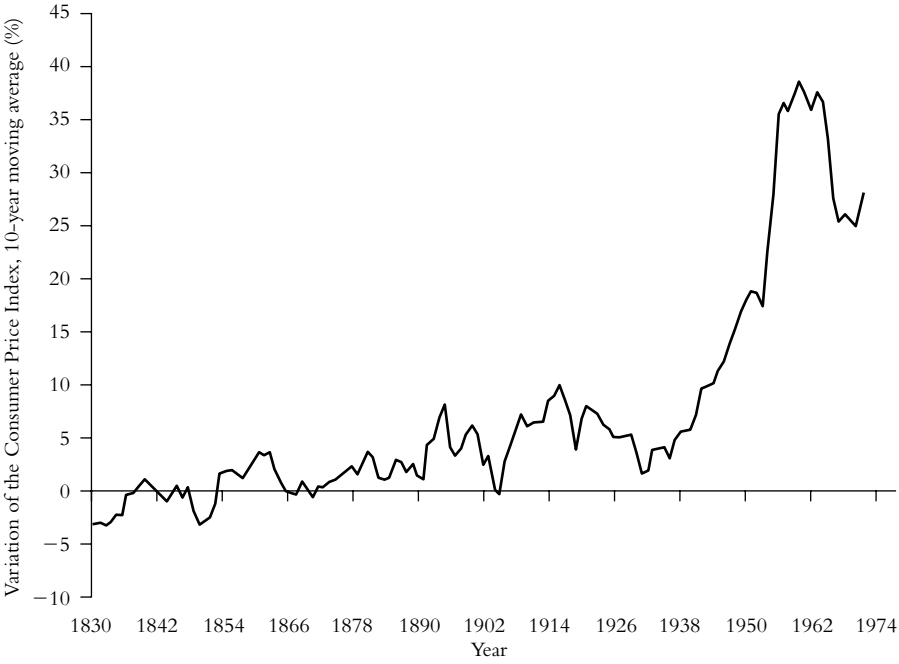

Figure 2.10. Consumer price inflation in Chile, 1830–1970. The line shows the evolution of average annual inflation rates calculated as the ten-year moving average of the percent variation of the consumer price index (CPI).

SOURCE: Author's calculations based on data from the economic history database at the Catholic University of Chile as described in Braun et al. (1998).

elements. First, the three authors knew each other personally and professionally. Guillermo Subercaseaux was a Chilean economist who also had a very successful political career as an elected legislator (House of Deputies, 1912–1916) and appointed technocrat (finance minister, appointed for a few months during 1907 and later in November 1919; governor of the Central Bank, 1925). Second, all three were advocates of the gold standard exchange rate regime, which is more a reflection of the era after many years of recurrent banking crises and unstable exchange rates of the paper peso. The three were also liberal in terms of their economic ideologies.

Subercaseaux (1922, 156–157) recalls the initial impact of the outbreak of the war as follows: "The situation was at first acute, amounting to a sort of economic crisis or panic." Several banks had to be rescued by the government, which issued promissory treasury notes to finance an injection of

liquidity into the banking system. On the trade front, the government changed the customs code and increased import levies and imposed special surcharges on preexisting trade duties in 1914. These protectionist measures were considered to be part of a larger effort to improve the fiscal balance, which had been hit hard by the temporary decline of nitrate prices. The fiscal efforts also included a reduction of public salaries by 10 percent and the imposition of taxes on alcohol, tobacco, gifts, estates, and stock transfers, plus other revenue-raising measures (Collier and Sater 1996, 169).

Chile was also suffering from an emerging crisis in its export sector, which fed the fiscal concerns. Subercaseaux (1922, 158) observed that

> on August 12, 1914, there was a law passed authorizing the government to make loans to the nitrate producers up to a certain amount per *quintal* of nitrate; and as the government had no available funds, and as there was no central bank or any other institution of that kind, it was necessary to resort to the issue of treasury notes of the same kind as those authorized for the negotiation of bank loans. The nitrate producers were to pay interest on these loans at the rate of 6 per cent per annum.

Even though the loans were at first authorized for a period of only one year, this authorization was extended until September 21, 1923 (Fetter 1931, 139).

The fact that the plan to rescue the nitrate industry was extended beyond 1915 is interesting from a political economy perspective. In the first place, the nitrate industry was controlled by native Chileans or naturalized foreigners and had been obtained through a war with neighboring countries.[20] Hence, aid to the industry was politically popular. The repeated extensions of the relief mechanism show that transitory measures did have a tendency to persist over time, even when the industry recovered quickly after the initial shock. In fact, the nitrate industry recovered quickly because of the increase in the price of Chilean exports caused by the demand from the belligerent countries. This was especially true for exports of nitrates used to manufacture explosives, but also for other primary goods (Subercaseaux 1922, 159). Table 2.2 shows the evolution of the prices of Chile's most important exports of the time—nitrates, copper, and wheat—during 1913–1917, all of which rose significantly between 1914 and 1916.

The impact of the war on the external trade of Chile was not limited to the export side; it also affected its imports, which declined significantly. Hence, the country's trade surplus expanded during 1915–1917, as shown in Table 2.3. Subercaseaux (1922, 161) further observed that the "decrease in imports was due to the lack of European exportation." The fall in import

TABLE 2.2
Prices of Chile's exports, 1913–1917

Year	Nitrate (shillings per quintal)	Copper (pounds sterling per English ton)	Wheat (shillings per English quarter)
1913	11.1	68.1	31.8
1914	10.2	59.1	34.1
1915	12.7	75.5	52.9
1916	17.9	112.2	58.1
1917	—	123.1	75.9

SOURCE: Subercaseaux (1922, p. 160).

TABLE 2.3
Chile's foreign trade, 1912–1917

Year	Imports	Exports	Net Exports
1912	334,454,779	383,227,949	48,773,170
1913	329,517,811	396,310,443	66,792,632
1914	269,756,699	299,675,435	29,818,736
1915	153,211,557	327,479,158	174,267,601
1916	222,520,828	505,962,916	283,442,088
1917	355,077,027	712,289,028	357,212,001

SOURCE: Subercaseaux (1922, p. 161).
NOTE: Values are in gold pesos of 18d.

values of European exports to Chile (coal, steel, machinery, and other manufactures) may seem puzzling when unit prices were rising. However, as Fetter (1931, 142) pointed out, the price increases were outweighed by the reduction in import volumes.[21] This environment of rising prices with declining foreign competition in manufacturing industries tended to create a propitious setting for the growth of infant industries in Chile. Subercaseaux (1922, 161) also supports this view regarding the effect of the First World War on the structure of domestic production: "Another effect . . . was an unprecedented development of the manufacturing industry. The rise of prices affecting products which [were] not procured from abroad . . . stimulated the manufacture of many of them at home. . . . Among the industries which prospered . . . were the cement industry, . . . the wool textile industry, . . . the manufacture of glassware, furniture, footwear."

The political economy effect of this transitory stimulus for the development of infant manufacturing industries in Chile during the war was felt after the "good times" ended. The manufacturing interests were sufficiently developed after the war so as to strengthen the protectionist pressures ex-

erted by their trade association, SOFOFA. Also, the authorities might have had a "conservative social welfare function," as described by Corden (1974; 1986b), whereby they attempted to ameliorate the decline in the income level of the industrial and other sectors hurt disproportionately by the fall in international prices and rise in foreign competition after the war.

As the economy expanded during the war, the economic policy debate returned to the issue of monetary policy and the exchange rate regime. Subercaseaux (1922, 162–163) recalls that appreciation of the gold value of the Chilean treasury notes due to Chile's rising export surplus aided the efforts of people, like himself, who had been supporting a return to the gold standard for some time.[22] Toward the end of the war, the main economic policy issue was still related to the monetary question.

Economic and Political Crises After the War and the Tariff Hike of 1921 On March 22, 1918, the minister of finance, Claro Solar, presented to Parliament a proposal for the establishment of a "Central Bank of Issue." The proposed law provided for the conversion of the paper peso at the exchange rate of 18d. (Subercaseaux 1922, 173; Fetter 1931, 158). However, toward the end of 1918, as the end of the war approached and especially after the Austrian withdrawal, the price of Chilean paper money began to depreciate. By November 1, 1918, the gold-peso exchange rate had declined to 13d. and by December it had reached 11.5d. (Subercaseaux 1922, 175–176). This depreciation of the Chilean currency was the natural by-product of the decline in the price of nitrates. In turn, the decline in the price of nitrates depleted public revenues. In addition, the prices of other Chilean commodity exports, such as copper and gold, also initiated a decline in 1918. Hence, the end of the First World War had planted the seeds of a major macroeconomic crisis in Chile, which engulfed the public sector as well as the nitrate and infant manufacturing industries that flourished during the conflict.

In 1920 a charismatic public figure, Arturo Alessandri, who became known as "the Lion," won the presidential elections promising to institute constitutional political reforms (discussed in more detail below). The small margin of Alessandri's victory was so controversial that a "Tribunal of Honor" was installed to review the vote count. On December 23, 1920, the tribunal ruled in favor of the Lion (see Collier and Sater 1996, 205–206; Vial 1996a).[23]

Alessandri had been nominated by the Liberal Alliance, a coalition of center-left parties, to be their presidential candidate. His electoral campaign has been labeled the "most confrontational" of all electoral campaigns ex-

perienced in Chile before that time (Boeninger 1997, 71). In 1921, after Alessandri had taken office, Congress raised import duties by 50 percent and levied special taxes (up to 100 percent) on a range of items. The evidence indicates that this trade policy change was an important episode in Chilean history because it represented, together with the increments in the level of protection implemented in 1914 and 1916, a turn toward higher levels of protectionist policy activism, which reached a zenith during the 1930s, as shown in Figure 2.8.

This episode of 1921 also reveals important insights regarding the political economy of protection. First, as shown in Figure 2.5, Chile experienced negative terms-of-trade shocks as a share of GDP every year during 1918–1921. I have also discussed the fact that during these years the nominal and real exchange rates of exports and imports depreciated significantly. Moreover, in 1921 the income per capita (at constant prices) declined by 14.5 percent (Braun et al. 1998), thus reflecting a situation of severe economic recession. These conditions, combined with the influence of protectionist interest groups, led to the increase in the level of protection.

The Industrialists and the Tariff Hike of 1921 In December of 1920, SOFOFA held its annual Meeting of Industries (Asamblea de Industriales). The summary of the approved resolutions, which appeared in the January 1921 edition of Sofofa's bulletin, is quite revealing in showing the importance the industrialists gave to the protective import tariff.

The first section of the resolution was titled "Protection and the Establishment of New Industries."[24] The first item listed under this heading set the organization's principal goal for the year: "to solicit from Legislative Chambers the approval of the project to revise the import tariff, which was introduced by the Executive on December 1919." The industrialists' ambitions did not end with this call to political lobbying; the membership actually demanded that Sofofa take "every opportune moment to insist . . . that the law be approved within one year, so that it will be installed by the time that the legal project to implement a transitory and general rise in the tariffs of 30–60 percent expires." In addition to these general objectives, other resolutions included the use of Sofofa to lobby for the "fast approval" of the special project to raise the import tariffs affecting cotton and wool textiles and to "recommend" the use of annual subsidies (*primas anuales*) for a period of no less than ten years for the establishment of the following industries: (1) electric steel furnaces, (2) manufactures of china and porcelain, (3) cellulose and wood paste, (4) flat glass, and (5) cultivation of beets for the pur-

pose of producing sugar. Hence, it is clear that political lobbying (or collective action) by the manufacturing sector played a key role in producing the change toward protectionism in Chilean trade policy during the early 1920s.

Protectionist Ideologies in the Early 1920s Protectionist views were unambiguously expressed during the legislative debates that took place during 1921 concerning the tariff hikes. Some participants in the debate clearly represented the interests of members of SOFOFA, particularly industries that developed during the war. For example, Senator Varas opposed an initiative by the Chamber of Deputies to exclude certain consumer imports from the tariff hikes. During the deliberations of 1921 he noted: "edible oils are being produced on large scale in the country. During the war, due to the scarcity of this article . . . our factories were stimulated to develop their production. Then why should we cut short their prosperity?"[25]

In general, however, protectionist ideologies were already predominant by 1921. Daniel Martner, the incoming finance minister appointed by Alessandri, for instance, described his ideological tendency in the following manner: "My opinion is the same as those expressed by the honorable senators who have addressed this issue. I am also protectionist, I believe that we must protect as much as possible our national industry, because I believe that the salvation and the progress of the country are tied to the protection of the national industry."[26]

Hence, the incoming administration was admittedly protectionist, in spite of the Liberal credentials of both Alessandri and Minister Martner.

A similar apparent paradox would later emerge in 1932–1938 when Alessandri was again president and appointed a liberal economist, Gustavo Ross, to head the Finance Ministry. The paradox is that during both periods, a liberal government presided over the periods of most active protectionist policies. Therefore, the liberal ideology, in vogue in Chile since the arrival of the French laissez-faire economist Jean Gustave Courcelle-Seneuil in 1855 to advise the government, had lost its practical influence by the 1920s.[27] Will (1957) argued that the economic liberalism became the predominant ideology during 1856–1878. As discussed earlier, Cortés Douglas et al. (1980) date the Liberal Era from 1860 to 1897. In any case, it is clear that, in Goldstein's (1993) terminology, economic liberalism was "delegitimized" after the First World War.

The end of the First World War and the economic turmoil Chile experienced led to significant pressures for changing the most important political institutions (Collier and Sater 1996, 202–203). Most of the key events

that transpired during this time are listed in Appendix D; however, a few aspects of the institutional and political context are worth highlighting here.

Institutional Change and the Institutions of Protectionism in the 1920s In his message to the legislative chambers of June 1, 1921, President Alessandri launched his proposals for constitutional reforms. In his opening remarks, the president stated, "Our political Constitution . . . urgently needs a general reform . . . that will adapt it to the demands of our times."[28] He further explained that the major change since the promulgation of the Constitution of 1833 was the increased "popular" participation in Chilean politics: "In the time of the promulgation and for many years thereafter, a limited number of people . . . arbitrarily led the Republic's government without any popular intervention and without the influence of that irresistible force that invigorates modern democracies, which is called public opinion."[29] Alessandri's main point concerned the rise of political participation, which he argued had led to divided governments incapable of passing needed legislation.

Alessandri's reform proposals were nothing short of radical. For example, the first item in his list of proposals was to take away the political (legislative) powers of the Senate, thus relegating it to a purely moderating role. He also suggested that the president should have the power to dissolve the Chamber of Deputies and call for parliamentary elections at least once during his mandate, and that the president should be directly elected.[30] These proposals were rejected by the legislature, until a series of events involving the military led to the adoption by plebiscite of a new constitution in 1925 (see Appendix D for details).

In this context of fundamental institutional change, the 1920s also brought new economic institutions. In 1925, for example, the gold standard was reinstituted and the Central Bank of Chile was established. In 1927, the incoming dictatorship of General Carlos Ibañez established the Ministry of Promotion (Fomento in Spanish), as part of his efforts to "modernize" the Chilean public administration (Ibañez 1983). Later, in 1928, an industrial development bank was established, the Instituto de Crédito Industrial (see Appendix C). The process of "institutionalization" of policies designed to protect domestic production was accelerated in the 1930s and culminated with the establishment of the Corporación de Fomento de la Producción (CORFO) in 1939.[31]

The precipitating event that led to the establishment of CORFO was an earthquake that shook Chile in January of that year. The left-wing coalition, called the Popular Front, had come to power in 1938 when Pedro Aguirre

Cerda defeated the right-wing candidacy of Gustavo Ross, who had served in Arturo Alessandri's second administration (1932–1938). The legislation that led to the establishment of CORFO was, therefore, introduced by a left-wing government into a legislature dominated by the traditional right-wing parties, the Liberals and the Conservatives.

The original legislative proposal actually aimed to establish two corporations. One was designed to provide public assistance for post-earthquake reconstruction during a finite period of five years. The other was designed to provide long-term assistance for development and was proposed as a permanent development organization. In spite of the apparent ideological division across the two branches of government in 1939, according to Finer (1947, 11), "There was no disagreement regarding the need for either Corporation; all wanted the development of production." Hence, protectionism became "institutionalized" in Chile by 1939, in the sense of the term used by Goldstein (1993).

The legislation that established CORFO was modified several times thereafter. Its final "founding" legislation (*Ley Organica*, or Organic Law in English) was passed on January 10, 1941. This law stated that CORFO was a "legal entity entrusted to formulate a plan for the promotion of national production." Much later, on April 5, 1960, the law was amended to change, among other things, the regulations concerning the financial credit practices of CORFO and, more importantly, to establish norms for the promotion of agriculture. The latter included fisheries, sugar beets, and other minor agricultural products, which seemed incompatible with the other activities of the corporation that had until then focused predominantly on the generation of electricity, the extraction of petroleum, the development of the steel industry, and the provision of subsidized credits for a long list of import-competing manufacturing industries besides steel (see CORFO 1945 and 1960).

The "Change Team" of Protectionism As mentioned in Chapter 1, Waterbury (1993) pointed out that policy reforms in developing countries are often associated with the incorporation of "change teams" into public service. Usually, this consideration is included in analyses of episodes of liberalization, such as the one presented in Chapter 4. However, it is applicable also for this period in Chilean history when trained engineers became inextricably linked with the institutionalization of protectionist ideas.

This link was analyzed in detail by Ibañez (1983) and to a lesser extent by Vial (1996b). Some examples will suffice to make the point clearly. By January 1928, the annual publication of the Instituto de Ingenieros (the guild

association of engineers) bragged about the influence of the engineers under the dictatorship of General Carlos Ibañez, who came to power intent on establishing a "modern state." Engineers held several key posts, including the comptroller general, the customs superintendent, and key positions within the Ministry of Promotion (Ibañez 1983, 9).

SOFOFA was particularly insistent on the inclusion of scientific analysis and the direct participation of the private sector in economic planning. These themes became central in the organization's lobbying efforts during the period between 1927 and 1939. For example, in 1934 the vice-president of SOFOFA, Walter Muller, writing in the organization's bulletin, argued in favor of the creation of a "National Economic Council" that would have the direct participation of representatives from the private sector (Ibañez 1983, 40). Later, in 1937, the publication *Industria*, which was also financed by SOFOFA, argued that "something is missing in the organization of the country, which can scientifically study a complete work program for the creation of wealth and general welfare" (Ibañez 1983, 45, translated). Hence, it is clear that the process of institutionalization of protectionism in Chile during 1927–1939 was accompanied by the integration of technocrats into public service, and this process was fully supported by the main pressure group of the industrialists.

POLITICAL ECONOMY CYCLES REVISITED

After review of the descriptive empirical evidence and the process that led to the institutionalization of protectionist ideology during 1920–1939, a last word is in order regarding Chilean trade policy cycles. The evidence supports the following five periods, based on Goldstein's (1993) terminology:

1. *Rise of the small open economy*: The period 1810–1910 saw a continuous rise in the level of openness. There was a noticeable reversal in the level of openness in the 1870s, but this did not lead to a persistent downturn in openness. The renewed trend toward higher levels of openness was in part driven by the conquest of the nitrate fields during the War of the Pacific. The tariff hike of 1897 and the minor efforts to support import-competing industries through subsidies in the early 1900s did reflect a modest turn toward protectionism, but the episode of 1897 took place during a time when fiscal revenues were still very dependent on the trade taxes and in a year of economic crisis. During this period, free-market ideas became fashionable, especially during 1860–1896.

2. *Delegitimization of liberalism*: The period between 1911 and 1927 was characterized by economic and political turmoil. The evidence reviewed here clearly indicates that liberalism was delegitimized. Protectionist ideas

became predominant both in practice and in public discourse, in spite of the fact that the Kemmerer mission of foreign advisers was brought in to facilitate Chile's return to the gold standard and the establishment of the Central Bank in 1925.

3. *Institutionalization of protectionism*: Between 1927 and 1939 protectionism became progressively institutionalized, with the active participation of a change team of engineers. The first significant step in this direction was the creation of the Ministry of Promotion under General Ibañez in 1927. The institutionalization of protectionism culminated with the establishment of CORFO in 1939. Protectionist activism, defined in terms of the frequency of policy changes, also reached a zenith during this period. Until 1956, protectionism was the predominant policy regime.

4. *Delegitimization of protectionism*: Beginning in 1956, under inflationary pressures, protectionism became progressively delegitimized. In 1956, a team of foreign advisers known as the Klein-Saks mission was invited to advise the government about stabilization, but the recommendations included steps to simplify and liberalize the protectionist regime. This process of delegitimization ended with the military coup of 1973.

5. *Rise of liberalism*: Liberalism rose again from 1974 to the present (see Chapter 4).

VI. Summary of Findings

The empirical overview of the evolution of Chile's trade as a share of domestic output showed that from 1810 to 1995 the general trend was toward increasing openness of the economy, or increasing dependence on international trade. The interwar period was characterized by high volatility in the measures of openness and by a decline in Chile's openness, thus showing that the turning point from increasing to decreasing dependence on international trade occurred sometime during this period. The exact year when this occurred is estimated econometrically in the next chapter.

This chapter also presented evidence highlighting the fact that the terms-of-trade shock of 1918 had a higher magnitude than any other during the interwar period, although negative shocks were more frequent during the early 1930s. In terms of the magnitude of these shocks measured as a share of GDP, the most severe declines in the terms of trade occurred in 1918 and 1927, and these shocks were almost twice as large as those that occurred during the 1930s. Hence, it is plausible that the move toward protectionist policies was triggered by the economic repercussions of these severe external shocks.

Broadly speaking, this chapter showed that the same sets of factors highlighted by the political economy literature—economic conditions, interest groups, ideas and ideologies, and institutions—were central to the rise of protectionism in Chile. This is noteworthy because it is one of the first comprehensive analyses of the rise of protection in a developing country that can be systematically compared with an episode of liberalization, which is treated in Chapter 4. However, qualitative analyses, such as the review of the institutionalization of ideologies presented here, are not capable of differentiating the effect of several factors that might simultaneously determine the trade policy stance of a country. Chapter 3 undertakes econometric analyses capable of testing various hypotheses simultaneously.

Chapter 3

International Trade, Structural Change, and Trade Policy Changes in Chile

Empirical Assessments

This chapter has two objectives, both of which require econometric analysis. The first objective is to identify statistically the years when Chile's indicators of openness seem to have undergone a "structural change." More specifically, the statistical question to be answered is: When did Chile experience an abrupt change in the time path of its share of international trade over domestic output? To answer this question I rely on data on the ratio of trade to GDP in Chile during 1810–1995, which was presented in Chapter 2. The econometric techniques used in this chapter are those proposed by Vogelsang (1997) and Bai and Perron (1998). However, the implementation of these methods requires pre-testing for the potential existence of unit roots in the selected time series. The augmented Dickey-Fuller test (Dickey and Fuller 1979; MacKinnon 1991) is used to detect unit roots in the trade shares.

The second objective of this chapter is to quantitatively assess various hypotheses discussed in Chapter 1 about the determinants of trade policy changes in Chile during 1830–1995. More specifically, I identify some empirical determinants of the probability of trade policy changes during this period. This is accomplished by estimating Probit regressions, where the dependent variable is the probability of a trade policy change implemented in a given year. This is done both for episodes of liberalization and for episodes of increased protection. In this exercise, the explanatory variables come from historical data provided by Braun et al. (1998).

The chapter is organized as follows. Section I provides an overview of the data and methodology used to test for the presence of structural breaks in the series of trade openness discussed in the previous chapter. Section II discusses the Vogelsang and Bai-Perron tests and presents the econometric results of unit root tests applied to the three openness indicators as well as the results of the two structural break tests. Section III discusses the data and methodologies used to identify the determinants of Chilean trade policy changes during 1830–1995. Section IV presents the corresponding econometric results. Section V summarizes the findings of both econometric investigations.

I. Searching for Structural Breaks: Data and Methodologies

The econometrics literature on structural breaks is quite extensive and has been growing rapidly in recent years. Maddala and Kim (1998) offer a useful literature survey. Tests of structural breaks have many limitations, and two important ones are relevant for this study. One common weakness of such tests is that they are not generally applicable to time series that exhibit certain types of trending behaviors, such as unit roots. Another relevant consideration is that many tests are designed to estimate single break points with a permanent duration, as opposed to multiple breaks with various durations.

The econometric methods utilized in this study for estimating the years of structural change are applications of the techniques suggested by Vogelsang (1997) and Bai and Perron (1998). Ben-David and Papell (1997) applied Vogelsang's test to estimations of break dates for trade share data for several countries in the post–World War II era. There has been no application in this field of the Bai-Perron technique.

There are two key differences between these two approaches. Vogelsang's supreme F-test can be applied to nonstationary time series (that is, series that have a unit root), whereas the Bai-Perron test is designed only for stationary series. The other difference is that the Vogelsang test does not allow for the estimation of break dates with varying durations; it is designed to estimate once-and-for-all breaks in the data-generation process. In contrast, the Bai-Perron test allows for the estimation of multiple break points with varying duration, assuming that the series is stationary. In practice, therefore, the tests cannot be applied to the same series. I used the Vogelsang test to estimate break points in the *level* of measures of openness, and the Bai-Perron test to test for breaks in the rate of change of these indicators. Consequently, although the use of both tests does not pose a statistical inconsistency, it does create a problem of inference. This is due to the fact that the tests are not

really applied to the same series. These drawbacks are carefully acknowledged in the presentation of the econometric results.

The three measures of openness used here are the ratio of imports, exports, and their sum to gross domestic product (GDP) estimated at constant domestic prices (of 1995). By definition, these are outcome or performance measures of openness that need to be distinguished from policy indicators of trade openness (see Baldwin 1989a and Pritchett 1996 for discussions of measurement issues). Nevertheless, the implicit assumption underlying the use of outcome indicators is that these indicators will reflect changes in trade policies. As mentioned in the previous chapter, these ratios are also affected by international transport costs, but we know that these have been falling secularly since the early 1800s. Thus the results derived from these univariate econometric techniques need to be interpreted with caution, because these techniques might not capture increases in protection during the period of declining transport costs. Furthermore, these measures do not include the direct (accounting) influence of terms-of-trade changes or variations in the nominal exchange rate because the series used in the analysis herein were calculated at constant import and export prices in domestic currency.[1] In any case, there are no better indicators of openness that lend themselves to time-series analysis, which is required to ascertain the years when structural breaks occurred. As discussed in the preceding chapter, this is a brand new data set from Chile's Catholic University (Braun et al. 1998) that has not been extensively analyzed. Luders (1998) analyzes the relationship between openness and economic growth comparing Chile with other countries.

The purpose of this study is to ascertain when Chile's trade-output shares changed abruptly, as opposed to evolving gradually. I first estimate break points using the Vogelsang supreme F-test for the trade shares, as done by Ben-David and Papell (1997) for a sample of countries (that excluded Chile) in the post–World War II era. Second, I apply the Bai-Perron test to estimate breaks with varying lengths of duration in the *rates of change* of the trade shares. In both cases, the tests are based on regression equations estimated via ordinary least squares (OLS) that include dummy variables representing every possible break year (actually, any year that is not too close to the beginning or the end of the sample) as explanatory variables, plus intercept and/or deterministic time trends (linear or quadratic).

THE VOGELSANG TEST

Following Ben-David and Papell's notation, the Vogelsang test entails estimating the following regression equation using ordinary least squares:

$$R_t = \mu + \beta_1 t + \beta_2 t^2 + \theta DU_t + \gamma_1 DT_t + \gamma_2 DT2_t + \sum_{j=1}^{k} c_j R_{t-j} + \varepsilon_t, \quad (3.1)$$

where R_t is one of the performance measures of openness; β, γ, θ, and c are the coefficients to be estimated; ε is the error term; μ is a constant, and t is a time trend. The inclusion of t^2 allows for a nonlinear time trend. Let the break year be represented by T_B. Then, dummy variables represented by DU_t in equation (3.1) are triggered (that is, become equal to one) when $t > T_B$. Likewise, $DT2_t = (t - T_B)^2$ if $t > T_B$, and is equal to zero otherwise.

The autoregressive term $\sum_{j=1}^{k} c_j R_{t-j}$ is included to account for serial correlation. Selecting the number of lags (k) is an empirical matter. Campbell and Perron (1991) suggest that empirical researchers should start with a maximum number of lags k and then estimate equation (3.1) with k lags. If the k lag is not significant, then Campbell and Perron advise rerunning the regression with $k - 1$ lags, and so on until the last lag is statistically significant. This is the procedure used for the present study.

Equation (3.1) was estimated sequentially for each possible break year T_B, where $0.01T < T_B < 0.99T$, where T is the total number of observations in the sample (180 in this case). That is, all possible break years must fall within a minimum distance from the beginning and end of the sample. I chose a 1 percent "trimming." The extent of the trimming affects the critical values of Vogelsang's test statistic, and Vogelsang (1997, 824–825) provides the critical values for 1 and 15 percent trimming. But the results presented below are identical with 15 percent trimming because the critical values are actually higher for 1 percent trimming.

Vogelsang's supreme F-test is the maximum, over all possible break years, of three times the standard F-statistic for testing $\theta = \gamma_1 = \gamma_2 = 0$ in equation (3.1). This means that the "true" break point is the one with the highest F-statistic that also surpasses the critical values provided by Vogelsang. These critical values depend on whether the variables being examined have unit roots and on whether equation (3.1) is estimated with the constant and the time trends. Regarding the latter, the intercept and the trends were statistically significant, and therefore they were included in the regressions discussed below. Regarding the unit roots, this consideration required some further analysis to ascertain whether the trade-share variables have unit roots.

In general, unit root tests examine the following data-generation process:

$$R_t = \alpha R_{t-1} + \varepsilon_t, \quad (3.2)$$

where the focus is on the magnitude of the autoregressive coefficient α. If $\alpha = 1$, the series has a unit root, implying that disturbances (or shocks) will have permanent effects on the time series. By subtracting R_{t-1} from both sides of equation (3.2) and rearranging, this model becomes

$$\Delta R_t = \beta R_{t-1} + \nu_t, \tag{3.3}$$

where $\beta = \alpha - 1$. Unit root tests generally test the null hypothesis that $\beta = 0$ (which means that $\alpha = 1$), and the alternative hypothesis is that $\beta < 1$ (which means that $\alpha < 1$). Dickey and Fuller (1979) showed that the distribution of the standard *t*-statistic for β is not standard when the null hypothesis cannot be rejected. MacKinnon (1991) provides a large set of critical values for the *t*-statistic.

Additional complications of unit root tests are that a series can be stationary around a non-zero mean (call it η) and/or around a deterministic time trend. The consideration of these two factors changes the distribution of the *t*-statistic. Furthermore, a series could have higher-order serial correlation, which does not affect the distribution of the *t*-statistic but does affect the consistency and efficiency of the estimated β in equation (3.3). To control for these factors, I use the so-called augmented Dickey-Fuller (ADF) test, which includes several lags of the ΔR in the right-hand side of equation (3.3). More specifically, the estimated regression when including all these factors is

$$\Delta R_t = \eta + \beta R_{t-1} + \delta_1 \Delta R_{t-1} + \delta_2 \Delta R_{t-2} + \cdots + \delta_{p-1} \Delta R_{t-p+1} + \nu_t. \tag{3.4}$$

Table 3.1 shows the results for the ADF test for the variables in levels and differences. The results are clear: I cannot reject the unit root hypothesis for any of the three measures of openness in levels, under any specification. These results imply that disturbances to the measures of openness (ν_t) tend to have permanent effects on Chile's trade dependence. But the series in differences do not seem to have a unit root in most specifications. That is, innovations to the growth rate of openness indicators tend to be transitory. These results will affect the specification of the Bai-Perron tests discussed below.

THE BAI-PERRON TEST

Bai and Perron (1998) propose another class of structural break tests designed for *stationary* time series. These authors propose a sequential test for estimating multiple break points. Intuitively, the procedure first tests the null hypothesis of no breaks versus the alternative of a single break. This can be

TABLE 3.1
Augmented Dickey-Fuller unit root tests for measures of openness in Chile

Variable	No intercept (−1.62)	Intercept (−2.58)	Intercept and trend (−3.14)
Imports/GDP			
4 lags	−0.29	−2.15	−2.41
8 lags	−0.14	−2.00	−2.18
12 lags	0.04	−1.58	−1.83
16 lags	0.20	−1.56	−1.61
Change in Imports/GDP			
4 lags	−5.98*	−6.00*	−5.99*
8 lags	−5.56*	−5.61*	−5.58*
12 lags	−4.26*	−4.33*	−4.30*
16 lags	−4.10*	−4.20*	−4.19*
Exports/GDP			
4 lags	0.50	−1.63	−1.78
8 lags	0.72	−1.48	−1.54
12 lags	0.61	−1.68	−1.72
16 lags	0.39	−1.77	−1.93
Change in Exports/GDP			
4 lags	−8.02*	−8.14*	−8.12*
8 lags	−4.98*	−5.16*	−5.16*
12 lags	−3.12*	−3.32**	−3.32***
16 lags	−2.42**	−2.60***	−2.55
Trade/GDP			
4 lags	0.34	−1.70	−1.89
8 lags	0.57	−1.53	−1.61
12 lags	0.65	−1.38	−1.43
16 lags	0.57	−1.46	−1.51
Change in Trade/GDP			
4 lags	−6.58*	−6.67*	−6.65*
8 lags	−5.26*	−5.41*	−5.39*
12 lags	−3.07*	−3.23**	−3.19***
16 lags	−2.89*	−3.07**	−3.02

SOURCE: Estimates by the author—see text.

NOTE: GDP indicates gross domestic product. MacKinnon 10 percent critical values are in parentheses.

*Reject unit root hypothesis at 1 percent level; **reject at 5 percent level; ***reject at 10 percent level.

done for breaks of varying durations, as long as the duration of the break occurs beyond a minimum distance from the beginning and the end of the sample and as long as the breaks do not overlap. In turn, if one break is identified, the sample is broken at that break point, and the test is applied again to the split samples. In this second round the null hypothesis is that there is only one break and the alternative is that there are two breaks. In practice the regression model is the same at each stage, but the critical values for finding additional breaks become stricter with each successive test.

The Bai-Perron test in this case is applied to the measures of openness in

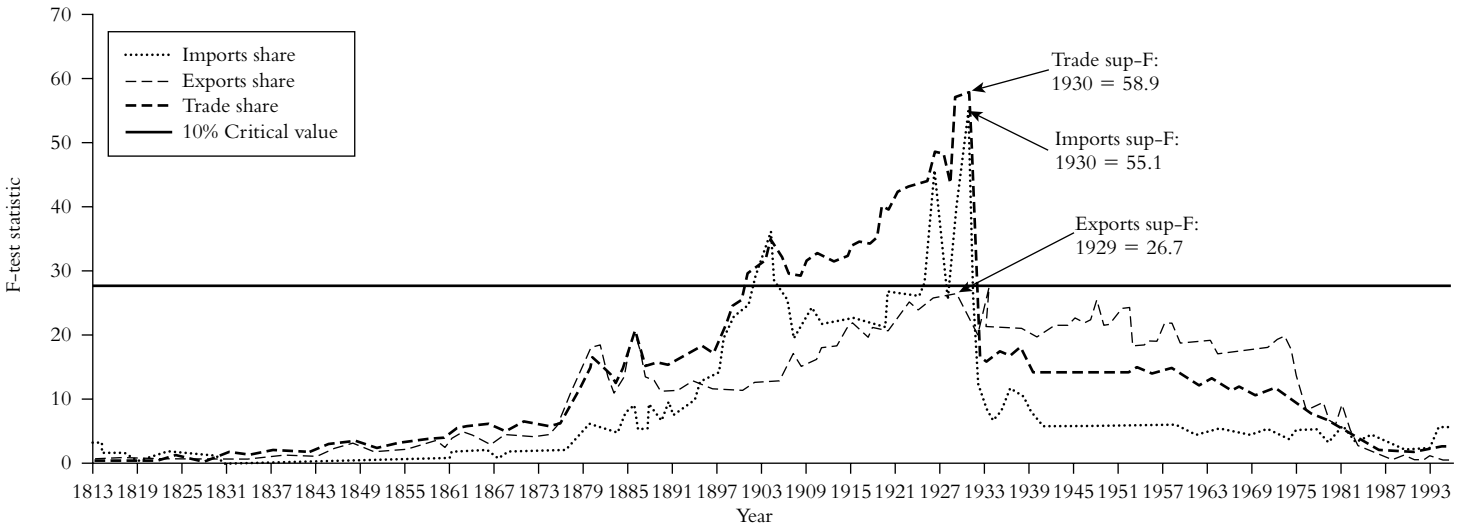

Figure 3.1. Vogelsang supreme F-statistics. Figure shows estimates of the Vogelsang F-test, supreme F-test (Sup-F) values, and the 10 percent critical value for a single-break test in the ratios of trade to gross domestic product. The lines join the F-test statistic for each year as a potential structural break year. The horizontal line shows the critical value above which the F-test for a structural break is significant at the 10 percent level. The highest values are the supreme F-test.

SOURCE: Author's estimates as explained in the text.

differences because this transformation of the series is stationary, as discussed earlier. The test was designed to examine whether the average growth rate of the measures of openness experienced significant change during certain periods of time. This structural change model has a simple specification:

$$\Delta R_t = \eta + \beta DT_t + \varepsilon_t. \tag{3.5}$$

Let T_B be any possible break year that is at least $0.05T$ from the beginning of the sample (with T observations). The reason for establishing this criterion is that Bai and Perron (1998) provide critical values for the F-statistic that tests the null hypothesis that $\beta = 0$ only for this restriction. In equation (3.5), $DT_t = 1$ if $t > T_B$ for any duration. In the present study the Bai-Perron test was first applied to the whole sample for every possible single break point of three years. The significant F-statistics (that is, those exceeding the 10 percent critical value of 8.02—see Bai and Perron [1998, 61]) for breaks of this duration were then saved. The same test was implemented for every possible break of four years, the significant ones were saved, and so on.

II. Structural Break Test Results

Since the series in levels seem to have unit roots, the Vogelsang test for structural breaks is appropriate. The results of the supreme F-test for all possible break years for the case of 1 percent trimming are shown in Figure 3.1.[2] The 10 percent critical value for Vogelsang's F-test for series with unit roots, 1 percent trimming, and significant intercepts and time trend is 28.11. Figure 3.1 includes a horizontal line at that level.

The supreme F-statistic for the total trade share occurred in 1930, and it is significant at the 1 percent level. The break point for the import share also occurred in 1930 and is also significant at the 1 percent level. In contrast, the export share does not have a statistically significant break year because the highest F-statistic for these series reached 26.7 in 1929 but did not exceed the 10 percent critical value.

As mentioned earlier, an important weakness of the Vogelsang test is that it does not allow for multiple breaks. For example, Figure 3.1 shows that there were some years at the beginning of the twentieth century that had F-statistic values above the critical value, but these were discarded as potential break dates because they were not the highest for all possible breaks. The reason the Vogelsang test relies on the maximum or supreme F-statistic is that the models specified with different break years are not mutually consistent. This occurs because a break is characterized as a permanent change in

TABLE 3.2
Bai-Perron single structural break test results

F-statistic	Duration (years)	Break year	$DT_t = 1$ range
Trade/GDP			
31.17*	3	1929	1930–1932
20.13*	4	1929	1930–1933
16.75*	5	1927	1928–1932
18.80*	6	1926	1927–1932
14.52*	7	1926	1927–1933
8.32***	8	1924	1925–1932
8.09***	14	1918	1919–1932
Imports/GDP			
21.09*	4	1929	1930–1933
12.20**	5	1929	1930–1934
14.79*	6	1926	1927–1932
17.11*	7	1926	1927–1933
11.55**	8	1926	1927–1934
Exports/GDP			
12.19*	3	1929	1930–1932
9.19***	4	1928	1929–1932

SOURCE: Estimates by the author—see text.

NOTE: GDP indicates gross domestic product. Only significant break points are listed.

*Significant at 1 percent level, **5 percent level, ***10 percent level.

the data-generation process. Therefore, a break in the 1920s is not consistent with a later break in the 1930s. The highest one wins.

The Bai-Perron test can identify multiple breaks with a given duration. Hence, for each duration period, the break point with the maximum *significant* F-statistic was chosen to split the sample. Then the test was run again using the same duration. The results for the single break point are presented in Table 3.2. No significant second breaks were found in any of the specifications, not even for the 1970s when Chile returned to its path toward higher levels of openness. This finding is significant on its own. It reveals that the return of liberalism in 1974 did not represent a break with the past. Rather, the real break in Chilean history occurred with the turning point from liberalism to protectionism. The specific date of this break point is the subject of Table 3.2.

The Bai-Perron results show that the three series do not necessarily have the same break years. The export share had two significant breaks: 1929 when the duration was three years, and 1928 when the duration was four years. The import share had a break in 1929 when the specified duration was either four or five years, and 1926 for durations ranging between six and eight years. The total trade share had a break in 1929 for the specification

with three and four years; 1927 for five years; 1926 for six and seven years; 1924 for eight years; and, finally, 1928 for fourteen years.

In general, it seems that the break year tends to go back in time from 1929 as the duration of the break is allowed to increase. The last column in Table 3.2 shows the range (years) covered by the break dummy $DT_t = 1$. It is noteworthy that for all the cases of significant breaks, the range ends in the early 1930s. The large magnitude of the fall in the early 1930s (see Figure 2.3) is driving the very high F-statistic values estimated for models with short break durations, which indicate that 1929 was the break year. In other words, I can distinguish between the change in direction in the growth rate of the measures of openness—from positive to negative—which probably occurred in 1918 or in the first half of the 1920s, and the large magnitude of the fall in the measures of openness that occurred in the early 1930s. These results provide evidence that it is likely that the turning point in the rate of change of Chile's openness started before the Great Depression, which hit Chile in earnest around 1930 (Behrman 1976; Monteon 1998; others). From this empirical viewpoint, a reasonable interpretation is that although the turning point occurred earlier, it is likely that the impact of the Great Depression tended to accelerate the downward trend in Chile's openness that was initiated in the aftermath of the First World War.

So far the econometric analyses have not directly identified the determinants of Chilean trade policy. Rather, I have only identified probable break years of the outcome indicators of openness. In theory, it is well understood that various factors besides trade policies can affect the evolution of a country's trade-to-GDP ratio. One of the most important determinants of this variable is the combination of geographic distance to the major world markets and international transport costs (see, among many others, Eaton and Kortum 2002). Thus it is possible that trade policies might have become protectionist even in the nineteenth century, as argued by Coatsworth and Williamson (2002), but trade kept rising as a share of GDP until after World War I because of the worldwide reduction of international transport costs. In fact, O'Rourke and Williamson (1999) report that by 1920 international transport costs had fallen to a quarter of the costs observed in at the beginning of the eighteenth century.

III. The Determinants of Policy Changes: Data and Methodology

The previous econometric investigation identified possible break points in the evolution of Chile's trade-to-GDP ratios. Here I focus on the empirical determinants of trade policy changes. Ideally, a study of the determinants of

trade policy would estimate the impact of various variables motivated by the existing literature (see Chapter 1) on the level of protection. Unfortunately, information required to conduct such a study is not available for the Chilean case over a long period of time. There are several reasons for this. An important limitation is that little data are available for measuring the level of protection. However, even if I had access to time-series data on the levels of nominal tariffs, for example, that would not suffice. Non-tariff barriers (NTBs) would also need to be considered, and many different NTBs have been applied in Chile over time, as discussed in Appendix C. Moreover, measuring the magnitude of NTBs is virtually impossible to do. That is why most empirical analyses of the determinants of NTBs use the NTB coverage ratio, which simply provides the percentage of import products that face at least one NTB (Laird and Yeats 1990; Pritchett 1996; Baldwin 1989a). In any case, not even these types of data are available for the case of Chile over long periods of time.

There are advantages to studying the determinants of policy changes rather than the level of protection. The political economy literature, as discussed in Chapter 1, has focused on policy regimes. Such regimes are initiated, reformed, or eliminated through policy changes. Consequently, by studying the determinants of trade policy changes, I am examining the causes of policy regime changes as well. In other words, as emphasized by Corden (1986b, 7–8), one of the key questions about the political economy of protection is related to the causes of policy changes: Why do policies change in one year and not in others? This is the question to be addressed here. More specifically, the rest of this chapter aims to identify the determinants of the yearly probability that Chile changes trade policies. Two econometric models are estimated to accomplish this task. The first explains the probability of liberalization in any given year; the second explains the probability of increases in the level of protection. The two models are estimated, first because it is worth comparing systematically the determinants of liberalization and protection episodes, and second because there are three possible policy outcomes in each year: no change in policy, an increase in protection, and liberalization.

DATA

The Dependent Variables Appendix C identifies all major trade policy changes in Chilean history during 1765–1973. Each policy change is characterized as being either an episode of liberalization or an increase in protection. As discussed in Chapter 2, this categorization of the policies was done according to whether the policies tended to reduce or increase the home-market

bias of domestic production. Here I use this categorization to construct dependent variables for the econometric exercises.

Two limited dependent variables were created: one that identifies years of liberalization and one that identifies years of increased protection. In both cases, the dependent variable equals one when the corresponding trade policy change was implemented. For the remaining years in the sample, the dependent variable has a value of zero. As discussed below, this dichotomous nature of the dependent variables determined the econometric technique used in the estimations.

The Explanatory Variables The literature review presented in Chapter 1 is a good guide for choosing the explanatory variables. Unfortunately, because of data limitations, not all plausible hypotheses about the determinants of trade policies in developing countries can be tested. Also, the period of time covered by the econometric analyses was limited to 1830–1995 because of problems of data quality for earlier years. In particular, the data set does not provide reliable estimates of the manufacturing employment share before 1854.[3] The hypotheses for which Braun et al. (1998) provide relevant data are considered here:

1. *Fiscal concerns*. Corden (1974, 45–48) discusses the role of costs of tax collection in determining the welfare effects of trade taxes. In Chapter 1 I mentioned that in the presence of tax-collection costs, policymakers who are concerned about national welfare choose to impose trade taxes in order to raise revenues. It is then reasonable to expect that trade policies will change in years when there is a pressing need to raise revenues. Hence, to examine the validity of this hypothesis, the econometric models to be estimated include the fiscal balance, or the difference between the general government's revenues and its expenditures, as a share of GDP. The expectation is that the probability of liberalization will be higher when the fiscal balance is higher, and the probability of raising protection will be lower when the fiscal balance is high.

In addition, a dummy variable for the existence of the Chilean income tax is also included as an explanatory variable. This variable equals one during 1924–1995, and equals zero otherwise. The implementation of the income tax arguably reduces the need to raise revenues through trade taxes. Hence, this variable might have a positive effect on the probability of liberalization for any given level of the fiscal balance, and a negative effect on the probability of protection.

2. *Trade policy as a switching device*. Rajapatirana (1996) and Rajapatirana et al. (1997) argued that at least since the 1960s, Latin American trade pol-

icy changes were related to balance of payments crises. The idea is that policymakers often opt to raise the level of protection in order to facilitate the necessary adjustment of the current account. Unfortunately, the historical data for the current account balance of Chile is missing observations from 1932–1943. Hence, I use the trade balance, which accounts for the difference between the export and imports of goods and nonfinancial services, as a percentage of GDP. The "switching" hypothesis implies that when the deficit is high (a negative trade balance), policymakers may need to raise the level of protection to improve the trade balance.

An alternative view of the trade balance is that it is equal to the net financial resource transfer of Chile to the rest of world.[4] A positive balance means that the financial service payments are higher than new foreign loans. This type of situation occurs often in times of balance of payments crises when international capital markets do not provide new loans to developing countries. During these bad times, policymakers might raise the level of protection to improve the trade balance even further in order to meet service payments. Hence, the balance of payments crisis hypothesis would predict that large trade surpluses are positively correlated with the probability of protection and negatively correlated with the probability of liberalization.

3. *Economic crises: growth and inflation*. Gallarotti (1985), Drazen and Grilli (1993), Fernandez and Rodrik (1991), Krueger (1993), Rodrik (1994), Pastor and Wise (1994), Tornell (1995), and others argued that the business cycle and economic crises breed policy reforms, as distributive conflicts become less binding. Hence, I can expect that economic downturns can lead to trade policy changes. Inflation crises can also lead to policy changes. Therefore, I include the growth rate of GDP per capita at constant local prices as an explanatory variable. The expectation is that the GDP growth rate will be positively correlated with the probability of liberalization and negatively correlated with the probability of protection. Likewise, trade liberalization is more likely to occur during periods of high inflation (as in Pastor and Wise 1994; Tornell 1995), whereas increases in the level of protection are more likely during periods of deflation (as in Eichengreen 1989). The consumer price inflation rate is therefore included in the regressions.

4. *Terms-of-trade volatility*. Bates et al. (1991) argued that developing countries are likely to have higher levels of protection than developed economies when there are no insurance markets to cover the risks of unanticipated deteriorations in the terms of trade. Several other authors, including Corden (1974), also suggest that this type of insurance motivation can help explain why some countries have higher levels of protection than others. Here, I examine whether the degree of terms-of-trade volatility affects the probability

of a trade policy change in Chilean history. Hence, the question is transformed from one that is focused on international comparisons to one that studies the effect of terms-of-trade volatility on trade policy in one country over time. According to this hypothesis, the expected partial correlation between the volatility of the terms of trade and probability of liberalization (protection) is negative (positive).

This insurance hypothesis should be tested by including a measure of the *volatility* of the terms of trade rather than the *variation* of the terms of trade. The latter would affect trade policy through its impact on the trade balance (see above) and/or through its impact on the GDP growth rate. Measuring volatility is not a trivial endeavor, however. An approximate indicator of volatility is the variance in the terms of trade, which indicates the extent to which the variable deviates from a given mean at any point in time. To calculate a measure of the volatility of the terms of trade, I followed Servén (1998) and applied Bollerslev's (1986) generalized autoregressive conditional heteroskedasticity (GARCH) model to the natural logarithm of the terms-of-trade index of Chile provided by Braun et al. (1998). This approach estimates the "conditional variance" of the logarithm of the terms of trade for each year, which is independent of the other observations.[5] This method was originally designed to estimate the conditional variances of time series that experience periods with different levels of volatility (hence the "heteroskedasticity" term in the method's name). The intuition behind this technique is that, although the terms of trade fluctuate every year, sometimes they fluctuate significantly more than during other times. That is, the volatility of the terms of trade might not be constant over time, and these periods may be unusual relative to previous history. More specifically, I applied the GARCH(1,1) econometric model represented in the following two equations:

$$\hat{\sigma}_t^2 = \hat{c} + \hat{\alpha}\varepsilon_{t-1}^2 + \hat{\beta}\sigma_{t-1}^2 \tag{3.6}$$

$$\ln TOT_t = \hat{\phi} \ln TOT_{t-1} + \varepsilon_t \tag{3.7}$$

where $\hat{\sigma}_t^2$ is the estimated conditional variance at time t and is conditional on the terms on the right-hand side of equation (3.6), $\hat{c}$ is a constant, $\hat{\phi}$ is the estimated auto-regressive coefficient for the terms of trade, $\hat{\alpha}$ is the estimated coefficient that relates the square of the error term from the previous year ($t - 1$), and the estimated $\hat{\beta}$ is the coefficient that relates the variance of the terms of trade in the previous year to the variance in year t. Equation (3.7) is estimated by OLS, which then provides the error terms included in the right-hand side of equation (3.6).[6] Thus, each year's conditional variance

depends on a constant, the previous year's volatility (represented by the lagged squared error), and the forecast variance from the previous year. The values of $\hat{\sigma}_t^2$ estimated by this procedure are the proxies for the volatility of the terms of trade in the econometric models presented below.

5. *Import penetration*. The most studied determinant of both the structure and the level of protection across and within countries is the ratio of imports to domestic production (Pincus 1975; Lavergne 1983; Trefler 1993; Lee and Swagel 1997; Gawande and Bandyopadhyay 2000). The inclusion of this variable is consistent with Corden's (1974) conservative social welfare function hypothesis (see Chapter 1), which predicts that protection will rise when industries face sudden competition from imports. Consequently, the ratio of imports to GDP at constant domestic prices is included as an explanatory variable in the econometric estimations. If this hypothesis holds, the partial correlation between import penetration and the probability of liberalization (protection) should be negative (positive).

6. *Political influence*. Many empirical studies of trade policy also consider variables that capture the level of political influence of industries. As discussed in Chapter 1, many of these studies use the industry's share of the total labor force as a proxy of political influence. The logic is that political influence is positively correlated with the size of the labor force employed in the protected industries. This is certainly the case when the median voter is considered to have the decisive influence over trade policy, as in Mayer (1984). In these models, the share of the labor force of an industry should be positively (negatively) correlated with the probability of protection (liberalization).

Wellisz and Findlay (1984) offered an alternative view for developing countries. Their argument was that in economies with a surplus labor force, the landed aristocracy tolerates the protection of the manufacturing sector as long as the protection does not raise economy-wide labor costs. The existence of the surplus labor force ensures that the wage effects of protection will be small if at all present. In this case, the expected correlation between the share of the labor force employed in the manufacturing sector and the probability of protection (liberalization) is negative (positive). The reasoning is that as the share of manufacturing employment grows, the surplus labor force dwindles, and hence the wage effects of protection become significant. Furthermore, if surplus labor is finite, there could be a threshold share of manufacturing employment, above which landed interests lobby for liberalization. To test these two alternative hypotheses, the econometric models include the share of manufacturing employment in Chile.

TABLE 3.3
Summary of expected effects of explanatory variables

Variable	Effect on probability of liberalization	Effect on probability of protection
Fiscal Balance (revenue hypothesis)	+	−
Income Tax Dummy (revenue hypothesis)	+	−
Trade Balance I (switching hypothesis)	+	−
Trade Balance II (BOP crisis hypothesis)	−	+
GDP per Capita Growth (economic crisis hypothesis)	+	−
Consumer Inflation (inflation crisis hypothesis)	+	−
Terms of Trade Volatility (insurance hypothesis)	−	+
Manufacturing Employment I (median voter hypothesis)	−	+
Manufacturing Employment II (Wellisz-Findlay hypothesis)	+	−
Import Penetration (social concerns)	−	+
Liberal Era Dummy (1860–1897)	+	−
Dictatorship Dummy (1973–1989)	+	−

NOTE: BOP indicates balance of payments, GDP, gross domestic product. The corresponding hypotheses are in parentheses.

7. *Predominant ideologies*. One of the most important strands in the literature by political scientists emphasizes the role of ideologies in determining trade policies (see Chapter 1), and one of the most important contributions is Goldstein (1993). In the case of Chile, many authors identify two important periods in history: (1) the Liberal Era, from 1860 to about 1897, just before the tariff hike of 1897 (Will 1957; Cortés Douglas et al. 1980); and (2) the period under the military dictatorship led by General Augusto Pinochet, from 1973 to 1989, which is also a period of dominance by liberal economic ideas (see Chapter 4). Hence, the econometric analyses include dummy variables that are triggered during these two time periods. An alternative specification of the models would control for the years when the government was dominated by protectionist ideas, namely, the Radical period from 1938 to 1952 and the years of the government led by socialist President Salvador Allende (1970–1973). However, for methodological reasons, this specification was not feasible.[7] Table 3.3 summarizes the expected relationships between the explanatory variables and the probability of trade policy changes on the basis of the predictions of the discussed hypotheses.

Table 3.4 contains the summary statistics (the mean and the standard error of the means) for all the continuous explanatory variables. Table 3.4 also

TABLE 3.4
Summary of statistics: Means of the explanatory variables

Variable	Sample mean ($N = 166$)	Liberalization: Ex-ante means ($N = 21$)	Protection: Ex-ante means ($N = 33$)
Fiscal Balance (% of GDP)	−1.21 (0.22)	−1.51 (0.83)	−1.93*** (0.62)
Trade Balance (% of GDP, goods and nonfinancial services)	3.30 (0.36)	1.42** (0.77)	3.00 (0.86)
Terms-of-Trade Volatility[a] (conditional variance from GARCH estimates)	1,792.29 (1.62)	1,797.51 (1.47)	1,794.58 (3.28)
Terms-of-Trade Variations (% annual variation)	0.68 (0.88)	0.80 (3.54)	−1.15 (2.30)
Growth of GDP per Capita (% annual variation, local currency, constant prices)	1.80 (0.51)	2.00 (1.14)	−0.21** (1.33)
Consumer Inflation (annual % variation in CPI)	20.53 (5.11)	92.75* (34.62)	19.80 (7.83)
Manufacturing Employment (% of total employment)	21.43 (0.46)	18.76** (1.20)	19.41** (0.91)
Import Penetration (imports as % of GDP, constant prices)	13.20 (0.48)	12.33 (0.67)	14.09 (1.19)

NOTE: GDP indicates gross national product; GARCH, generalized autoregressive conditional heteroskedasticity; CPI, consumer price index. Means of the explanatory variables and standard errors appear in parentheses.

[a]Conditional variance estimated by GARCH(1,1)—see text—multiplied by 10,000.

*Group mean is statistically different from the rest at 1 percent level, **5 percent, and ***10 percent.

lists the means and standard errors of the variables for the years that *preceded* the trade policy changes shown in Appendix C. Similar simple correlation analyses appear in Gallarotti (1985) and McKeown (1984). Asterisks identify the variables with means prior to policy changes that are statistically different from the means of the rest of the sample. This analysis is preliminary in the sense that these correlations could be misleading because they are estimated without controlling for the influence of all the explanatory variables at the same time. Hence, this exercise should be treated as a simple summary of the data, rather than as a conclusive analysis of the determinants of trade policy changes. Episodes of liberalization were, on average, preceded by years in which the trade balance was lower, inflation higher, and the share of manufacturing employment lower than for the rest of the sample. Episodes of increases in protection were preceded by years with significantly lower levels of the fiscal balance, growth rates, and the share of manufacturing employment.

TABLE 3.5
Share of liberalization and protection episodes during periods identified by dummy variables

Dummy variable	Percentage of years with liberalization	Rest of sample liberalization	Percentage of years with protection	Rest of sample protection
Income Tax (1924–1995)	1.92*	5.38	26.03***	15.05
Liberal Era (1860–1897)	7.50	14.29	10.00***	23.02
Dictatorship (1973–1989)	56.25*	8.00	18.75	20.00

*Group mean is statistically different from the rest at 1 percent level, and ***10 percent.

Table 3.5 shows summary statistics related to the dummy variables to be included as explanations of the probability of trade policy changes. It shows the percentage of years in each period identified by the three dummy variables (the income tax period, the Liberal Era, and the years of the Pinochet dictatorship) when episodes of liberalization or protection were recorded, as shown in Appendix C. Again, the asterisks identify the averages that are statistically different from the average percentage of episodes of policy changes in the rest of the sample. The years with the income tax had, surprisingly, a lower share of episodes of liberalization and a higher share of protection than the rest. The Liberal Era only had a statistically significant lower share of episodes of protection than the rest of the sample, but not a higher share of liberalization episodes. Finally, the years under Pinochet had a statistically significant higher share of liberalization episodes than the rest of the sample. Yet these results remain preliminary because of the need to control for the effects of all explanatory variables at the same time.

METHODOLOGY: PROBIT REGRESSIONS

As the dependent variables in our data are dichotomous, the chosen methodology is probabilistic. Linear probability models estimated by OLS suffer from well-recognized problems related to the truncation of the dependent variable. The most important weakness of linear probability models is related to the fact that they can predict probabilities less than zero or greater than one, which are implausible. Hence, they create serious inference problems.

A preferable approach is the Probit model, which imposes the restriction that the probabilities must lie between zero and one.[8] The Probit model presumes that there is a linear relationship between the explanatory variables

and the probability of an episode. The explanatory variables determine the value of an *unobserved* index, which is assumed to be normally distributed with zero mean and a constant unit variance. When this unobserved index surpasses a certain threshold, the *observed* outcome is the realization of a policy change (that is, the dependent variable is equal to one). The Probit model is represented formally by the following equation shown in vector notation:

$$\Pr(y_t = 1 \mid x_t) = \Phi(x_t\phi). \tag{3.8}$$

Equation (3.8) says that the probability of episode y_t occurring in year t, conditional on the value of explanatory variables denoted by vector x_t, depends on the estimated impact of the explanatory variables on the unobserved index that follows the cumulative normal distribution denoted by Φ. The vector ϕ is the vector of the Probit coefficients, which link the values of the explanatory variables to the unobserved cumulative normal index.

Probit coefficients by themselves are difficult to interpret because the effect of the explanatory variables on the observed occurrence of a trade policy change episode is nonlinear. Hence, the presentation of the Probit regression results below lists the "marginal Probit coefficients," which are the impact of the explanatory variables on the episode probabilities calculated at the sample means of the explanatory variables. In the case of dichotomous or dummy explanatory variables, such as the period variables, the marginal coefficients indicate the effect of going from zero to one on the probability of a policy change.

Another complication is related to the potential of *heteroskedasticity* of unknown form that can afflict the estimations. In other words, if the regression errors exhibit patterns of serial correlation, perhaps due to omitted variables or systematic measurement errors, then the estimated coefficients underestimate the magnitude of the standard errors. The results presented below therefore rely on heteroskedasticity-adjusted errors. These are the robust standard errors.

Three additional pitfalls should be acknowledged. First is the issue of *measurement error.* As mentioned earlier, it is likely that the historical record of trade policy changes is incomplete. This error is more likely to afflict the identification of episodes at the beginning of the sample because the historical record is likely to be more accurate at the end of the twentieth century than at the beginning of the nineteenth century. This problem cannot be fully corrected, but two precautions were taken. First, I limited the sample used in the Probit estimations to the period 1830–1995. Hence, I discarded the 1810–1829 period, presuming that these years suffered the most from

measurement error because of the poor quality of historical records that exist for this period of high political instability after Chile's formal independence from Spain (Cortés Douglas et al. 1980).[9] Second, in the regressions I include a time trend, which can help to control for the possibility that the probability of *recorded* trade policy episodes increased with time as a result of better records.

Another potential pitfall is the *endogeneity* problem. That is, it is possible that the implementation of trade policy changes affected some of the explanatory variables. If nothing is done to correct for this, the estimated coefficients might be biased because they could reflect the impact from trade policy changes on economic outcomes—the reverse causality problem. To deal with this problem, I estimated the Probit models using the one-year lagged or ex-ante values of the explanatory variables, rather than the contemporaneous values. Hence, I am making the less daring assumption of *weak exogeneity*, which is that trade policy changes are determined by yesterday's explanatory variables, but trade policy changes today do not affect yesterday's economy.

Finally, some of the explanatory variables might be correlated, thus leading to the *collinearity* problem. As long as the explanatory variables are not perfectly linearly related, the individual coefficients can be estimated. However, the existence of correlation among the explanatory variables may sometimes create problems of inference. Although nothing can be done to eliminate the collinearity problem completely, I can identify when the problem is severe. When the correlation among the explanatory variables is very high, at times it becomes virtually impossible to differentiate the marginal effect from each variable. The symptoms of this problem are usually very few statistically significant explanatory variables combined with a very high overall explanatory power of the estimated model. The discussion of the Probit results presented in the following section revisits this issue.

IV. Probit Regression Results

Table 3.6 presents the Probit results. The discussion of the results follows the list of hypotheses in Table 3.3. Regarding the revenue hypothesis, the results concerning the fiscal balance are satisfactory. The signs of the coefficients for both regressions are the expected ones: positive for liberalization and negative for protection. However, only the latter coefficient is statistically significant. The value of the coefficient of the fiscal balance in the protection regression implies that an increase of one percentage point in the fiscal balance above the mean for the sample leads to a subsequent increase of 0.03 in

TABLE 3.6
Determinants of trade policy changes in Chile, 1830–1995: Probit regression results

Explanatory variable[a]	Dependent variable: Probability of liberalization	Dependent variable: Probability of protection
Fiscal Balance (% of GDP)	0.0092 (0.0078)	−0.0332★ (0.0128)
Income Tax Dummy (1924-1995)	0.0285 (0.1378)	0.1534 (0.1568)
Trade Balance (% of GDP, goods and nonfinancial services)	−0.0193★ (0.0049)	0.0138★★★ (0.0085)
Terms-of-Trade Volatility (conditional variance, GARCH(1,1) estimates)[b]	0.0100 (0.0104)	−0.0073 (0.0214)
Growth of GDP per Capita (% annual variation, local currency, constant prices)	0.0051★★ (0.0021)	−0.0088★★ (0.0044)
Consumer Inflation (annual % variation in CPI)	0.0007★★★ (0.0004)	−0.0006 (0.0005)
Manufacturing Employment (% of total employment)	0.0132★★★ (0.0088)	−0.0176 (0.0152)
Import Penetration (imports as % of GDP, constant prices)	−0.0113★★ (0.0057)	0.0060 (0.0084)
Liberal Era (1860–1897)	0.2400★★ (0.1425)	−0.1552★★★ (0.0734)
Dictatorship (1973–1989)	0.2917★★ (0.1967)	−0.0387 (0.1147)
Time Trend Included?	Yes	Yes
Observations	166	166
Pseudo R^2	0.36	0.11
Predicted Probability	5.75%	17.3%
Sample Probability	12.65%	19.9%

NOTE: GDP indicates gross domestic product; GARCH, generalized autoregressive conditional heteroskedasticity; CPI, consumer price index. Marginal effects coefficients are reported, and robust standard errors are in parentheses.

[a]All economic explanatory variables are the ex-ante values (i.e., from previous year).

[b]Conditional variance estimated by GARCH(1,1) multiplied by 10,000.

★Significant at 1 percent level, ★★5 percent level, ★★★10 percent level.

the probability of protection. Although not statistically different from zero, the coefficient of the fiscal balance in the liberalization regression implies a much smaller effect of less than 0.01. The income tax dummy variable was not significant in either regression, and the one for the protection regression has the wrong sign.

Regarding the trade balance, recall the two alternative hypotheses. The "switching device" hypothesis predicted that the coefficient of this variable would be positive in the liberalization regression and would be negative in the protection regression. The results are exactly the opposite and are con-

sistent with the balance of payments hypothesis. The magnitude of this coefficient in the liberalization regression implies that an increase of one percentage point above the mean in the trade balance is associated with a decline of almost 0.02 in the probability of liberalization and to more than 0.01 in the probability of protection the following year

The growth rate of GDP per capita is significant in both regressions and has the signs predicted by the economic crisis hypothesis. An increase of one percentage point in the growth rate is associated with a rise of 0.005 in the probability of liberalization and a decline of almost 0.009 in the probability of protection the following year. The inflation variable also has the expected signs in both regressions, but it is not significant in the protection regression. However, the magnitude of both coefficients is quite small. In the case of the liberalization regression, an increase of one percentage point in consumer inflation above its mean is associated with an increase of less than 0.0001 in the probability of liberalization.

The measure of terms-of-trade volatility is not significant in either regression. Hence, the insurance hypothesis does not seem to predict Chilean trade policy changes during 1830–1995. However, it is possible that Bates et al.'s (1991) argument is valid as an explanation of differences in the level of protection across countries. Nevertheless, in the case of Chilean history, periods of higher-than-average volatility in the terms of trade were not associated with subsequent changes in trade policy.

The literature proposes two alternative hypotheses about the effect of the share of manufacturing employment on trade policy. The median voter hypothesis predicts that the probability of liberalization is lower as manufacturing grows and the probability of protection is higher. In contrast, the Wellisz-Findlay surplus labor model predicts the opposite correlations. The results suggest that the Wellisz-Findlay model is more appropriate for the Chilean case. The coefficient of the share of manufacturing employment is positive and significant in the liberalization regression, and it is negative but not significant in the protection regression. The estimated coefficient in the liberalization regression implies that an increase of one percentage point above the mean of the share of manufacturing employment is associated with a subsequent increase in the probability of liberalization of about 0.01.

Interestingly, the social concerns hypothesis related to import penetration is also supported only by the liberalization results. Its estimated coefficient implies that an increase of one percentage point in the share of imports over GDP is followed by a decline of 0.01 in the probability of liberalization. Although this variable has the expected sign in the protection regression, it is not significant.

Regarding the ideological periods represented by the two dummy variables, Liberal Era and dictatorship, the results are satisfactory. The estimated coefficients on the Liberal Era variable are the expected ones. The magnitude of this coefficient implies that the probability of liberalization was higher during the Liberal Era than during the rest of the sample by about 0.24, and the probability of protection was lower by about 0.16. It is worth considering that this effect is independent of all other explanatory variables included in the regressions. The Pinochet dictatorship was more likely to implement policy changes in favor of liberalization by about 0.29 than policymakers during the rest of the historical period under examination. However, the corresponding coefficient in the protection regression is not significant.

The overall explanatory power of the two regressions is worth contrasting. The liberalization regression has a pseudo R^2 value of more than 0.3. This statistic implies, roughly speaking, that the model explains about 30 percent of the over-time variation in the probability of liberalization in Chile. The statistic for the protection regression is 0.11, thus implying a lower explained variance. This difference is the likely result of the fact that the liberalization regression had a higher number of statistically significant coefficients. However, the predictive ability of the protection regression seems to be more accurate, as demonstrated by the predicted sample probability of protection, which is very close to the actual average sample probability.

Returning to the collinearity problem, neither regression seems to suffer the classic symptoms. The regression with the highest R^2 has several significant coefficients, and the protection regression with the lower R^2 has fewer significant explanatory variables. As several of the coefficients in the protection regression actually had the expected signs, the low levels of significance in that regression are likely to be due to the small sample. Although the sample of 166 years sounds high from an historical point of view, it is actually a relatively small sample for Probit regressions, which are often applied to microeconomic survey data containing thousands of observations.[10] The precision of these estimates would be higher with a longer sample, which was not feasible.

V. Summary of Econometric Results

The ADF test results applied to the time series of openness ratios showed that the three measures of openness have unit roots. That is, innovations in these measures tend to have permanent effects on Chile's level of depen-

dence on international trade. This is not the case for the growth rate of these indicators.

Vogelsang's test of structural breaks showed that for the series in levels, only the total trade share and the imports share had significant breaks, both occurring in 1930. However, the application of the Bai-Perron test for structural breaks showed that for the growth rates of the openness indicators, the break year tends to move back in time with increasing break durations. The main conclusion of these exercises is that Chile's turning point in the growth rate of its openness indicators seems to have occurred before the onset of the Great Depression, perhaps as early as 1918. Nevertheless, it is undeniable that this downward tendency accelerated during the early 1930s. This interpretation was derived from several facts: the data show a large decline in the measures of openness in the early 1930s; the F-statistic values of the Vogelsang test and Bai-Perron test were very high for breaks (with short durations in the latter case) that began in or after 1929; and the break point tends to move backwards rather than forwards when the break duration increases.

This chapter's main contribution to the literature on structural breaks is, therefore, the application of modern time-series econometric techniques for estimating the years of structural breaks using a newly available data set for Chile. The key conclusion is that once I consider alternative durations for the structural breaks, the estimated break year moves backwards from 1930 to 1918. This result provides strong evidence in favor of Hurtado's (1984) and Palma's (1984) argument that Chile's turning point occurred more than a decade before the Great Depression.

The results of the Probit regressions showed that several hypotheses about the determinants of the level of protection work reasonably well in explaining trade policy changes in Chilean economic history. Of the economic explanatory variables, the most important economic determinants of the probability of any trade policy change were the trade balance and the growth of GDP per capita. Liberalization episodes were also explained by consumer inflation, the share of manufacturing employment, and import penetration. The fiscal balance was particularly significant only in the protection regression, thus indicating that revenue seeking has been a powerful impetus for protectionism in Chilean history. More generally, over a long period of 166 years, between 1830 and 1995, Chilean trade policy changes were driven by fiscal-revenue motivations, by economic conditions related to the consequences of economic growth and inflation, and by balance of payments crises. The results regarding the manufacturing employment share are con-

sistent with the Wellisz-Findlay (1984) model. In this framework, the economy has a surplus labor force and a dominant landed aristocracy that tolerates protection of manufactures up to a point, after which it becomes concerned with the impact of protection on labor costs. In sum, these results indicate that macroeconomic conditions and the influence of the landed elite exerted significant pressures on Chile's trade policies during 1830–1995. However, these results should not be interpreted as contradicting the vast empirical evidence concerning the influence of pressure groups on the structure of protection (see Chapter 1) because these regressions focused on changes in the level of protection.

After controlling for various economic conditions, the Probit regression results indicate that ideological factors might have played an important role in determining the probability of trade policy changes. In particular, the years during the Liberal Era, 1860–1897, exhibit a higher probability of liberalization than the rest of the period studied here. The same is true for the period when Chile was ruled by the Pinochet dictatorship. All the Probit regression results presented here were derived from an estimation strategy that attempted to control for historical measurement errors, endogeneity, and heteroskedasticity. Moreover, the results do not seem to suffer severe collinearity among the explanatory variables.

The structural break tests combined with the Probit regressions provide a rich picture of the political economy of protection in Chilean history. The major turning point between liberalism and protectionism occurred sometime between the First World War and 1930. On average, changes in trade policy seem to be related to economic conditions, the manufacturing labor share, and ideological factors. Nevertheless, these econometric analyses are not sufficient to understand the political economy of every turning point or every change in Chile's trade policy because many important factors cannot be considered econometrically. Hence, the previous chapter examined the interwar period and the following chapter studies the period after 1974 when the era of protectionism ended.

Chapter 4

The Fall of Protection, 1974 to the Present

Chile has become a model for reforming economies throughout the world. Policymakers, academics, and consultants in Latin America, Eastern Europe, South Asia, and Africa are analyzing the Chilean experiment to get insights on "how" to reform their economies. Chile's economic reforms have been looked at with optimistic interest only in recent years, under the light of the success of the reforms: economic growth averaged almost 7 percent per year for more than a decade; the annual rate of inflation declined to below 5 percent; and unemployment was hovering above 5 percent of the labor force in 1998. Table 4.1 presents the evolution of key macroeconomic variables for Chile since 1974.[1]

The purpose of this chapter is to analyze the political and economic circumstances surrounding Chile's unilateral trade liberalization. This liberalization was implemented simultaneously with other reforms, including an effort to eliminate a stubborn inflationary process, financial reforms that ended decades of financial repression, and a massive privatization program. In fewer than four years after 1974, Chile dismantled quantitative restrictions and replaced a surrealistic tariff structure (with an average tariff in excess of 100 percent) with a uniform 10 percent tariff. Following the emphases of the academic literature reviewed in Chapter 1, this chapter investigates the role played by economic conditions, ideas, interests, and institutions. More specifically, it examines the role played by the "change team,"

TABLE 4.1

Macroeconomic indicators for Chile, 1974–1999

	1974–1975	1976–1979	1980–1981	1982–1983	1984–1985	1986–1989	1990–1993	1994–1996	1997–1999
1. Economic Activity									
GDP Growth	−6.2	7.4	6.7	−7.6	4.4	7.3	6.9	6.6	3.3
Investment/GDP[a]	15.4	15.6	19.5	12.9	14.8	23.5	26.5	27.2	21.1
Unemployment Rate[a]	13.5	13.8	10.9	18.6	12.2	5.3	5.9	5.7	9.7
2. Domestic Prices									
Inflation	358	69	20	22	25	18	18	8.7	4.3
Real Wage Variation	−4.1	14.3	8.8	−5.5	−2.1	2.6	3.9	5.1	2.2
Real Exchange Rate Variation	83.0	1.4	−13.2	15.7	13.3	4.5	−2.8	−3.7	0.2
Real Interest Rate	15.9	43.9	24.8	25.1	11.1	8.9	11.1	9.9	9.6
3. External Sector									
Terms-of-Trade Variation	−33.1	2.6	−3.5	−3.6	−5.4	7.3[b]	−3.6	1.6	−3.0
Export Volume Variation	22.2	15.3	2.0	2.7	6.8	11.1	9.5	9.3	8.6
Trade Balance/GDP[a]	−2.0	−2.8	−10.3	2.7	2.8	4.5	−2.3	8.6	2.5
Current Account/GDP[a]	−5.2	−5.4	−14.5	−5.4	−8.3	−1.8	−4.8	0.1	−0.1
External Debt/Exports[a]	3.1	1.6	3.1	4.0	4.6	1.7	1.6	1.1	1.8
4. Macroeconomic Policies									
Fiscal Surplus/GDP[a]	2.1	5.2	3.3	−1.2	−0.2	5	0.8	2.1	−2.1
Growth of M1	260	112	31	6	23	37	28	19.7	11.2
Nominal Exchange Rate Variation	390	47	—	49	45	13	5	−0.8	7.3

SOURCES: Compiled by the author from data of the Central Bank of Chile, National Institute of Statistics (INE, in Spanish), Edwards (1984), and Fontaine (1996, table 1).

NOTES: The table shows the annual averages for each subperiod in percentages.

GDP Growth: Refers to the variation of annual average gross domestic product (GDP), measured at constant prices of 1977 for the period 1976–1985, and at 1986 constant prices for the period 1986–1996.

Investment/GDP: Refers to the fixed investment coefficient of GDP, where both numerator and denominator are measured at constant prices.

Unemployment Rate: For 1974–1981, see Edwards (1984, 85) and Castañeda (1983); otherwise, refers to the value from October to December of each year, based on the national survey conducted by INE.

Inflation: Refers to the variation of the official consumer price index (CPI) calculated from December to December of every year.

Real Wage: Variation in real wages calculated by INE, from December to December of each year (overlapping in 1982 and 1983 to cover methodological redefinitions).

Real Exchange Rate: Multilateral index in relation to Chile's commercial trading partners, as calculated by the Banco Central (for 1974–1978, International Monetary Fund series used for the other periods). A positive variation reflects a depreciation.

Real Interest Rate: Refers to the average short-term (thirty to eighty-nine days) rate of credit that banks offer, deflated by a variation of the CPI.

Terms of Trade: Refers to the average annual variation of the index measuring exports of goods and services in relation to the unitary value of imports of goods and services.

Export Volume: Exports of nonfinancial goods and services at constant prices.

Trade Balance/GDP: Net imports of nonfinancial goods and services as a fraction of GDP, all expressed at current prices of each year.

Current Account/GDP: Balance of the current account of the balance of payments, as a fraction of GDP at current prices.

External Debt/Exports: Total external debt in relation to exports of goods and services.

Fiscal Surplus/GDP: Fiscal balance, excluding interest payments as a percentage of GDP.

Growth of M1: Variation from December to December in nominal terms of M1A (plus liquid deposits).

Nominal Exchange Rate: Variation from December to December of nominal exchange of the peso in relation to the dollar.

[a]Refers to the value corresponding to the last year in the period.

[b]1987–1989.

investigates some of the distributive consequences of the reforms, and analyzes the mechanisms the government used to maintain a minimum level of political support for the liberalization process.[2] A recurrent question is whether the Pinochet dictatorship that ruled Chile during 1973–1989 was sensitive to political considerations when implementing major policy changes.

The chapter is organized as follows. Section I presents an overview of Chile's liberalization, sketching the initial conditions and tracing the evolution of trade policy from 1974 to the 1990s. The analysis distinguishes five stages of the process of trade liberalization. Section II focuses on the role of ideas, beginning with a brief discussion of analytical aspects associated with the dynamics of economic reforms in general, and with some key issues related to the speed and sequencing of economic reforms, and the post-reform tariff structure. The study then discusses the ideas of the "change team," their original plan of reform, and its actual implementation. Finally, Section II reviews the views of dissenters in the context of Chile's restricted market for ideas. Section III briefly reviews analytical issues related to the role of interest groups in general and describes Chilean interest groups. This section also analyzes the application of compensation mechanisms that authorities used to raise support for and reduce opposition to the trade reforms. Section IV concludes by arguing that Chile is now flirting with regionalism, which until very recently seemed to have thwarted the process of unilateral liberalization.

I. Five Stages of Trade Liberalization in Chile, 1974 to the Present

On September 11, 1973, after three years of a democratically elected socialist administration led by President Salvador Allende, the military staged a coup and took over Chile's government. At the time of the military coup, import tariffs averaged 105 percent and were highly dispersed, with some goods subject to nominal tariffs of more than 700 percent and others fully exempted from import duties. In addition to tariffs, a battery of quantitative restrictions was applied, including outright import prohibitions, prior import deposits of up to 10,000 percent, and a distortionary multiple exchange rate system consisting of fifteen different rates. Table 4.2 summarizes the elimination of several non-tariff barriers.

Despite a temporary and moderate reversal in the midst of a severe balance of payments crisis during 1983–1985, Chile was able to sustain a continuous process of unilateral liberalization since 1974. This achievement

TABLE 4.2
The elimination of non-tariff barriers (NTBs)

Instrument	Situation in 1973: number of product categories affected (approximately 63 percent of total)	Dates when relaxed and eliminated
A. Import Prohibitions	187	August 1976: Down to six products April 1978: Down to five products August 1981: All eliminated
B. Prior Deposits[a]	2,872	January 1974: Waivers granted August 1976: Eliminated
C. Import Licenses[b]	2,278	January 1974: Eliminated

SOURCE: Compiled by the author based on information in de la Cuadra and Hachette (1991, 218–219) and Méndez (1979, 81).

[a]A ninety-day, non-interest-bearing prior deposit to the Central Bank, equivalent to 10,000 percent of the value of imports, including customs, insurance, and freight charges (c.i.f. value).

[b]Official approval required for importing.

becomes even more interesting when one considers that in the meantime Chile experienced the breakdown of its democratic system, sharp business cycles, several dramatic shifts in other aspects of economic policy, a return to democratic government, and important changes in the world trading system.

From a political economy perspective, it is useful to distinguish among five stages in Chile's unilateral trade liberalization. Each stage is characterized by the use of different types of "compensation schemes" (see Section III).

In terms of policies, the first phase (1974–1979) was characterized by a dramatic reduction in and simplification of Chile's trade barriers, which was part of a comprehensive program of economic stabilization and restructuring. The second stage (1979–1982) was characterized by a change in the stabilization program and by an accumulation of a significant degree of real exchange rate overvaluation. The third stage (1983–1985) was the temporary reversal phase that occurred when Chile faced a deep economic crisis. The fourth period (1985–1990) covers the resumption of unilateral liberalization in the context of a speedy economic recovery and the beginning of the end of the military government. The fifth stage began with the transition to democracy and the tariff reduction of 1991 and may be ending with Chile's turn toward preferential trading arrangements (PTAs), high capital inflows (at least through 1997), and vigorous economic growth (with the exception of 1999, when gross domestic product [GDP] declined by about 1 percent).

STAGE I: 1974–1979

In October 1973, the incoming minister of finance stated that Chile's "best prospects for growth are in opening to international competition" (Méndez 1979, 63–64). Initially, however, the authorities had no precise idea about how deep and how fast the liberalization should be. In fact, only after Chile withdrew from the Andean Pact in December of 1977, the chief economic strategist, Minister Sergio de Castro, announced that the final goal was to reduce tariffs to a uniform rate of 10 percent by mid-1979. In explaining this change in tariff policy, de Castro pointed out that the differentiated tariff structure in 1977 of rates between 10 percent and 35 percent still generated an unjustifiable discrimination across sectors.

Table 4.3 shows the itinerary of import tariff reductions for 1973–2003. The liberalization was abrupt during the first phase (1974–1979). By June 1976, the average tariff was 33 percent, representing a reduction of more than sixty percentage points from the average tariff of December 1973. This achievement was particularly impressive because quantitative import restrictions had been eliminated by August 1976 (recall Table 4.2). By June 1979, when the first phase of the trade reform came to an end, all items, except automobiles, had a nominal import tariff of 10 percent. The impact of this liberalization phase was different across sectors.

Aedo and Lagos (1984) studied the evolution of estimates of the rate of effective protection for eighteen industries within the manufacturing sector during 1974–1979. The evidence presented by these authors clearly shows that both the level and dispersion of the effective rates of protection were reduced as the reforms progressed.[3] By June 1979, the average effective tariff was 13.6 percent, and the range between the highest and lowest effective tariffs was only six percentage points. Another notable consequence of the reform was that it increased the level of effective protection granted to agriculture. Historically, through the imposition of price controls on agricultural products and high import tariffs on inputs, most crops had suffered from a substantial negative rate of effective protection. In 1974, for example, the agricultural sector had a negative average rate of effective protection of 36 percent.[4]

This initial phase of trade liberalization was supplemented by an active exchange rate policy aiming to maintain a competitive real exchange rate. In fact, the reduction of trade barriers and the deterioration of Chile's terms of trade after 1974 *required* a depreciation of the equilibrium real exchange rate. The depreciation of the real exchange rate was first achieved via the maxi-devaluation of October 1973 and then was maintained by a crawling

TABLE 4.3
Import tariff reductions, 1973–2003

Date (m/d/yr or m/yr)	Maximum tariff	Percentage of items subject to maximum tariff	Tariff mode	Percentage of items	Average tariff
12/31/73	220	8.0	90	12.4	94.0
03/01/74	200	8.2	80	12.3	90.0
03/27/74	160	17.1	70	13.0	80.0
06/05/74	140	14.4	60	13.0	67.0
01/16/75	120	8.2	55	13.0	52.0
08/13/75	90	1.6	40	20.3	44.0
02/09/76	80	0.5	35	24.0	38.0
06/07/76	65	0.5	30	21.2	33.0
12/23/76	65	0.5	20	26.2	27.0
01/08/77	55	0.5	20	24.7	24.0
05/02/77	45	0.6	20	25.8	22.4
08/29/77	35	1.6	20	26.3	19.8
12/03/77	25	22.9	15	37.0	15.7
06/78[a]	20	21.6	10	51.6	13.9
06/79[a]	10	99.5	10	99.5	10.1
03/23/83	20	99.5	20	99.5	20.0
09/22/84	35	99.5	35	99.5	35.0
03/01/85	30	99.5	30	99.5	30.0
06/29/85	20	99.5	20	99.5	22.0
01/05/88	15	99.5	15	99.5	15.0
06/91	11	99.5	11	99.5	11.0
01/99	10	99.5	10	99.5	10.0
01/00	9	99.5	9	99.5	9
01/01	8	99.5	8	99.5	8
01/02	7	99.5	7	99.5	7
01/03	6	99.5	6	99.5	6

SOURCE: Compiled by the author using information in Ffrench-Davis (1980) and Saez et al. (1995).

NOTE: Table shows the nominal tariffs as a percentage of import price including customs, insurance, and freight charges (c.i.f. value).

[a]During 1978 and the first half of 1979, the tariff schedule was linearly reduced.

exchange rate system, which lasted until January 1978.[5] The importance assigned by the government to a "depreciated" real exchange rate was clearly articulated by General Pinochet in a 1976 speech (Méndez 1979, 195): "We shall continue to encourage nontraditional exports. . . . The Minister of Finance will announce the manner in which the exchange rate shall be established in order to guarantee a viable and permanent value for foreign currency." In fact, the exchange rate played a crucial role in the government's explanation of the negative effects of protectionism during the previous decades. For example, according to de Castro: "The relatively forced industrialization of the country was obtained through various mechanisms. One of these was the foreign exchange rate policy. From 1939 on, the ex-

change rate was maintained artificially low. . . . The exporting sector lost all possibility to export because . . . [with a low] exchange rate . . . they could not manage to cover their local production costs" (Méndez 1979, 201). At the end of 1976, the real effective exchange rate was almost 150 percent more depreciated than in the third quarter of 1973. In an attempt to break inflationary expectations, the peso was revalued in June 1976, and again in March 1977. In the second half of 1977, to compensate partially for the effects of the new rounds of tariff reductions, the rate of nominal devaluation with respect to the U.S. dollar was increased once again.

STAGE II: 1979–1982

A change in the stabilization program took place in 1979, when the exchange rate became the main anti-inflationary anchor. The rate of devaluation was announced for a year and was preset at a rate below ongoing inflation. The exchange rate was finally fixed to the dollar in 1979. Between 1978 and 1982, and partially as a consequence of the new exchange rate policy, a significant degree of real exchange rate appreciation developed. As documented by Edwards and Edwards (1991), this appreciation became increasingly unsustainable, and a major balance of payments crisis erupted in 1982. The country ran out of reserves, a major devaluation was implemented, and numerous firms and banks went bankrupt. As a consequence, unemployment skyrocketed, and GDP declined by more than 14 percent in 1982 alone.

STAGE III: 1983–1985

The third phase of Chile's trade reform saga encompasses the period between March 1983 and June 1985. As shown in Table 4.3, during this brief period the uniform tariff was raised from 10 percent to 35 percent as part of a series of measures designed to speed up the adjustment process. In addition, the government reintroduced price bands for three commodities—wheat, sugar, and edible oil—in 1983, which were meant to provide, on average, a rate of nominal protection equivalent to the uniform tariff rate.[6] Between 1982 and 1983, Chile experienced a severe economic contraction, which was accompanied by a fast adjustment of its current account, as shown in Table 4.1. Unlike previous historical experiences with increases in trade protection to correct external imbalances (such as during the 1930s), this time the tariff hikes (no quantitative restrictions were imposed) were short-lived, but the price bands have been maintained until today.

STAGE IV: 1985–1990

The process of unilateral liberalization resumed in June 1985, when the uniform tariff was reduced to 20 percent. Later, in May 1988, the tariff was again reduced to 15 percent. This was the last trade policy reform conducted by the military government, as Pinochet lost the referendum or plebiscite vote of 1988. Democratic elections took place in 1989, and the administration of Patricio Aylwin came to power in March 1990. During this time, and especially between 1988 and 1990, a high degree of uncertainty reigned over the future economic policies of a democratically elected government. Consequently, several important economic policy measures were undertaken, including the establishment of an independent Central Bank, which aimed to reassure markets that a dramatic change in economic orientation would not take place after the political transition.[7]

STAGE V: 1991 TO THE PRESENT

A further reduction of the uniform tariff, from 15 to 11 percent, took place in June 1991, thus consolidating the trade liberalization that had survived the economic crash of 1982–1983 and the transition to democracy of 1988–1990. In mid-1991, Chile began to implement a new trade strategy emphasizing PTAs. The most intense domestic debates have focused on Chile's negotiation of a free-trade agreement with the Southern Cone Common Market (Mercosur) (implemented in 1997), and to a lesser extent the approval of the recently negotiated free-trade agreement with the United States.[8] A number of Chilean analysts (especially economists based at the Universidad Católica) and even the National Society of Agricultural Producers (SNA, in Spanish) supported the idea of unilaterally reducing the uniform tariff.

This renewed interest in unilateral liberalization was driven by three interrelated factors. First, there is a growing concern that the pursuit of PTAs will generate a significant degree of trade diversion. Second, the producers of traditional agricultural products are concerned about the real appreciation of the currency *and* about the increased competition from Argentine and Brazilian exports of wheat and edible oil, as the associate membership agreement with Mercosur stipulates the elimination of the price bands in approximately eighteen years after its implementation in 1997. Third, the PTAs imply that the "tariff structure has again become differentiated in the range of 0–11 percent, depending on the country of origin [of the imports]" (Corbo 1997, 76).

After a prolonged public debate during 1997 and 1998, the Chilean leg-

islature approved in November 1998 a new schedule of further reductions in the uniform tariff. Beginning in January 1999, the tariff was reduced to 10 percent and was scheduled to be reduced an additional one percentage point annually, until it reached 6 percent in 2003 as shown in Table 4.3.

This renewed interest in unilateral liberalization was then followed by a warming of relations with Mercosur in 1999, when the newly elected socialist President Ricardo Lagos, who is a personal friend of Brazil's President Fernando Henrique Cardoso, traveled to Brasilia and officially announced his intentions for Chile to become a "full member" of the South American trade bloc. However, it remains unclear what "full membership" means, because Lagos received Brazil's blessing for maintaining its own external tariff. Moreover, in December 2000, President Lagos made a surprise announcement about the formal initiation of trade-agreement negotiations with the United States; that trade agreement came into force on January 1, 2004. Hence, it is also unclear whether Chile will move forward with its intentions to achieve "full membership" status with Mercosur.

Another factor that has tainted this latest rebirth of unilateral liberalization in Chile is the continuing use of the agricultural price bands and the toughening of administered protection legislation concerning the use of anti-dumping and countervailing duties (Fischer and Meller 1999, 12). On August 20, 1993, the government implemented Decree No. 575, which established the regulations concerning anti-dumping and countervailing duties. According to the World Trade Organization (WTO) (1997, 58), these regulations were not fully compliant with WTO guidelines. In particular, the national legislation lacks the following: (1) a system of judicial review to challenge administrative decisions, (2) a system of prompt refunds of duties paid in case decisions are reversed, and (3) accelerated investigations for new exporters to Chile.

II. The Role of Ideas

The emphasis on the role of ideas and ideologies is a key feature of the political science literature of the 1990s (see Chapter 1). For the Chilean experience with unilateral trade liberalization since 1974, ideas related to the dynamics of reform were particularly relevant.

DYNAMICS OF REFORM

Bates and Krueger (1993, 454) wrote: "There is no recorded instance of the beginning of a reform program at a time when economic growth was satisfactory and when the price level and balance of payments situations were

stable. Conditions of economic stagnation . . . or continued deterioration are evidently prerequisites for reform efforts." Likewise, Rodrik (1994, 63) explains, "The reasons for the free trade bandwagon are more or less unique and derive from the intense, prolonged macroeconomic crisis that surrounded developing countries during the 1980s . . . which overshadowed the distributional considerations." Chapter 1 discussed several other proponents of this argument, and Chapter 3 presented evidence that economic conditions, including GDP growth and inflation, helped determine the probability of trade policy changes during a long period of Chile's economic history.[9]

According to this "crisis hypothesis," in the midst of an economic crisis, politicians call on respected social scientists, or "technopols," to help them find a way out of the crisis.[10] Based on the Anglo-Saxon economic tradition and consistent with the views of the multilateral institutions, the incoming technopols' ideas become highly influential. Proponents of the protectionist development strategy try to dismiss the new approach as being foreign and/or imposed by the multilateral institutions. At the same time, the technopols try to persuade politicians and the public that their program is based on sound scientific principles, supported by international empirical evidence. During the implementation of the reforms, the technopols usually find that the realities of politics conflict with the simple world of economics. Their ability to understand political trade-offs, and to design politically viable strategies that rely on adequate compensation mechanisms, may determine the fate of the reform effort.

As the crisis subsides, efforts by the opposition to stop the modernization process can be successful if the reforms have not generated sufficient improvement in economic growth, lower inflation, higher real wages, and lower unemployment, as argued by Krueger (1993) (see Chapter 1). Pressures to reverse the reforms can emerge in democratic and authoritarian settings. In some cases, the "populist temptation" is strong enough to bring the reforms to a standstill; in others, reformers are able to consolidate the reforms.[11] In order to regain public support, the authorities may reduce the pace of reforms, or may relax the public sector budget constraint to face a political challenge, such as a midterm election or a plebiscite in the case of an authoritarian regime seeking to enhance its legitimacy.[12]

SPEED, SEQUENCING, AND PROTECTIVE STRUCTURE

The role of "transition costs" has been at the center of discussions about the optimal *speed* of trade liberalization, partly due to the political implications of poor economic outcomes (Przeworski 1991). For the case of Chile,

Maloney (1997) argued that it is difficult to identify the ultimate impact of the reforms on economic outcomes because of the transitional effects. Edwards and Edwards (1996) estimated that reductions in effective rates of protection were associated both with higher probabilities of individual unemployment and with longer spells of unemployment.

In any case, analysts have argued that a gradual liberalization is preferable to a big-bang approach because gradual reforms give time for firms to restructure their operations, resulting in lower unemployment, fewer bankruptcies, and therefore, less political opposition to the liberalization program than under a fast liberalization. Other analysts have argued that slower reforms tend to lack credibility, thus inhibiting serious restructuring (see, for example, Rodrik 1989; Calvo 1989; Martinelli and Tommasi 1994). Whether trade reform generates an increase in aggregate unemployment is an empirical issue. A World Bank study led by Michaely et al. (1991) on liberalization episodes in nineteen countries suggests that even in the short run, the employment costs of reform can be small. Although losing industries will release workers, export-oriented sectors will tend to create employment opportunities.

The *sequencing* of components of reform programs was first addressed during the 1980s in discussions dealing with the experiences of Argentina, Chile, and Uruguay. It is now generally agreed that the fiscal accounts have to be under control at the time that a major structural reform effort is launched, and that financial reform should be implemented only once a modern and efficient supervisory framework is in place. The debate over the order of liberalization of the trade and capital accounts revolves around the behavior of the real exchange rate. The liberalization of the capital account can bring an appreciation of the real exchange rate, which sends the "wrong" signal and frustrates the reallocation of resources demanded by the trade reform.[13] McKinnon (1982) and Edwards (1984) argue that the effects will be particularly serious if the transition period is characterized by "abnormally" high capital inflows that result in temporary real appreciations. According to this view, only after the new allocation of resources is consolidated should the capital account be liberalized.[14]

Some authors have argued that labor market reform, particularly the removal of distortions that discourage labor mobility, should precede the trade reform (as well as the relaxation of capital controls). Edwards (1988; 1995, 122) argues that trade liberalization under distorted labor markets can even generate overall welfare losses. Labor market reform can also have political ramifications: owners of capital that would otherwise oppose trade reform may support it if trade liberalization comes with more flexible la-

bor market regulations, but unions in the formal sector will usually oppose labor market reforms that reduce their political and economic influence. In other words, the coupling of trade and labor reforms transforms an intersectoral distributive conflict (as would be the case in a specific factors economy contemplating only a trade reform) into an interfactor dispute.

A common feature of protected economies is that import tariffs and effective rates of protection are dispersed.[15] Harberger (1991) has argued that differentiated tariffs will always be subject to greater interest-group pressures than a uniform tariff structure. Firms, or business associations, will lobby for high tariffs on their goods and for exemptions for their imported inputs. Different arguments will be used, including the fact that a particular sector is "strategic," or that it creates employment, or that it allows the country to absorb advanced technology, or that it is important to safeguard a country's "national security."[16] Implementing a uniform import tariff, with no exemptions, can ameliorate these pressures. Harberger (1991, 19) argued that uniform tariffs "provide a natural guarantee against the huge efficiency costs . . . in the exaggerated rates of effective protection that flow from grossly differentiated tariff structure. What is the key political economy tactic that the strategy involves? Putting each individual protectionist interest group in the defensive."[17]

Most of the issues identified by the political economy literature—speed, sequencing, unemployment, and real exchange rate behavior, among others—played an important role in the unfolding of the Chilean trade liberalization from 1974 through the 1990s. In the end, both the policies and their effects were significantly different from what Chilean policymakers and other observers had anticipated.

IDEAS AND THE "CHANGE TEAM"

Bates and Krueger (1993, 456) argue that one explanation for the failure of interest groups to derail economic reforms is that "in the context of comprehensive economic policy reform, it is difficult for particular groups to calculate where their interests lie. Ideological struggles therefore can outweigh competition among organized interests as a determinant of policy change." Williamson (1994, 26) similarly argues that the probability of success of the reform effort will be higher with "the existence in government of a team of economists (headed by a technopol . . .) with a common, coherent view of what needed to be done and commanding the instruments of concentrated executive authority." Many other references from the academic literature were discussed in Chapter 1.

In Chile, the change team was composed mostly of economists trained at the University of Chicago during the 1960s and early 1970s.[18] The role of these technocrats in defining the economic program and in working closely with other right-wing civilian politicians in establishing a new economic and political order in Chile has been extensively analyzed by several specialists, including Silva (1991), Valdés (1995), Hira (1998, chapter 4), and Huneeus (2000). This literature is remarkable in that it links economic ideas promoted by professional economists to political objectives. For example, Huneeus (2000, 477) is particularly forceful in arguing that the "Chicago boys," such as Sergio de Castro, were active members of a political group headed by lawyer-politician Jaime Guzman even before the fall of Allende.

The Chicago boys, many of whom had joined the faculty of the Universidad Católica upon returning from Chicago, believed that excessive government intervention, high inflation, and rampant protectionism were at the heart of Chile's historical lackluster economic performance. Although they had produced some of the best economic research in Chile, their views were dismissed for years by the political establishment.

A prominent group of Chicago boys, including Sergio de Castro and Sergio de la Cuadra (both would later become finance ministers under Pinochet), had participated in the design of the economic program of conservative presidential candidate Jorge Alessandri in 1970.[19] Three years later, in the midst of the Unidad Popular economic crisis, this group began to prepare a new economic plan for an eventual post-socialist administration. Their work was funded by some private sector foundations and carried out under strict confidentiality. By September 1973, the group had already produced a draft of a document titled "A Program for Economic Development," which proposed what at the time were considered to be radical economic reforms.[20] In the weeks preceding the coup d'état, a copy of "A Program" had been made available by the group's coordinator to the navy high command. In retrospect, it is not surprising that when Admiral Lorenzo Gotuzzo was named the junta's first finance minister, he asked some of the Chicago boys to become his advisers. At the same time, the new minister of planning, a retired senior navy officer, also hired some of the Chicago boys as advisers. Others joined the staff of the Central Bank, which without international reserves faced the tremendous challenge of disciplining monetary policy and taming an inflationary process approaching the four-digit level.

Hence, the Chicago boys' initial participation in the military government was restricted to advisory roles. The military, with a nationalistic doctrinal perspective, naturally gravitated toward more traditional views and con-

tacted some respected "wise men" to offer them influential positions within the regime. Admiral Gotuzzo approached several economists from the Christian Democratic Party (DC). Some of these wise men, such as Sergio Molina and Raul Saez, had served under the Frei government of 1964–1970. Carlos Massad, a more moderate Chicago graduate and former president of the Central Bank, was also approached (Valdés 1995, 17). The views of these individuals were more moderate than those of the Chicago boys. They believed in gradual reforms, maintaining both a prominent role for the state as a producer and moderate levels of protectionism.

As Garretón (1986) and Valdés (1995) have pointed out, it was only slowly that the Chicago boys' views became dominant within the Pinochet administration. This increase in influence was the result of two factors. First, the original gradualist approaches to solving the Unidad Popular imbalances, especially inflation, were not yielding the desired results. Second, in the middle of the crisis, the Chicago boys' radical but internally coherent policy proposals became more attractive. In April 1975, a breakthrough took place. Jorge Cauas, a prestigious economist who had been director of the World Bank's Research Department and who in many ways was an "honorary Chicago boy," was named minister of finance. At the same time, Sergio de Castro, the dean of the Chicago group, became minister of the economy. Under their leadership the gradual approach to stabilization and reform came to an end, and what came to be known as "shock therapy" was applied. In two years inflation was reduced drastically, the economy was opened to international competition, and a major privatization program was launched. During 1976–1979, after two years of recession, the Chilean economy grew at more than 7 percent per annum, and the views of the Chicago boys seemed vindicated.

The boom years lasted through 1980–1981, and then the economy plummeted in 1982–1983. As mentioned, the crisis was partly a result of the rapid appreciation of the real exchange rate, high real interest rates, and a hostile external environment (see Table 4.1).

Although the original reform program of the Chicago boys was seen as revolutionary in 1973, from today's perspective it looks rather tame. The original document was divided into two parts: diagnosis and policy recommendations. The second part, which is of greater interest for our purposes, dealt with eight policy areas: decentralization, international trade, prices, monetary and fiscal policies, taxation, capital markets, social security, and income distribution. In addition, it provided some recommendations with respect to unemployment, education, foreign investment, agriculture, and industrial policies.[21]

FROM PLAN TO IMPLEMENTATION

Trade liberalization played a prominent role in the Chicago boys' program of 1973. The document focused on two main aspects of Chile's trade-related policies: (1) the traditional "noncompetitive" level of the real exchange rate, and (2) the resource misallocation caused by the country's protective structure. Although both of these subjects had been extensively documented, the program correctly pointed out that during the Unidad Popular, the situation had worsened significantly.[22]

In the order of appearance in the document, the program made the following specific proposals regarding trade policy:

1. *Engineer a depreciation of the real exchange rate*. It was argued that a more competitive real exchange rate would encourage exports and help avoid the recurrent balance of payments crises that had plagued the country.

2. *Implement a crawling peg exchange rate regime aimed at maintaining the real exchange rate at a competitive and depreciated level*. The document deliberately ruled out a flexible nominal exchange rate regime, arguing that it would create unnecessary short-run volatility. It was argued that the level of international reserves should be used as an indicator of "fundamentals" behavior. A rapid loss of reserves would reflect the need to engineer a depreciation of the real exchange rate. Interestingly, an asymmetric approach toward exchange rate adjustment was advocated. It was argued that "an excessive accumulation of reserves would not necessarily be translated into a decline [appreciation] in the exchange rate; it would be preferable to reduce import tariffs" (p. 75).

3. *Reduce import tariffs*. A preannounced and programmed tariff reduction was proposed. The new protective structure would be characterized by a new 30 percent uniform import tariff. Four points were made regarding this aspect of the reform. First, the tariff reduction should be undertaken *at the same time* as the real exchange rate depreciation. Second, uniformity was considered essential. This aspect of the reform was rationalized on the basis of the desirability of granting the same degree of effective protection to all activities.[23] Third, it was argued that although politically infeasible, the ideal would be to completely eliminate tariffs. And fourth, the program pointed out that in order to avoid dumping problems, reference prices would be used to calculate the import tariff. These reference prices would, in turn, be calculated as a three-year moving average of the international price.

4. *Eliminate all import licenses and prohibitions*. It was argued that these should be replaced by equivalent import tariffs.

5. *Implement export promotion schemes* aimed at offsetting the discriminatory effect of the uniform import tariff.

The program then argued that these policies would, in principle, create two problems. First, the devaluation required to achieve a more depreciated real exchange rate would provoke inflation. Second, and more serious, it was argued that the tariff reduction would increase unemployment. According to the document, however, this problem could be ameliorated if labor mobility was enhanced.

The program also argued that Chile should negotiate relatively low tariffs in the Andean Pact; if this was not done, it would not be possible to reap the benefits of a more open external sector. It was also argued that, at least in the short to medium run, it would be necessary to maintain capital controls to avoid capital flight. Interestingly, there was no hint of the possibility that the country could suffer the opposite problem of being flooded with external funds. Finally, the document was not very explicit about the speed of reform. Although at one point it said that a uniform 30 percent tariff should be implemented "as soon as possible," elsewhere it stated that the tariff reduction should proceed in a "programmed and gradual" fashion.

Finance Minister Gotuzzo announced on January 7, 1974, that "the study of a complete reform of the tariff schedule requires the collaboration of various groups . . . the Commission in charge of this project will contact the different organizations of the private sector" (Méndez 1979, 81). This commission was known as the Comisión de Asesoría de Política Arancelaria (CAPA) and Sergio de la Cuadra became its first chairman. The commission established the basic principles that would guide the liberalization process:

1. Reductions in the degree of protection had to be compensated through real exchange rate devaluations.

2. International agreements, including those with the Latin American Integration Association (LAIA) and the Andean Pact, would be respected.

3. The final tariff structure, called the "definitive tentative tariff," would comprise three levels: 25 percent for primary products, 30 percent for intermediate goods, and 35 percent for capital goods. CAPA established that this structure responded to political considerations and recognized that it was very difficult (if not impossible) to justify it on economic grounds.

4. The liberalization process would be carried out gradually, over three years.

By late 1974, the country had eliminated import licenses, the maximum tariff stood at 140 percent, and the average tariff was 67 percent, down from more than 100 percent in September 1973. However, and in spite of the de-

cisions reached by CAPA, the authorities were still uneasy about the final tariff structure.

At a conference in December 1974, Sergio de la Cuadra, the chairman of CAPA, disclosed a new proposal (de la Cuadra 1976). This remarkable document recognized the existence of major political constraints associated with trade liberalization. In the introduction, de la Cuadra stated that "trade liberalization has created a political problem, as long as there are people who gain and people who lose" (p. 81, translated). The author went on to argue that under this type of situation, members of the bureaucracy—and especially lower-level officials—become increasingly powerful when they have some discretion in the implementation of general policies. He argued that in designing the new tariff structure, the authorities "should accept the existence of pressure groups . . . [and should] provide mechanisms that prevent those pressures from becoming mechanisms that prevent the accomplishment of the authorities' goals" (p. 82, translated). Hence, "in the absence of a uniform tariff, it should be recognized that tariffs will be manipulated for protectionist purposes. Thus, it is necessary to establish rules that regulate these manipulations" (pp. 88–89, translated). His specific proposal was a tariff structure with a 10 percent mode and a 30 percent maximum nominal tariff. Notice that this proposition is significantly closer to free trade than either what the Chicago boys had originally envisaged in their program or what CAPA had decided to do only a few months earlier. De la Cuadra then argued that this more daring tariff proposal should be compensated with a more depreciated real exchange rate. He went so far as to say that "to the extent that it is not possible to devalue the currency, the magnitude of tariff reduction would have to be smaller" (p. 92, translated). With regard to the Andean Pact, de la Cuadra argued that a fait accompli strategy would be beneficial; if the new tariff structure were to be implemented rapidly, Chile could then negotiate with the other members of the pact from a position of strength.

In discussing the design of the Chilean tariff structure, de la Cuadra (1976) barely touched on the employment costs of the transition. This reflects a combination of beliefs and political realities. As had been expressed in "A Program," the Chicago boys believed that in the context of a flexible labor market, the unemployment costs of a major trade reform would be rather small. One of the early policies of the military regime had been to establish a de facto flexible labor market: union activities had been banned, minimum wages had declined steeply, and other labor legislation had been relaxed (see Section III for details). However, opponents of the reforms ar-

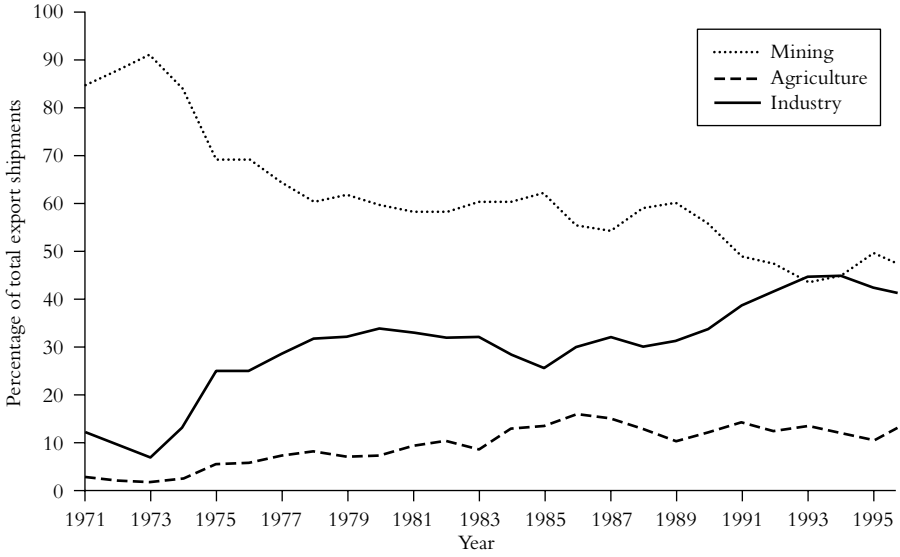

Figure 4.1. Chile's export structure, 1971–1996. The lines show the evolution of the value of exports of three product categories—mining, agriculture, and industry—as a share of the total value of merchandise exports.

SOURCE: Author's calculations based on data from the Central Bank of Chile.

gued throughout the process that the main effects of this "radical" program were to destroy Chile's industrial base, and to generate unemployment. Naturally, the fact that the rate of unemployment had indeed increased significantly made their argument appealing.[24]

Between 1975 and mid-1977, there were eight rounds of tariff reductions, and in August of 1977 the average tariff stood at 19.8 percent. The maximum tariff had reached the 30 percent target, and the mode was 20 percent. During this process the authorities faced a number of unexpected developments. First, the extent of political opposition was smaller than anticipated, even when the nature of the political regime was taken into account. This was largely the result of the "compensation mechanisms" approach discussed in greater detail below. Second, the reform seemed to be bearing fruit faster than anticipated. Exports were growing rapidly and, perhaps more important, they were becoming increasingly diversified (see Figure 4.1). And third, negotiations with the Andean Pact partners were proving tougher than anticipated. This was particularly the case with respect to the pact's di-

rect foreign investment provisions—the (in)famous Article 24 from *Acuerdo de Cartagena*—that greatly restricted the role of foreign ownership in the member countries.

As early as June 1976, then Economics Minister Sergio de Castro expressed Chile's disagreement with the pact's Article 24. In a speech in Cartagena, Colombia, he said, "we are absolutely sure that in order to attract the investment we require, it is necessary to modify Article 24 and to make it suitably flexible" (Méndez 1979, 206). He added that the only responses Chile had received from its partners were "expressions of goodwill which have never gone any further. Only the firm attitude of the Chilean government has finally achieved the initiation of serious discussions on the modification of Article 24" (Méndez 1979, 208). But he was wrong. Time passed and no progress was made on this issue. As a result, it became increasingly clear to the authorities that the pact was a serious obstacle for achieving the military government's goals of integrating the Chilean economy with that of the rest of the world. In mid-1977, it was decided that the costs of remaining in the pact greatly outweighed the benefits, and Chile announced its withdrawal. Shortly after, Minister de Castro, by then holding the finance portfolio, announced that the government's final goal was to achieve a uniform 10 percent tariff by mid-1979. He assured the population, however, that as had been done all along, those affected by these measures would be compensated by real exchange rate depreciations. Specifically, he said: "the lower are tariffs the higher should exchange rates be. . . . [A]s a compensation for the tariff reduction corresponding to the current month, we have decided to devalue by 4.3 percent. . . . For the following months the exchange rate adjustment will correspond to inflation in the preceding months, plus an additional amount to compensate for the tariff reduction."[25]

DISSENTING VIEWS IN A RESTRICTED MARKET FOR IDEAS

Silva (1991) and Hira (1998) argued that the technocratization of Chilean economic policymaking continued even after the transition to democracy in 1990 through the incorporation of well-known economists who had criticized the economic policies of the Chicago boys. Although traditional democratic channels to express dissenting views had been eliminated after the coup of September 1973, those intellectually opposed to the market-oriented reforms expressed their views in a variety of ways. In particular, prominent economists associated with the opposition think-tank CIEPLAN launched a series of attacks against the program.[26] The liberalization process was mainly criticized on three accounts: its excessive reliance on free prices and market forces, the reduced role of the government in economic matters,

and the opening of international trade and financial transactions to foreign competition. These criticisms were channeled through articles in weekly magazines and in more specialized journals. The diffusion of these ideas to a broader public was severely restricted, however. In fact, for awhile the authorities did not allow the CIEPLAN group to release its collection of articles in the form of a book amidst the 1982 economic crisis.[27]

The opening of the economy, including its speed and intensity, was the subject of some of the most severe criticisms. For example, in October 1976, Ricardo Ffrench-Davis argued that import tariffs on the order of 65 percent were "decisively moderate for countries of our degree of development." In July 1977, Ffrench-Davis wrote in the weekly *Hoy* that "a mistaken approach that moves the country excessively towards free trade, means closing some lines of production." And in February 1978, he said that "the saddest aspect of trade liberalization is that it has been carried out at great speed," and he argued that the government should "undo the mistakes made . . . [F]irst, undo immediately part of the trade liberalization . . . [and return] to the Andean Pact" (Arellano et al. 1982, 349 and 354).

During the late 1970s much of the criticism of the liberalization program was centered on the potential effect of trade reform on employment and social conditions. In July 1978, Alejandro Foxley wrote in *Hoy* that "the rapid reduction of import tariffs . . . [is one] of the factors that explain the high rate of unemployment" (Arellano et al. 1982, 383). In December 1976, Patricio Meller argued that a rapid liberalization of trade could be extremely costly in terms of increased unemployment. He argued that as a result of the government reforms, including the deep liberalization of foreign trade, "[the] unemployment rate could easily increase to 23% of the labor force" (Arellano et al. 1982, 387–389). The critics argued that Chile should abandon the experiment and move rapidly toward a program in which the state would play a fundamental role in supporting key industries through higher tariffs, and other forms of subsidies. For instance, in 1983 Foxley argued that "the State should articulate a 'vision' about the country's productive future. . . . The idea is to pick and develop 'winners.' . . . [To this effect] the State would use every instrument available . . . , including special credit lines, subsidies, import tariffs and tax exemptions" (see Foxley 1983, 42–44).[28]

Starting in 1985, the Chilean economy began to recover vigorously; by 1989, it had accumulated a very strong record of growth, which surprised most analysts, including the domestic critics. As the presidential elections of 1989 approached, it had become clear that the criticism of a market-based development path had subsided. In fact, the three presidential candidates presented remarkably similar economic proposals that shared many impor-

tant elements. What was particularly important was that (future president) Patricio Aylwin's program—drafted mostly by the CIEPLAN group—proposed to continue with the most important market-oriented policies. The program argued for "low import tariffs" and for ensuring that the economy had "positive real interest rates that maintain some relation with productivity."[29] By early 1990, it was clear that the incoming government was not going to fiddle with the main elements of the market reforms. If anything, the new authorities were ready to move even further in some areas, such as a further reduction of the import tariff.[30] Coming from those who had relentlessly criticized the reforms, this action represented an important victory for free-trade ideas.

The Aylwin government's decision to maintain the main aspects of the market reforms was clearly stated by Minister of Finance Alejandro Foxley, who in a 1990 interview pointed out that "preserving the former government achievements means maintaining an open economy fully integrated into world markets, dynamic growth in exports, with a private sector fully committed to the task of [economic] development."[31] Although once in power the leaders of the new democratic government supported some of the most fundamental market reforms of the 1970s and 1980s, they still had some important disagreements with the former rulers regarding the role of social and redistributive policies. In that regard Foxley was equally clear in the 1990 interview: "Remedying the former government shortcomings means recapturing the balance between economic growth and the deteriorated conditions of the middle and, above all, the lower classes."[32] What is particularly important, however, is that in seeking funding for new social programs, the new Chilean government strongly and decisively rejected traditional formulas based on inflationary finance. On the contrary, the new administration made it clear from the beginning that the only way to increase social spending without generating unsustainable macroeconomic pressures was to find additional government revenues. Furthermore, the new government continued the policy of targeting social programs toward the poor and avoiding blanket subsidies that historically benefited the middle and upper classes. In short, the populist policies of yesteryear had no role in the new Chilean government.

An important political decision the new government made was to address two critical economic reforms during its first year: a tax package aimed at funding the new social programs, and a reform of the labor law that union leaders and political commentators had criticized. Government officials were careful to explain that these two pieces of legislation constituted the *only* important modifications to the economic model established by Pinochet. In

this way, and especially by tackling these issues early, the government sought to minimize possible negative effects on private investment associated with policy uncertainty (Boeninger 1992).

III. Compensation Mechanisms and the Political Economy of Trade Reform

DISTRIBUTIVE CONFLICTS AND INTEREST GROUPS

As discussed in Chapter 1, analyses of the politics of trade liberalization usually focus on conflicts among interest groups aiming to raise their shares of the national income. A common framework is based on some variant of neoclassical trade theory, including specific factors models, and considers a finite number of interest groups; some will be hurt by the reform and will oppose it, and those that benefit will support it. Rodrik (1994, 68) considers three groups: (1) import-substituting industrialists, (2) holders of import licenses, and (3) users of imports, including producers that rely on imported inputs. Depending on the underlying model of an economy, I could add any number of groups with special characteristics, including (4) agricultural producers, who often argue that food self-sufficiency is a matter of national security; (5) organized labor, especially those employed in import-competing industries; and (6) labor in the informal sector, which tends to be dispersed and disorganized. In this setup, the political support for the reform effort will be proportional to the difference between redistributed income and net efficiency gains—what Rodrik (1994, 67) calls the "political cost-benefit ratio."[33]

Since reforms are seldom restricted to one area of economic policy, a broader set of policies and interest groups should be considered.[34] Exporters are usually among the early supporters of reform-oriented governments; they benefit directly from the reduction of import tariffs affecting their inputs of production and indirectly from the exchange rate depreciation that often occurs during the early stages of a liberalization program. Producers of import-competing goods usually oppose trade reforms but are often at least partially compensated by the real depreciation of the currency. If the reform process is seen as a package, some import-competing sectors may support trade liberalization if they expect to benefit from labor market reforms, privatizations, or financial liberalization, for example. Unions representing the employees of state-owned enterprises are almost always among the opponents of economic reforms, but reformers often try to win them over by offering them some participation in the newly privatized firms.

TABLE 4.4

The political economy of compensation mechanisms

Mechanism	Main features and examples
A. Direct Compensation	*Groups directly affected by the reform policy are compensated through the transfer of cash or financial securities*. In this way the authorities expect to see a reduction in the extent of opposition from that group to that particular reform. Examples of this type of compensation mechanism include the distribution of shares of privatized firms to workers in that particular firm, and adjustment assistance programs to workers who lost their jobs as a consequence of trade liberalization. The increase in take-home pay following a social security reform is another good example of this type of direct compensation scheme.
B. Indirect Compensation	This mechanism implies *compensating groups affected by a particular reform through the adjustment of a different policy that indirectly raises their revenues or reduces their costs of production*. In some cases this type of indirect compensation is "automatic" and is the result of normal economic forces at work. In others it is the result of specific policy measures. One of the most important indirect compensation mechanisms is the real exchange rate. By devaluing the real exchange rate, import-competing sectors are partially compensated, while exporters experience an additional boon. Providing tax exemptions to sectors affected by deregulation constitutes another common form of indirect compensation.
C. Cross-Compensation	*This mechanism entails transferring resources, either directly or indirectly, to groups not directly affected by the reform*, in order to obtain their political support. Transferring shares of privatized firms to the population at large—as in Bolivia's capitalization program—is a good illustration of this mechanism at work.
D. Exclusionary Compensation (i.e., Exemptions)	*Entails excluding certain powerful groups from the effects of a reform or implementing policies that in effect exempt some sectors from the reform in order to diffuse their political opposition*. By allowing these groups to maintain certain privileges it is expected that they will not become active antagonists. The special treatment given to the Chilean armed forces regarding that country's social security reform is a classic example of this type of compensation mechanism.
E. Political Compensation	*This mechanism encompasses political "carrots and sticks"*—for example, the appointment of influential representatives of certain groups to high-level government jobs, which often sends a (symbolic) signal to interest groups that their concerns will be addressed. On the negative side, there are politically exclusionary practices, such as political repression and persecution, which may benefit some groups at the expense of the victims.

SOURCE: Compiled by the author.

Moreover, political compensation schemes can also be devised to tame opposition to reforms, such as offering political appointments to influential representatives of a particular interest group. Table 4.4 provides a description of commonly used compensation schemes.

A relevant question for the Chilean case concerns the relationship between an authoritarian political regime and constraints faced by reformers. The fact that an authoritarian government does not face electoral challenges does not mean that reformers have a free hand inside a dictatorship; within a dictatorial regime there will be factions that represent interest groups. Reformers also have to persuade military strongmen that their policies are appropriate, and the market-oriented perspective often clashes with the strongly nationalistic, state-centered views of the military.[35] Dictators also demand results—although the lack of political competition may give reformers more time to obtain them—and seek to maintain some degree of legitimacy, which is accomplished in part by targeting political repression only at specific groups.[36] Limited freedom of expression under authoritarian regimes may also limit the scope of the market of ideas. As argued above, although some limitations were imposed on the exposition of anti-reform ideas, especially in the immediate aftermath of the breakdown of democracy in Chile, criticisms were, indeed, published by the media during the period of reform.

From a political perspective, it is important to consider the Chilean reforms as a package. Of course, this does not mean that all reforms should be undertaken simultaneously, or that their supporters should be considered all equally important. What it does mean is that interest groups had to take a position with respect to the complete package, rather than with respect to some of its components. Table 4.5 provides a taxonomy of interest groups in Chile and the expected effects of the reforms on these groups. My contention is that the political economy of Chile's trade liberalization reflected the use of a variety of compensation schemes, some of which were embodied in the components of the reform package itself. Table 4.6 shows the various compensation mechanisms that the Chilean authorities used through the five stages of the liberalization process; the types of mechanisms used in each phase can discern the five stages of the process.

TAXONOMY OF CHILEAN INTEREST GROUPS

In order to organize the political analysis of Chile's reforms, I divided the actors into six groups (see Table 4.5).[37] The first column of Table 4.5 lists the policy measures that were part of the reforms, and the following six columns describe how each policy measure affected each type of interest

TABLE 4.5
Winners and losers of reforms

Policy measure	Import-competing	Exporters	Non-tradable	*Grupos* (conglomerates)	Formal organized labor	Informal labor
Trade Liberalization	L	W	W	W	L	W
Export Promotion		W		W		
Depreciation	W	W	L	W		
Bank Privatization				W		
Financial Deregulation	L	W	W	W		
Pension Reform				W	W	L
Capital Account Liberalization	W	W	W	W		
Privatization of Real-Sector Firms	W	W	W	W	L	
Labor Reforms	W	W	W	W	L	W

NOTE: W indicates winners; L, losers.

TABLE 4.6
Compensation mechanisms and the stages of trade liberalization in Chile, 1974 to the present

Mechanism	Stage I (1973–1978)	Stage II (1979–1982)	Stage III (1983–1985)	Stage IV (1985–1990)	Stage V (1991–present)
A. Direct					
1. Employment Program	X	X	X		
2. Duty Drawbacks	X	X	X	X	X
B. Indirect					
1. Real Exchange Rate	X		X	X	X
2. Financial Reforms	?				
3. Labor Reforms	X	?			
C. Cross					
1. Privatization	X	X			
2. Pension Reform		X			
3. Capital Account Liberalization		X			
D. Exclusionary					
1. Surcharges			X		X
2. Price Interventions			X		X
3. Reversals			X		
E. Political					
1. Appointments	X		X		
2. Repression	X	X	X	X	
3. Democracy			X		

group. The first group is composed of owners of capital or land in import-competing industries, which include manufacturers and producers of traditional agricultural products, such as wheat, sugar, and oilseeds. The second group is composed of export-oriented producers, including mining-related enterprises and nontraditional exporters. The third group is the non-tradable industries, such as the construction and transport sectors. The fourth group is composed of the so-called *grupos*, or financial conglomerates, which controlled a large share of the banking sector and significant portions of export industries. The fifth and sixth groups are the formal, unionized workers and workers employed in the informal sector.

As mentioned in Chapter 2, of the import-competing groups, manufacturers have been organized under the umbrella of the Sociedad de Fomento Fabril (SOFOFA) since 1883. Historically, SOFOFA had been at the center of the push to raise tariffs on imports of manufactures since 1897, when Law No. 980 was passed, raising import tariffs on textiles and other manufactures (Cortés Douglas et al. 1980, 150). In the early 1970s SOFOFA represented producers of chemical products, steel, textiles, and other manufacturers that had benefited from protectionist policies. Although most of its members came from large and medium firms, it has also represented a number of small manufacturers. The Sociedad Nacional de Agricultura (SNA) has represented traditional agriculturalists since 1838. However, this organization had a mixed membership that also included the large agricultural producers of nontraditional agricultural products, such as fruits. In addition, both SNA and SOFOFA belonged to a more general umbrella association of large and medium enterprises called the Confederación de la Producción y el Comercio (COPROCO). Finally, the Confederación de Productores Agrícolas (CPA) was founded in 1973, by the fusion of two associations of small and medium agricultural producers, which included producers of wheat and other traditional agricultural products.

In any case, the import-competing sectors were expected to lose from the reduction of tariffs affecting their products but were expected to gain from the currency devaluation that would raise the prices of their tradable goods, and from the labor market reforms that were expected to reduce their costs of production. In addition, owners of capital in these sectors could also benefit from the privatization of real-sector firms and from the capital account liberalization that would reduce the costs of foreign finance. In contrast, the deregulation of domestic interest rates was expected to hurt those import-competing sectors that had benefited from the subsidized credit that was available to them during the period of import substitution.

The producers of mining goods were represented by the Sociedad Nacional de Minería, while the exporters of nontraditional goods did not have a specific association at the outset of the reforms but were progressively included in the umbrella of COPROCO and the general business association Cámara Central de Comercio, which had been founded in 1858 and traditionally represented large export firms, including some of the most important wineries. As shown in Table 4.5, these export industries were expected to gain from trade liberalization, export promotion policies, exchange rate depreciation, and even from the interest rate deregulation because it was expected that borrowing costs (interest rates) would fall for exporters who had not benefited from the credit controls of the protectionist period.

The non-tradable sectors were represented by business organizations such as the Cámara Chilena de la Construcción, which was founded in 1951, and several organizations affiliated with the Consejo de la Producción, el Transporte y el Comercio, most of which were founded between 1918 and 1973. In fact, many of its members had been key players in raising discontent with the Unidad Popular government during 1970–1973, for they had participated in several transport stoppages that tended to temporarily paralyze the domestic economy during this period (see Campero 1984 and 1991). The construction and transport sectors were expected to benefit from trade liberalization due to the lower prices of imported inputs of production, from labor market reforms, from the privatization of public firms, from the liberalization of the capital account, and perhaps, from the liberalization of interest rates. However, the currency devaluation was expected to reduce the relative price of non-tradable goods.

The formation of large conglomerates—the so-called grupos—was a by-product of the financial reforms that were initiated in 1974, and especially of the privatization of the banks in 1975. By the early 1980s, these conglomerates owned a large share of Chile's financial system, and their lending activities were often concentrated in lending to related firms. Foxley (1986, table I.21) shows estimates of the extent of connected lending by several financial institutions and their share of the financial system's assets. Foxley's data indicate that the share of connected lending in total lending by Chilean banks in June 1982 ranged from 4 percent for the Matte-BICE bank to 44 percent within the Larrain-Santiago bank. The grupos also benefited from the liberalization of the capital account, which raised the volume of funds intermediated by their banks, and from the pension reform, which increased the size of the private financial market. Since the grupos owned export-oriented firms, they also benefited from the policies that strengthened the export sectors.[38]

On the eve of the military takeover in 1973, the Chilean labor movement was represented through legal and "illegal" labor unions. The legal unions were recognized by the Labor Ministry and encompassed industrial and agricultural unions. The former participated mostly in decentralized (firm-level) collective bargaining, while the latter were represented at the industry level. Moreover, the Central Unica de Trabajadores (CUT) was the national labor federation that had tight links to left-wing political parties. Nonetheless, CUT played only a leadership role in the process of collective bargaining and was seldom directly involved in collective bargaining (Barrera and Valenzuela 1986, 233). The "illegal" unions were not officially recognized by the State, but most democratically elected governments tolerated their existence. These unions, which often called themselves "councils" or "associations," represented most public employees, including those working in public enterprises. The legal union membership was expected to lose from labor market reforms that reduced the political influence of CUT, while the illegal unions were clear losers of the privatization program. In contrast, workers employed in the informal economy were expected to gain from cheaper imports resulting from trade liberalization but would lose from the pension reform that eliminated their public pensions.[39]

The weakening of the labor movement during the military regime was dramatic. For example, union membership declined drastically from about 65 percent of total wage earners in 1973 to less than 20 percent on average for the 1980s (Cortázar 1997, 240). In spite of the military regime's policy of political repression targeting left-wing labor leaders, beginning in 1974, Pinochet invited center-right labor leaders to highly publicized "informational" meetings, thus showing the general's concern about not appearing to be a labor antagonist. In July 1974, Pinochet appointed Air Force General Nicanor Diaz to the Labor Ministry; his primary mission was to create an institutional framework for labor participation in setting wage policies—namely, "tripartite committees" encompassing government, management, and labor leaders. (Coincidentally, the International Labor Organization began an inquiry into the violation of union rights precisely in July 1974.) This institutional arrangement failed to respond to labor's rank and file, who were experiencing a rapid deterioration of the purchasing power of their wages. Between 1975 and 1978, labor discontent with the Chicago boys' program was articulated through the declarations of the so-called Group of 10 labor leaders, plus several new labor organizations that were formed during 1977–1979, which were not shy in expressing their opinions (see Barrera and Valenzuela 1986). During the crisis of 1983–1984, labor unions took to the streets in mass protests and later played an important role in supporting the

coalition that triumphed in the 1988 plebiscite. After the transition to democratic rule in 1990, the incoming administration negotiated with right-wing opposition in the Senate to enact legislation that enhanced the right to unionize for public and temporary agricultural workers and abolished restrictions forbidding unions from different firms to participate in firm-level collective bargaining (Cortázar 1997, 250).

In sum, the set of affected interest groups and their representative organizations is quite extensive, reflecting a long history of collective action by the various groups.

COMPENSATION MECHANISMS DURING THE FIRST STAGE

As discussed earlier, the first stage of the liberalization process led to the drastic reduction of import tariffs and the elimination of non-tariff barriers (recall Tables 4.2 and 4.3). Several mechanisms to compensate (potential) opponents of the trade liberalization reform were used during this phase. In terms of direct compensation mechanisms, the authorities offered several export promotion policies: a rebate of the value-added tax introduced in 1975; a rebate on import duties paid on inputs to be re-exported, which was limited to direct importers of inputs; and a subsidy offered to fishing and tree planting for lumber exports (de la Cuadra and Hachette 1991, 226).[40] As pointed out above, throughout the reform the authorities were concerned with unemployment. For this reason, in 1975, an emergency program—the Minimum Employment Program (MEP)—was launched, aiming to provide a subsistence wage to the unemployed in exchange for limited work. Edwards (1984, 85) discusses the evolution of unemployment, wages, and the number of participants in the MEP. The data indicate that more than 10 percent of the national labor force benefited from the MEP in 1983 during the peak of the recession caused by the macroeconomic and banking crisis.

The depreciation of the real exchange rate was perhaps the most important (indirect) compensation mechanism used throughout this period. Through maintenance of a weak (real) value of the peso, it was expected that exporters—as well as those that planned to move into the export sector—would support the program, at the same time as import-substituting sectors would reduce their opposition. Figure 4.2 shows the evolution of the dollar-based real exchange rate and the modal and maximum import tariff rates. The effects of the maxi-nominal devaluation of October 1973 began to be reversed in mid-1976, but the real exchange rate resumed its downward trend in mid-1977. This combination of trade liberalization, export subsidies, and exchange rate depreciation encouraged a frantic growth of

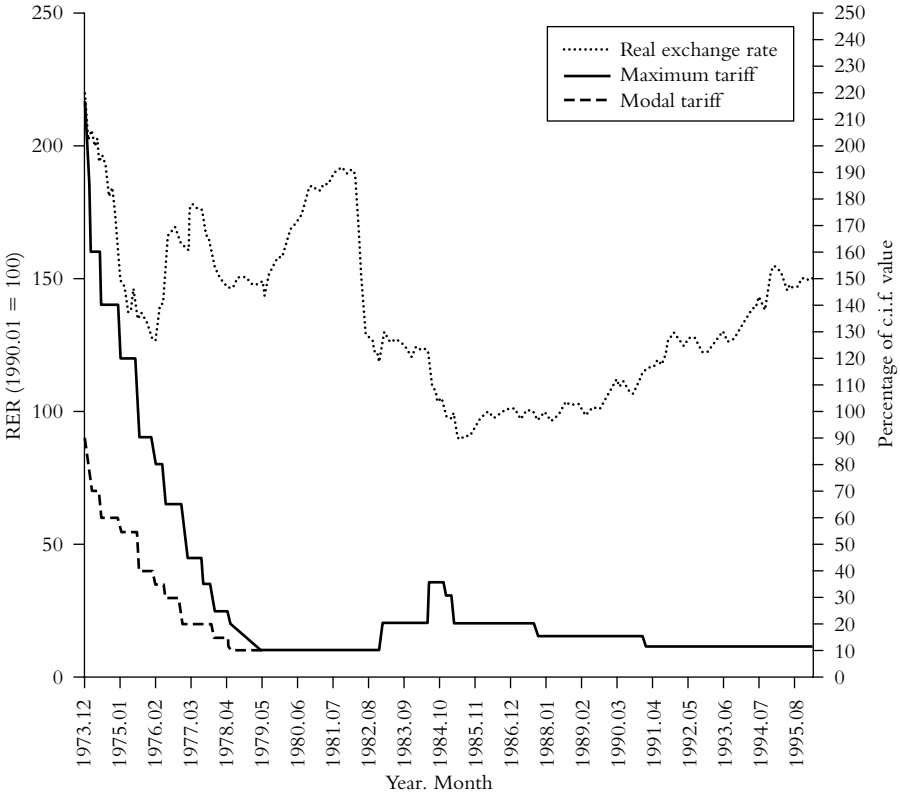

Figure 4.2. Import tariffs and the real exchange rate in Chile, 1973–1996. The lines show the evolution of the maximum tariff, the modal (most common) tariff, and the real exchange rate (RER). The real exchange rate index was calculated as the ratio of the Chilean consumer price index divided by the product of the U.S. producers' price index times the nominal bilateral Chile–United States exchange rate, and the resulting index was set equal to 100 in January 1990. A rise in the index represents a real exchange rate appreciation. The tariff indicators are nominal tariffs measured as a percentage of the value of imports (plus customs, insurance, and freight costs: c.i.f. value).

SOURCE: Author's calculations based on data from the International Monetary Fund and data on tariffs presented in Table 4.3.

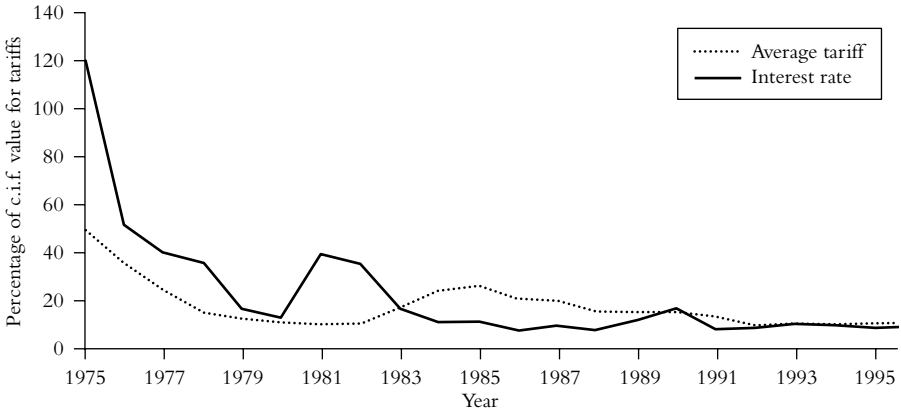

Figure 4.3. Average import tariffs and real interest rates in Chile, 1975–1996. The lines show the evolution of the average nominal import tariff as a percentage of the c.i.f. value of imports (that is, including customs, insurance, and freight costs) and the average annual real interest rate charged for short-term thirty- to eighty-nine-day loans deflated by the consumer price index.

SOURCE: Author's calculations based on data on tariffs presented in Table 4.3 and interest rate data from the Central Bank of Chile.

nontraditional exports during 1974–1979. Figure 4.1 shows the shares of total export shipments of three product categories: mining, agriculture, and industry. The latter includes nontraditional exports such as salmon, trout, wines, lumber, fishmeal, and frozen fruits. It is remarkable that the share of those exports rose rapidly between 1974 and 1979, but this upward trend did not resume until the 1990s.

The liberalization of the financial sector—which included the privatization of banks and a decree passed in December 1974, prohibited the state ownership of commercial banks, and freed interest rates (Ffrench-Davis and Sáez 1995, 73)—was another important component of the reform package. It was expected that through the deepening of the financial sector, more firms would have access to credit at relatively low rates. In a way, this (potential) availability of credit at reasonable rates was seen as a key component of the compensation package. Yet, as shown in Figure 4.3, real lending rates (for short-term thirty- to eighty-nine-days credit issued by banks) were excessively high, ranging from 121 percent in 1975 to 35.1 percent in 1978. Hence, the potential compensation that could have emanated from these financial reforms to interest groups that had not benefited from subsidized

credit during the protectionist period was ineffective in terms of providing greater access to inexpensive credit for adjusting firms.[41]

Another form of indirect compensation that benefited the private sector was the repression of labor unions that aligned themselves with the Allende government, plus several other measures implemented to reduce the constraints on firing and hiring workers and promoted decentralized collective bargaining. On September 18, 1973, the authorities banned the presentation of union demands (*pliegos de peticiones*) and suspended the right of union leaders to spend working time dealing with union affairs. Later that year, other decrees were issued that had the following consequences: (1) made the firing of workers easier, including the firing of workers leading "illegal" strikes; (2) suspended existing agreements regarding salaries, benefits, and other remunerations; (3) suspended automatic adjustments of pensions to compensate for inflation; and (4) suspended all organizational union activities (Barrera and Valenzuela 1986, 235–236).

A less-known fact is that the military dictatorship also offered exclusionary compensation mechanisms, even during this first stage of the liberalization process. For instance, subsidized credit to agricultural producers and a price-stabilization fund for milk products, meat, wool, and even poultry, beans, onions, and potatoes were not eliminated until 1977 (de la Cuadra and Hachette 1991, 265). Moreover, in response to farm lobbies, a price band mechanism for wheat, sugar beet, and oilseed prices was made operational in 1978, which was subsequently dismantled in mid-1979 under pressure "from the same farmer's organizations which foresaw that free trade prices would be above the ceiling price" (Quiroz and Valdés 1993, 3).[42]

Finally, it is noteworthy that also in response to the farm lobbies, the authorities offered political appointments to members of the SNA. In an interview published in July 1976, the president of the SNA, Alfonso Márquez de la Plata, said: "We are absolutely in agreement with the current economic policies and we believe that there is no alternative. But we feel that certain measures should be adopted to make this program viable" (Campero 1984, 147, translated). As a result of the SNA's discontent, the cabinet was reshuffled, and a new minister and vice-minister of agriculture were appointed. The vice-minister position was given to a former officer (*Secretario*) of the SNA, Sergio Romero (Campero 1984, 147). Later in October 1976, Márquez de Plata inaugurated a conference by stating that "basic staples should be produced domestically, even at higher prices than in the international market, since they have a strategic character and they must be promoted" (Campero 1984, 148, translated). The influence of the SNA would be felt during later stages of the liberalization process.

Another key political compensation mechanism was linked to the military's justification for displacing the Allende government. Namely, in spite of the initial uncertainty and an economic recession in 1974–1975, entrepreneurs who had traditionally benefited from protectionism were willing to support the economic program of the dictatorship for the sake of "saving the country" from communism. For instance, in December 1973, Orlando Sáenz, the president of SOFOFA, wrote: "we only know the general contours of the government's economic policy. . . . A model of development cannot be alienated from the idiosyncrasies of the population, nor can it go against the physical and historical continuities. . . . Economic successes are merely vehicles for achieving political and social goals, but cannot become ends in themselves, this is what distinguishes a policymaker [*Estadista*] from the technocrat: the former cannot be subjugated by the latter" (Campero 1984, 105, translated). Yet three months later, in March 1974, Sáenz said: "the process is more revolutionary than reconstructive. . . . The military junta proposes to act drastically to deal with the great problems of the country. . . . The reconstruction will produce a new structure of the State, a new concept of development; different productive relations that lead us to an era of prosperity" (Campero 1984, 106–107, translated). Hence, it is clear that the manufacturing sector was willing to accept the challenge of economic reform because the new government had set back the socialist program of the early 1970s.

THE FAILURE OF INDIRECT COMPENSATION SCHEMES DURING THE SECOND STAGE

Table 4.6 also shows that during the second stage there was an apparent shift in the use of compensation schemes, from a reliance on indirect measures to cross-compensation schemes. In particular, as discussed, the real exchange rate began to appreciate rapidly in 1979, partly as a consequence of the change in nominal exchange rate policies, and partly as a result of increasingly large capital inflows. Furthermore, real interest rates began to rise again in 1980 (see Figure 4.3). Both of these developments hurt exporters—the early supporters of the reforms. At the same time, however, the implementation of broader aspects of the reforms, including the labor law and massive privatization, benefited the conglomerates, which became the more staunch supporters of the program.

The story of labor market reforms is particularly interesting. A new labor code was introduced in 1979 under the guidance of Labor Minister José Piñera, a Harvard-trained economist. The code established a new collective bargaining mechanism, whereby union affiliation within a firm became vol-

untary and all negotiations were to be conducted at the firm level, thus eliminating industry-wide collective bargaining (see Edwards and Edwards 1991, 104–105, for details). However, "in an apparent contradiction . . . the authorities made no change in the minimum wage regulation and introduced wage indexation, both policy decisions that are only explicable in terms of political considerations" (Riveros 1986, 24). Another observer noted: "This law, written when the Chilean economy was at the height of its late-1970s boom, mandated essentially that every new labor contract must provide *at a minimum* a full cost-of-living adjustment from the date of the previous contract. For practical purposes, it made reduction in real wages *illegal* in any covered activity" (Harberger 1983, 6). With the nominal exchange rate pegged to the dollar at thirty-nine pesos beginning in June 1979, the wage indexation mechanism was probably another important determinant of the real exchange rate appreciation that afflicted the Chilean economy during this phase of the liberalization process.

The process of privatization of state-owned enterprises that was initiated in 1974 proceeded throughout this period. One effect of the process was the creation and consolidation of the grupos. By 1979, the ten largest grupos controlled 135 of the 250 largest private corporations, and they controlled approximately 70 percent of all corporations traded in the stock market (Dahse 1979). During the second stage of the trade opening, the grupos benefited from several other measures. For example, the partial elimination of capital controls led to a massive inflow of foreign capital intermediated by the grupos' banks and other financial intermediaries, but worsening the real appreciation of the exchange rate.[43] Another example of a cross-compensation scheme that benefited the financial conglomerates is the social security reform of 1981, which led to the establishment of privately managed pension funds; the grupos invested heavily in these funds. Despite the fact that the grupos were "compensated" (by the partial liberalization of the capital account and the privatization of the pension system, both entailing a form of cross-compensation) as the real exchange rate continued to appreciate during this period, the profitability of industries in the tradables sector tended to deteriorate, and eventually many banks had to be bailed out on January 13, 1983.

FROM BACKTRACKING TO CONSOLIDATION, 1983–1991

From a political economy perspective, one of the most apparent effects of the economic recession experienced in 1983–1985 was the shift to exclusionary compensation mechanisms (see Table 4.6). It has already been mentioned that the uniform tariff was raised several times during this stage,

reaching 35 percent in September 1984. However, the reversal was not limited to the uniform tariff. As a matter of fact, de la Cuadra and Hachette (1991, 269) list the numerous surcharges that were applied to imports during this period. The great diversity of products, ranging from butter to refrigerators, indicates that these surcharges were the result of industry-specific lobbying efforts—there is no apparent rationale for their imposition that would be justified by "optimal taxation" arguments. The system for setting the surcharges was launched in November 1981, at the zenith of the real exchange rate appreciation (see Figure 4.2). By December 1984, the authorities had received 123 requests for relief, alleging that foreign governments subsidized their exports to Chile. Yet the Chilean authorities did not follow contemporary procedures that existed under the General Agreement on Tariffs and Trade (GATT) that permitted country-specific compensatory duties, and opted for general surcharges that did not discriminate among countries.

De la Cuadra and Hachette (1991, 268) defend this position by arguing:

> in the history of GATT, there has not been a single case in which a small country has been able to apply a compensatory duty on imports from a large country, because it does not have the "power" to do so. For example, when Chile intended to levy compensatory duties on a limited number of imports from Brazil, the pressures against doing so at diplomatic levels were such that the GATT mechanism did not work.

Yet the timing of the implementation of this system of surcharges indicates that the authorities became "suddenly" preoccupied by foreign subsidies. A more likely explanation is that the authorities were once again responding to political pressures, even under an authoritarian regime. In addition, "between March 1983 and January 1990, imports were subject to a 120-day minimum financing requirement. . . . In June 1988, the minimum financing requirement was lifted for imports below US$5,000. . . . The exemption was later raised to US$20,000 in December 1988, and to US$50,000 in June 1989" (GATT 1991, 52).

Business associations were also compensated through political mechanisms. In February 1983, Manuel Martín, a leading industrialist, was appointed minister of economy. Subsequently, Modesto Collados, a construction entrepreneur, was named minister of housing, and later minister of economy. In 1985, Manuel Délano, who had led the Chamber of Commerce, was appointed to the same office. Furthermore, in 1984, a leader of the SNA, Jorge Prado, became minister of agriculture, and in 1986, a for-

mer president of the National Society of Mining, Samuel Lira, became minister of mining (see Campero 1991, 139–140).

In the midst of the economic crisis in July 1983, COPROCO published a document titled "Economic Recovery: Analysis and Proposals," thus revealing that the entrepreneurs differed with the government on policy matters, including the low and uniform tariff level (Campero 1991, 139). On August 15, 1983, Finance Minister Carlos Cáceres responded to COPROCO by stating that the government would consider only individual aspects of their proposals. According to Campero (1991, 140), "By mid-1984, the government had formulated a three-year plan . . . which incorporated many of the entrepreneurs' proposals . . . [including] agricultural and mining investments, a policy of job expansion, and an increase in import tariffs [from 20 to 35 percent] in order to protect national industry." Indeed, by 1983 the government had resumed price interventions in agriculture, announcing a minimum import price for wheat that would be sustained through contingent variable import levies. In 1984, the minimum wheat price policy was incorporated into a price band framework, and the program was extended to edible oil. Sugar was added to the system in 1985 (Quiroz and Valdés 1993). More generally, during 1983–1985 the government was forced to negotiate a recovery program with the private sector, which led to the ambiguity of its economic policies. This flirtation with an all-out reversal of the liberalization process came to an end in 1985, when Hernán Buchi became minister of finance and was able to reach a compromise between the orthodox views of the Chicago boys and the demands from the private sector to have a negotiated program in place (Campero 1991, 140).

As shown in Figure 4.2, the real exchange rate depreciated rapidly during the crisis years, thus providing additional compensation to tradable industries. As illustrated in Table 4.6, once the economic recovery got under way after 1984, and well into phases four and five of the liberalization process, few compensation mechanisms were used to make the resumption of liberalization palatable. Nonetheless, the real exchange rate became more stable, thus acting as an effective indirect compensation mechanism at least by providing stability to the ratio between foreign and domestic prices.

As the economic recovery proceeded, the rate of unemployment also fell, while moderate inflation persisted in the double digits until the mid-1990s (see Table 4.1). On the political side, the Constitution of 1980 had scheduled a plebiscite referendum on Pinochet's regime for 1988. The democratically elected government of Patricio Aylwin lowered the uniform tariff to 11 percent in 1991. It is noteworthy that this tariff reduction was imple-

mented in conjunction with the establishment of exchange controls. More specifically, on the same date the government instituted a reserve requirement (for a minimum of ninety days) for short-term capital inflows. This policy mix highlights the Aylwin administration's concern about real exchange rate appreciation that Chile was experiencing as a result of a surge of capital inflows.

From a political economy perspective, this combination of exchange controls and tariff reductions can be interpreted as an attempt to send a signal to the markets that the controls should not be interpreted as the beginning of a reversal of the market-oriented development model. In fact, three members of Aylwin's government who were in charge of trade policy matters have acknowledged that "even when the origin of the decision [to lower the tariff to 11 percent] had a macroeconomic motivation, the measure was consistent with the objective to consolidate the opening of the economy" (Saez et al. 1995, 48, translated). Furthermore, a member of the Central Bank staff and a finance ministry official at the time have written that "in order to sustain the real exchange rate, in June, 1991, the government lowered tariffs . . . , and imposed a series of measures on the capital market" (Ffrench-Davis and Labán 1996, 58).[44] Hence, it cannot be overemphasized that trade liberalization in periods of uncertainty can send a strong signal that incoming, especially left-of-center, governments will continue with a market-oriented development strategy. In the words of Edgardo Boeninger, the minister secretary general of the presidency during the Aylwin administration, "The [Aylwin government], whose faith in the market was initially suspect for understandable historical reasons, has invested in entrepreneurial trust, both by language and by deed, conveying signals that have contributed to creating the perception that an enabling environment for private enterprise does in fact exist" (Boeninger 1992, 286).

As mentioned earlier, Chile renewed its unilateral liberalization in 1999. The implemented program reduced the uniform tariff to 6 percent in January 2003. Yet it is clear that use of compensation mechanisms continues. During the late 1990s the government maintained the protectionist price bands on certain agricultural commodities and toughened the country's legislation against dumping and foreign export subsidies (Fischer and Meller 1999). These measures can be interpreted as a resurgence of the use of exclusionary compensation mechanisms, as shown in Table 4.6. In this case, industries benefiting from the price band surcharges and anti-dumping or countervailing duties are likely to be those that are being hurt by both the liberalization of trade with certain partners and the renewed unilateral liberalization. It is unknown at this time whether the economic benefits from

further liberalization will outweigh the efficiency costs from these protectionist schemes, but we do know that the distributive effects of the agricultural price bands tend to be socially regressive although their supporters have sold them as policies than can help reduce poverty.[45]

IV. Concluding Remarks: Married to Regionalism

The advent of regionalism in the Western Hemisphere has become part of Chile's economic and political realities. It is now unclear whether Chile's love affair with unilateralism has run out of passion, and it is also uncertain whether Chile's previous flirtation in the 1990s and eventual marriage with regionalism in the late 1990s and early years of the twenty-first century will lead to the end of its remarkable experience with unilateral liberalization. Two considerations support this ambivalent assessment.

First, it is possible that the authorities attempted to "strengthen" their positions for the "upcoming" negotiations to enter NAFTA by maintaining the level of the tariff at 11 percent.[46] Parliament was considering another reduction in the uniform tariff in 1997, but this project was temporarily shelved in the aftermath of the Asian crisis due to a deterioration of Chile's current account.[47] In any case, most of the policy debate at that time focused on the role of tariff changes as determinants of the real exchange rate, which is a legacy of the late 1970s and mid-1980s, as well as on the fiscal consequences of the proposed tariff reduction. The lesson from past experience is that automatic adjustment mechanisms based on the downward adjustment of non-tradable prices do not work and that tariffs are an inappropriate means for raising fiscal revenues. Regarding the former, a change in the tariff by itself cannot bring about a real depreciation—it is not the proper policy lever to accomplish that. The tariff should be lowered to reap the gains from trade, not to help macroeconomic management. Since the peso had been appreciating moderately since 1995, many interests in tradable industries, including former allies of the military government such as the SNA, used this fact as a justification for demanding special treatment.[48]

Second, some of Chile's regional partners are world-class producers of traditional agricultural products. The country has signed and implemented trade agreements with Argentina, Brazil, and Canada, and the United States. The phasing out of the agricultural price band mechanisms in the context of the agreement with the Mercosur countries will have obvious losers, namely, the membership of the SNA. In fact, the ratification of the agreement ran into trouble in 1997, mainly as a consequence of political pressure exerted by agricultural interests on right-wing elements of Parliament. The

SNA again claims that its members represent a special sector, worthy of special favors. The last two democratic governments have already used an exclusionary compensation mechanism in the form of the long phase-out period. It is reasonable to expect some "senescent industry" protection for traditional agriculture in the coming years.[49]

In late 1998, the legislature approved Minister Eduardo Aninat's proposal and unilaterally reduced the uniform tariff to 6 percent in January 2003. However, this renewed interest in unilateral liberalization is taking place during a time when the most protectionist effects come from non-tariff measures, such as the continued use of the agricultural price bands as protectionist schemes and the strengthening of administered protection. Although the latter are WTO-legal, they are not yet completely in line with all WTO guidelines. From a purely economic perspective, these devices do not make sense, although they could make sense from a political economy viewpoint. Namely, such measures institutionalize mechanisms for sectors affected by foreign competition to receive, it is hoped, transitory relief. In other words, reliance on these institutional mechanisms is consistent with Corden's (1974) conservative social welfare function, as discussed in Chapter 1.

Hence, it is clear that although Chile continues to set the standard for developing countries in terms of unilateral liberalization, it has also installed institutional mechanisms that readily heed protectionist demands. In the end, Chile continues to move toward free trade, while compensation mechanisms continue to be used to quiet the losers. For economists, the challenge is to assess whether the potential benefits from continued liberalization are higher than the efficiency losses produced by the remaining and new non-tariff barriers to trade that may be necessary to sustain the political support in favor of liberalization.

Chapter 5

Summary of Findings, Future Research, and the Future of Chilean Trade Policy

I. Summary of Findings

Although this study has focused on one country, it provides several important contributions to the literature on the political economy of trade policy. Chapter 1 is perhaps the only existing literature review that systematically compares the contributions from political science and economics. Moreover, it showed that most of the arguments from both disciplines can be illustrated using a flexible framework based on the union of Corden's (1974) analysis of domestic divergences and Lavergne's (1983) analysis of the costs and benefits of protectionist policies as viewed by a representative policymaker. This tool should be tested as a teaching tool for students of commercial policy in economics, political science, and interdisciplinary programs. Nevertheless, the literature review also revealed the need to undertake further rigorous theoretical analyses that might help to understand the triggers of ideological and institutional changes that may lead to permanent changes in trade policy regimes.

Chapter 2 provided an overview of Chile's openness and policies during 1810–1995. The descriptive empirical analysis showed that 1910–1939 was a key period in the country's history. The historical evidence supports a new set of periods in Chilean history for characterizing its trade regimes. The conceptual framework proposed by Goldstein (1993) was quite useful for identifying these trade policy cycles. The new proposed periods are: (1) the

rise of the small open economy during 1810–1910, which includes the first explicitly protectionist tariff of 1897 imposed in the middle of an economic crisis; (2) the period of delegitimization of liberal economic ideas during 1911–1927; (3) the period of institutionalization of protectionism during 1927–1956; (4) the period of delegitimization of protectionism during 1956–1973, which was due to its association with high inflation; and (5) the period of intense unilateral liberalization from 1974 to the present.

Chapter 3 presented the results from two econometric analyses, which have never been applied to trade policy issues in developing countries. An important result for the literature on the history of trade policy in Chile is that the structural break in the path of Chile's openness actually occurred before 1930, possibly in the immediate aftermath of the First World War in 1918. The Probit regression results concerning the determinants of Chilean trade policy changes during 1830–1995 showed that the main explanatory variables for episodes of liberalization *and* protection were the trade balance, economic growth, and the Liberal Era (1861–1897). In addition, episodes of liberalization were also explained by inflation, the share of manufacturing employment, import penetration, and the free-trade ideology of the Pinochet dictatorship (1974–1989). Protectionist episodes were also explained by the fiscal balance. Yet many plausible hypotheses were not tested because of data limitations, and much work needs to be done in the future to further understand the empirical determinants of trade policies in Chile and elsewhere in the developing world.

The period of intense unilateral liberalization from 1974 to the present was analyzed in detail in Chapter 4. Perhaps the most important finding is that even the dictatorship of General Pinochet relied on various compensation mechanisms to maintain political support for trade liberalization. Moreover, the main factors identified by the academic literature on the political economy of trade policy—economic conditions, interest groups, ideas and ideologies, and institutions—played key roles during the process of liberalization, even under a dictatorship. Future research could attempt to analyze how different economic policies implemented in liberalizing economies under different political regimes interact to either politically sustain or topple the process of liberalization.

II. Future Research

The main weakness of the present study is its focus on a single country. This is common in the academic literature, which includes many single-country analyses, especially of the United States (Goldstein 1993), but also of a few

developing countries (Pastor and Wise 1994). But the main limitation of these types of studies is that it is difficult to argue that the findings for a single country are applicable to others. In this case, for example, it is not clear that other Latin American countries experienced a structural break before the Great Depression, although Diaz-Alejandro (1970) had already pointed out that at least Argentina was protectionist in the 1920s, and Bertola and Williamson (2003) have noted that import tariff revenues as a share of the value of imports in Latin America tended to be relatively high in the nineteenth century when compared with the rest of the world. Nevertheless, future research should aim to empirically identify break points in the evolution of openness of other countries in the region.

Similarly, the period of the fall of protection in other Latin American countries is often dated in the mid-1980s, after the debt crisis erupted. The present study argues that Chile began to experience its own ideological transformation in the late 1950s and throughout the 1960s in the context of inflationary crises. Mares (1990) noted that Colombia changed its trade regime in the late 1960s after a series of institutional reforms permitted this change in policy regime. It would be interesting to explore more carefully the extent to which other countries in the region were already moving away from protectionist ideologies before the 1980s.

Future research could also apply the Probit approach to trade policy changes of other countries, including developed and developing countries. In fact, as historical economic time series are more likely to be available for developed countries such as the United States, it would be interesting to compare the results for Chile with those for the United States. For the moment, however, this remains a wish list for future research.

III. The Future of Chilean Trade Policy

This study would be incomplete without some speculation about the future of trade policy in Chile. In Chapter 4 I argued that liberalism is still alive and making further inroads in this country. However, the process of unilateral liberalization stagnated with the rise of regional trade agreements, especially with the promise of NAFTA that emerged in the early 1990s. Moreover, trade policy discussions in Chile have remained tied to macroeconomic issues, especially the behavior of the real exchange rate. Also, administered protection systems, such as anti-dumping and countervailing duties, are being applied in Chile, as they are in the other countries, particularly the United States. If these trends continue and contingent protectionism is the compensation mechanism for further liberalization, it is an

empirical question whether further liberalization will continue to raise national welfare after the nominal uniform tariff reached 6 percent in 2003. However, it seems unlikely that further liberalization can yield the traditional welfare gains if the contingent protectionism is the political by-product, which can be quite costly. Moreover, recent econometric evidence by Blonigen (2002) suggests that special review mechanisms included in free-trade agreements, such as NAFTA, might not deter the use of administered protection. This fact might have influenced Chile's trade negotiators who opted not to accept a similar review mechanism in the country's 2002 trade talks with the United States. In contrast, Chapter M of the Chile-Canada Free Trade Agreement exempts Canadian imports from anti-dumping measures (World Trade Organization 2003, 40).

The U.S. administration of George W. Bush is intent on pursuing further free-trade agreements with Latin American countries, especially after gaining the authority from the U.S. Congress in 2002 to negotiate bilateral and multilateral trade deals. This impetus toward more U.S. trade agreements was only accelerated after the so-called "failure" of the WTO's meeting of ministers in Cancún, Mexico, in August 2003. Consequently, Chile's trade policy is likely to become more regional and less unilateral in the coming years. Indeed, at the time of writing, Chile, like numerous other Latin American countries, had already negotiated dozens of trade and economic cooperation agreements, including with the European Union and South Korea (see Note 8 in Chapter 4).

Again, given the access to contingent protection mechanisms, the actions of the protectionist interest groups are likely to be costly. In this respect, the regional approach could bring some benefits in addition to "secured" market access to the United States (and other markets with which it has trade agreements). The existence of international dispute settlement mechanisms can put somewhat of a ceiling on the ability of Chilean interest groups to get special favors, including administered protection. Nevertheless, to the extent that the econometric results for 1830–1995 can be generalized, future economic recessions and balance of payments difficulties are likely to be associated with rising pressures for protection that have proved difficult to resist historically. I can only speculate that institutions, such as a Free Trade Agreement dispute settlement mechanism, that are grounded on international commitments with important countries in the world economy (that is, the Unites States) are likely to survive even under severe economic challenges. I am consequently tempted to predict that the welfare value of such institutions, which can moderate the application of administered protection, is potentially high in the current Chilean context.

Furthermore, in the current context of a recovering Chilean economy, it would be useful and possibly feasible for the government to reform the rules governing the imposition of its own administered protectionist duties, especially to moderate its use of anti-dumping duties. The first priority should be to bring them in line with WTO guidelines. For example, the latest review of Chilean trade policies by the WTO's technical staff noted that "Chile's legislation lacks a system for prompt refund, upon request, of any duty paid in excess of the actual margin of dumping" (World Trade Organization 2003, 40). In some aspects, Chilean anti-dumping legislation seems to be quite modern. For instance, anti-dumping (AD) and countervailing duties (CVD) can be imposed for a maximum duration of one year, but new AD or CVD investigations can be reinitiated by the National Commission for Investigations on Price Distortions. However, AD and CVD investigations provide an aura of legitimacy to the imposition of economically and perhaps socially harmful import restrictions. To some extent, the present study suggests that periodic protectionist pressures will undoubtedly arise as a consequence of various economic circumstances. Thus, AD and CVD investigations might not be the most appropriate response for dealing with what are essentially political pressures.

The coming "good times" present a political opportunity for Chile to modernize its contingent protection regime to make sure that interests harmed by protection (including consumers of all types) get a fair hearing and that when protection is imposed, it is temporary. The existing agricultural price bands, which in a sense are also contingent protectionist devices that have been applied with discretion in the past three decades, should also be eliminated. Protection for traditional agriculture in Chile should be ruled (at least) by the same principles suggested for other forms of administered protection: fair hearing for the losers of protection and temporary imposition of protection when agriculture faces negative external shocks. Otherwise, Chile risks losing its successful liberal trade policy to backdoor protectionist measures, which might be difficult to reverse in the future. In this sense, safeguard duties are probably a better protectionist instrument for dealing with periodic surges in protectionist sentiment driven by narrow sector-specific interests. The main reason for this conclusion is that in Chile's safeguard legislation, as in most other countries that are members of the WTO, such duties are imposed by presidential decree, which makes the decision to impose transitory import taxes a transparently political decision, as opposed to the supposedly technical assessments that can legitimize the imposition of AD duties.

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Reference Matter

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Appendix A

The political economy of protectionism: A review of the economics literature

(trade model and related notes in parentheses)

Authors	Arguments	Considers institutions?	Considers ideas/ ideologies?
	I. On the structure of protection (within countries)		
Olson (1965)	Certain industry characteristics (e.g., concentration) determine the costs of collective action and, therefore, the ability to form effective lobbies.	No	No
Corden (1974, 107–109)	Policymakers lean against the wind; have a conservative social welfare function, which means that they attempt to reduce the distributive effects of economic shocks. (No trade model.)	No	Yes. Social justice (or social insurance).
Pincus (1975)	Tariff structure determined by industry characteristics related to the costs of collective action. (Specific factors model.)	Yes. Considered the need to form coalitions in the U.S. Congress.	No
Caves (1976)	Structure of protection in Canada empirically determined by industry characteristics. (Specific factors models.)	No	No
Riedel (1977)	Structure of tariff concession by West Germany in the Kennedy Round empirically determined by industry characteristics. (Specific factors models.)	No	No
Baldwin (1982)	Protection across industries determined by voter preferences, which are linked to industry characteristics, intermediated by lobbying costs. (Specific factors model; a review.)	Yes. Information and voting costs; elected officials and political parties.	Yes. Social values and interpersonal effects.
Findlay and Wellisz (1982)	Tariff structure determined by strategic game between sectors that weigh costs and benefits of lobbying. (Specific factors model.)	No	No
Hillman (1982)	Temporary protection of declining industries determined by politician's self-interest (seeking to maximize political support) rather than social justice considerations. (Specific factors model.)	No. Political support for tariff-maker depends on domestic prices of protected good.	No

(*continued*)

APPENDIX A
(*Continued*)

Authors	Arguments	Considers institutions?	Considers ideas/ ideologies?
Lavergne (1983)	Tariff structure in the United States determined by industry characteristics, but little evidence to support pressure-group hypothesis. Most important determinant is "conservatism" or historical continuity. Unclear what determines this conservatism, but it is not driven by displacement-cost minimization.	Yes	Yes. Considers several welfare-related motivations for the government.
Marvel and Ray (1983)	Structure of protection (tariffs and non-tariff barriers) in the United States after the Kennedy round empirically explained by industry characteristics related to costs of collective action and international competition.	No	No
Mayer (1984)	Tariff structure reflects preferences of the median voter. (Specific factors model.)	Majority-wins democracy.	No
Cassing and Hillman (1986)	Governments' incentive to protect senescent industries falls with the relative decline of the industry until the industry collapses altogether. (Specific factors model.)	No	No
Trefler (1993)	Tariff and non-tariff barrier structure in the United States determined by industry characteristics.	No	No
Grossman and Helpman (2002)	Structure of protection determined by industries' capacity to make campaign contributions. (Specific factors model.)	Democracies with campaigning costs.	Yes. In this model, politicians care about campaign contributions *and* the welfare of voters; the value of this trade-off is an empirical question.
Lee and Swagel (1997)	Structure of protection across countries empirically determined by industry characteristics. (No trade model.)	Only to the extent that country-specific effects control for cross-country institutional differences. (Political "importance" of industry measured by share of labor force.)	No

APPENDIX A
(*Continued*)

Authors	Arguments	Considers institutions?	Considers ideas/ ideologies?
Gawande and Bandyopadhyay (2000)	Political contributions model à Grossman-Helpman explains la structure of protection across U.S. industries.	Democracies with campaigning costs.	Yes. In this model, politicians care about campaign contributions *and* the welfare of voters.
II. On the level of protection (across countries and/or over time)			
Kindleberger (1951)	National tariff levels explained by interest-group responses to economic shocks.	No	No
Johnson (1965a)	Protection of manufacturing explained by society's preference for domestic production of manufacturing. (No trade model.)	No	Yes. Theory based on "preferences" of society.
Diaz-Alejandro (1970)	Argentina was a protectionist economy between 1906 and 1940, even prior to the Great Depression. Ideas and lobbies drove this protectionism.	No	Yes
Kindleberger (1975)	Rise of free trade in Europe during the nineteenth century, especially during 1850–1875, explained by emergence of free-trade ideology. (No trade model.)	No	Yes
Wellisz and Findlay (1984)	Less developed countries tend to have higher levels of protection (of manufacturing) than industrialized countries because relative size of this sector is smaller and thus effects on economy-wide wages are relatively low, which reduces the incentive to lobby by landlords. (Specific factors model.)	No. Only considers effect of a "revenue-maximizing" Leviathan.	Yes. Considers government "preferences."
Magee and Young (1987)	Approximately two-thirds of changes in average tariff of the United States during 1900–1984 were due to economic variables (unemployment, inflation, and terms of trade). (Specific factors model.)	No	Yes. Considers effect of party affiliation of the president.
Staiger and Tabellini (1987)	Lack of credibility (time-inconsistency) of a government with discretionary trade policy leads to excessive protection, because interest groups will demand higher tariffs in the present.	No	No

(*continued*)

APPENDIX A
(*Continued*)

Authors	Arguments	Considers institutions?	Considers ideas/ ideologies?
Eichengreen (1989)	Smoot-Hawley tariff implemented in the United States to counteract recession in 1930. Highest tariffs on agricultural products, which were hardest hit. (Macroeconomic effects model.)	No	No
Cassing (1991)	Regime switches caused by sudden economic shocks and the subsequent trade policy "hysteresis" explained by lobbying efforts triggered by such shocks. Model works best with a domestic monopoly. (No trade model.)	No	No
Fernandez and Rodrik (1991)	Protectionism persists over time because of an information failure: the magnitude of individuals' gains from liberalization are unknown to them. (Mobile labor, but with reallocation costs.)	No	No
Drazen and Grilli (1993)	Distributive conflicts are less important in determining economic policies during crises, as the economic costs of inaction or postponing reforms become too high for interest groups involved in a "war of attrition." (Mobile factors model.)	No	No
Krueger (1993)	Developing countries go through policy cycles. Crises usually lead to policy changes, and the permanence of these policies is determined by their apparent success or failure. Liberalization efforts associated with deteriorating economic conditions usually revert to protectionist regimes.	No	No
Rama (1994)	Rent-seeking activities are correlated with periods of restrictive trade policies in Uruguay during 1925–1983. (No trade model.)	No	No
Rodrik (1994)	Move to free trade by less developed countries in the 1990s explained by economic crises shifting policymakers' political cost-benefit analysis of trade reforms, by reducing the importance of distributive conflicts. (No trade model.)	No	No. Only considers the possibility that good economic outcomes will breed policy legitimacy.

APPENDIX A
(*Continued*)

Authors	Arguments	Considers institutions?	Considers ideas/ ideologies?
Velasco (1994)	Model applied to the case of the Chilean economic policy regime switch in early 1970s. Identical interest groups compete for access to government revenues; equilibrium breaks down when new groups join the competition for government favors, thus leading to crisis and regime change.	No	No
Tornell (1995)	Model applied to the Mexican reforms of the mid-1980s. States that during good times, competing (but identical) interest groups share equal access to public revenues. During macroeconomic crises, shared access coalition is broken, thus opening the door to trade reforms.	No	No
Bruno and Easterly (1996)	Inflation crises are empirically followed by periods of abnormally high economic growth across countries, presumably caused by economic reforms implemented to end the crises. (No trade model.)	No	No
Rajapatirana (1996)	Governments' reluctance to use nominal exchange rate devaluations to induce macroeconomic adjustments has led Latin American governments to use trade policies as "switching" devices. (No trade model.)	No	No
Rajapatirana et al. (1997)	Trade policy changes in Latin American countries during 1965–1994 were driven by macroeconomic considerations. Trade liberalization was possible when governments were willing and able to implement a broader package of reforms.	Yes. Executive branch was a leader for reforms, and institutional reforms were important for the implementation of trade liberalization.	Yes. Leaderships' "convictions" about the role of trade policy in macroeconomic management were key determinants of trade policy changes.
Williamson (2003)	"Effective" tariff rates for thirty-five countries during 1870–1938.	Yes, federal systems of government and colonial origins are considered among several control variables.	No

SOURCE: Compiled by the author.

Appendix B

The political economy of protectionism: A review of the political science literature

(trade model and related notes in parentheses)

Authors	Arguments	Considers institutions?	Considers ideas/ ideologies?
Schattschneider (1935)	Interest-group pressures explain Smoot-Hawley tariffs across industries. (No economic model.)	Yes. Traces role of pressure groups in public hearings, legislative committee decisions, and the final vote.	Yes. Notes the history of protectionist political arguments used by the Republicans to stir nationalist sentiment.
Dixit and Londregan (1995)	Out of distributive conflicts determined by political considerations. For example, groups with higher ideological cohesion (e.g., more willing to sacrifice individual gains for ideological preferences and greater density of members at the center) are more likely to receive higher protection.	Yes. Model considers electoral cycles and political parties.	Yes. Voters are allowed to have ideological or political party affiliations (group identities).
II. On the level of protection (across countries and over time)			
Gilpin (1975)	Level of protection in the United States determined by its relative power position in the global system.	No	No
Krasner (1976)	Level of protection in the United States determined by its relative power position in the global system.	Yes. But international institutions are treated as an objective of U.S. policy during the period of its ascension.	No
Katzenstein (1978) and Krasner (1978)	U.S. trade and monetary policy determined by domestic institutional arrangements.	Yes	Yes
Lake (1983)	U.S. trade policy determined by its relative position in the world's power system—a "system-centered" approach.	No	No
McKeown (1984)	Demand for protection by firms rises under adverse economic conditions.	No	No
Gallarotti (1985)	Tariff levels can be explained by the business cycle.	No	No
McKeown (1986)	Rational unitary actor framework should be dropped in favor of governments that aim to satisfy societal demands.	No	No

APPENDIX B
(*Continued*)

Authors	Arguments	Considers institutions?	Considers ideas/ ideologies?
Rogowski (1989)	International trade patterns determine domestic institutional changes by affecting the formation of political coalitions, which then change domestic institutions. (Hecksher-Ohlin model of trade.)	Yes	No
Mares (1990)	Changes in domestic institutions explain shifts in trade and development policy toward opening in Colombia during 1966–1968, when most of the Latin American region was still pursuing import-substitution industrialization.	Yes	No
Bates et al. (1991)	The lack of insurance markets explains why countries facing higher levels of terms-of-trade instability are likely to have higher levels of trade protection.	No	No
Sikkink (1991)	The success or failure of developmentalist programs in Argentina and Brazil during the 1950s and 1960s depended on state capacity.	Yes	Yes
Goldstein (1993)	Free-trade ideas were the driving force behind U.S. trade liberalization in the twentieth century.	Yes, but less important than ideas.	Yes
Waterbury (1993)	Regime changes in Egypt, India, Mexico, and Turkey explained mostly by the emergence of "change teams" and economic crises, which predominate over vested interests.	Yes, especially principal-agent relations and property rights.	Yes, as embodied in the change teams and the views of the leaders.
Pastor and Wise (1994)	Main conclusion was that Mexico's liberalization of trade in the 1980s was driven primarily by concerns about the macroeconomy, especially inflation.	No	No
Verdier (1994)	Regime changes explained by the preferences of "rational ignorant" voters in Britain, France, and the United States during 1860–1990.	Yes. Democratic regimes and voter behavior under imperfect information.	Yes. Ideologies are key when voters are rational but imperfectly informed.
Garret and Lange (1996)	Policy responses to "internationalization" (which affects distributional conflicts) are constrained by domestic institutions, which can change endogenously but slowly.	Yes	No

(*continued*)

APPENDIX B
(*Continued*)

Authors	Arguments	Considers institutions?	Considers ideas/ ideologies?
Hira (1998)	Ideas and ideologies are at the heart of policy regime changes and institutional development in Latin America.	No	Yes
Hiscox (1999)	The Reciprocal Trade Agreements Act of 1934 was a key institutional reform that led to trade liberalization by the United States thereafter.	Yes	No
Lazer (1999)	The rise of free trade in Europe during the nineteenth century is explained by the incentives created by Britain's bilateralism.	No	No
Karol (2000)	Ideologies represented by political parties are key determinants of U.S. trade policies, especially under divided governments.	Yes, with special attention given to the operation of the legislature.	Yes

SOURCE: Compiled by the author.

Appendix C

Chronology of trade and economic policy changes in Chile, 1765–1973

P indicates protectionist policies; L, liberalization episodes; and N, trade-neutral policies. Protectionist policies are those with an anti-trade bias; liberalization policies are those that reduce the anti-trade bias (see the text).

Year	Policy	Type
1765	Commerce between Spain and its colonial ports is freed.	L
1774	Royal decree permits colonies to engage in reciprocal trade.	L
1778	Freedom of commerce between Spain and its colonies is decreed through the issuance of the Royal Ordinance for the Free Commerce of Spain and the Indies on October 12. Besides decreeing the freedom to trade through all colonial ports, this ordinance also includes a complete revision of tariff regulations and frees Spanish manufactures from the payment of both export duties (charged upon departure) and import duties (charged upon arrival at the colonial ports).	L
1811	Decree of Free Commerce is enacted by revolutionary junta on February 21. It extends the freedom of commerce declared by Spain in 1778 by permitting trade with other countries besides Spain and its colonies. The use of ships from any nationality is also allowed. However, the importation of liquors and commodities monopolized by the government is prohibited. The decree leaves open the door for the imposition of further prohibitions or restrictions "which are judged to be suitable for the development of the nation's industry." All other imports are subject to a 30 percent duty.	L
1822	The Fundamental Regulation—Law on Customs is enacted. It established import tariffs but is never applied.	N
1834	The Ordinance of 1834 is enacted. It raises tariffs to 30 to 35 percent for final goods and permits duty-free entry of machinery that "promotes industry, mining, arts and sciences."	P
1835	Export taxes on mining, grains, and flour are imposed.	P
1845	More consumer goods (salt, sugar, soap, and textiles) are subjected to the lower import tariff of 20 percent.	L
1849	Remaining ports are opened, and the prohibition on the participation of foreign boats in coastal trade is eliminated.	L
1851	A general import tariff of 25 percent is imposed on any merchandise not included in an exemption list.	P
1864	The New Customs Ordinance of 1864 is enacted, replacing the Ordinance of 1834. A total of 150 products are imposed a 15 percent tariff, while the rest of imports face a 25 percent tariff. Manufacturing sectors that were protected by the Ordinance of 1834, such as shoes and apparel, are liberalized as their import tariffs are reduced from 30 to 35 percent to 15 to 25 percent.	L
1865	Currency convertibility is suspended during war with Spain.	P
1872	Further liberalization: the number of products entering duty free or with tariffs of 15 percent rises by 50 percent.	L
1878	Currency convertibility is suspended during a financial crisis.	P
	In July, Congress enacts a revised tariff code raising tariffs by 35 percent on items that compete with domestic production.	P

Year	Policy	Type
1879	Temporary restrictions on imports of non-war materials are imposed. (War of the Pacific fought against Peru and Bolivia dated from 1879 to 1883.)	P
1882	Government denationalizes the nitrate industry by returning ownership to the holders of certificates originally issued by the Peruvian government before the War of the Pacific.	L
1897	(December 23) Law No. 980 is approved. Import tariff is explicitly justified as "necessary to protect national industry." It establishes new import categories with higher import tariffs: 35 percent for silk or wool textiles, wood, and articles for personal use; 60 percent for leather products, shoes, carts, edibles, and furniture.	P
1898	Production subsidies for sugar beets, an import item, are enacted.	P
1902	Production subsidies for sulfuric acid, an import item, are enacted.	P
1906	Production subsidies for sugar beets, an import item, are enacted.	P
1907	Production subsidies for fisheries, an import item, are enacted.	P
1914	Seeking to increase public revenues after the fall of the price of nitrate exports, the government raises import duties by 10 percent.	P
1916	(March 1) Legislation replaces ad valorem import tariffs with product-specific duties for 1,792 product categories. Finance Minister Armando Quezada Acharán argues that the law is necessary to strengthen the nation's "productive capacity."	P
1921	Parliament raises import duties by 50 percent and levies special taxes (sometimes up to 100 percent) on a range of specific items.	P
1923	Parliament approves legislation establishing the income tax.	N
1924	Income tax is implemented.	N
1925	(August 25) Central Bank and gold parity is established by the new Constitution of 1925.	N
	Additional income taxes are implemented (the "global complementario").	N
	Production subsidies for sugar beets, an import item, are enacted.	P
1928	The Instituto de Crédito Industrial (Industrial Credit Institute) is created. It uses pension funds and government money to stimulate manufacturing. Accepting plant equipment as security, it also lends money to industrialists, providing technical advice and financing for the modernization or expansion of plants. It funnels credit to the metallurgical, furniture, textile, food, and beverage industries.	P
	Congress "authorizes" Ibañez to raise tariffs (by between 35 and 50 percent) on imports competing with local production. He is empowered to reduce levies on essential imports, such as medicine, by up to 25 percent and by up to 50 percent on materials benefiting the metallurgical, mining, or nitrate industries. At its discretion, the Executive is also allowed to grant specific exemptions on raw materials or foreign machinery needed in local manufacturing.	P
1931	(Early 1931) Import tariffs are raised to 35 percent for 75 percent of import products.	P
	(July 30) Law No. 4,973 establishes exchange controls to be administered by the Comisión de Control de Operaciones de Cambio.	P

Year	Policy	Type
1932	(April) Import tariffs for certain consumer and luxury products are raised 10 percent.	P
	(April 21) Multiple exchange rates are established, to be managed by the Comisión de Cambios Internacionales.	P
	(May 7) Currency convertibility is suspended.	P
	(September 23) The comisión is charged with administering a 20 percent export tax; major mining exports (i.e., nitrates, copper, and others) are exempted.	P
1933	(March) Import tariffs are increased by 50 percent across the board.	P
	(October) Import quotas and licenses are established, to be administered by the Comisión de Licencias de Importación.	P
1936	Decree imposes an ad valorem tax on imports (over customs, insurance, and freight [CIF] value) plus admission fees (*impuestos de internación*).	P
	The Corporación de Fomento de la Producción (CORFO) is founded. Its activities are financed by taxes on foreign mining companies and Central Bank credit.	P
	The Ministry of Finance sets the structure of import "admission fees": 2.5 percent for primary goods, 10.0 percent for goods of "ordinary use," and 20.0 percent for "luxury goods."	P
1947	Government establishes the Foreign Exchange Budget. The budget is determined by one-year-ahead projections of available foreign exchange, which is then allocated among import categories. This planning process determines the import prohibitions. Since estimates of the foreign exchange budget can change during the year, import prohibitions can be imposed at any time. This system coexists with the multiple exchange rates. The explicit objective of this "budget" is to prevent balance of payments deficits.	P
1952	Balance of payments crisis. All imports are subjected to the quotas determined by the foreign exchange budget.	P
1954	Sales of foreign exchange are subjected to a tax of $15 per dollar. Transactions related to the importation of certain goods are exempted. Import-competing industries and activities that use domestically produced inputs are the main beneficiaries of the exemption.	P
1956	Modest liberalization program is launched. Sectoral foreign exchange discrimination is eliminated (but discrimination against all imports is maintained). Number of permitted imports increases during a two-year period ending in 1958; number of items increases from 530 in April 1956 to 958 in 1958.	L
1959	After two devaluations, a fixed exchange rate regime is established in January. Foreign exchange market is liberalized and multiple exchange rates eliminated. List of permitted imports is expanded. Costs of import financing are reduced by reducing the required deposits and permitting the payment of the deposits in dollars or dollar-denominated bonds.	L
	In April, the government authorizes imports of most goods. Those that were previously prohibited are permitted with a 5,000 percent prior deposit; those that were previously subject to the 5,000 percent deposit are permitted with deposits of 1,500 or 1,000 percent.	L

Year	Policy	Type
	In June, the government launches a program to replace the prior-deposit requirements with so-called "additional taxes," or import tariffs, of up to 200 percent ad valorem.	L
1961	Prior-deposit requirements are eliminated.	L
	In December, foreign exchange transactions are suspended for a three-week period. This policy decision is caused by a dramatic reduction in foreign exchange reserves.	L
1962	Prior-deposit requirements for imports are reestablished. The range is from 10 to 1,000 percent. This reversal is prompted by a substantial increase in requests for import permits, which were driven by an anticipation of currency devaluation. Devaluation expectations were driven by upcoming principal payments on dollar-denominated public debt.	P
	By October, the fixed exchange rate regime is replaced by a managed (or dirty) float regime. The value of the currency depreciates by 33 percent.	L
1964	The new government postpones the liberalization program. Announcement is justified by the pressing foreign debt problem. In an attempt to raise additional revenues, the government imposes an "additional import tax" with a maximum of 300 percent ad valorem.	P
	As requests for import permits rise, a law is passed authorizing the Central Bank to reject such requests without explanation. Forty-nine import product categories are prohibited.	P
1965	In the context of a high price of copper and a restructured foreign debt, the government launches a modest liberalization program. One hundred items are added to the permitted imports list, but most of them are subject to the 10,000 percent prior-deposit requirement.	L
1967	The government implements a restructuring of the tariff system by establishing two types of tariffs: a specific tariff defined in gold-grams per unit, and another defined in ad valorem terms. This system replaces the previous multiple tariff schedule. Also, the number of categories for prior deposits is reduced to six: 10, 20, 50, 100, 200 and 10,000 percent.	L
1970	In July the outgoing government eliminates all the prior deposits except the 10,000 percent category. The list of permitted imports is extended, and only automobiles, electric equipment, and other luxury goods are still prohibited.	L
1971	Large-scale copper mining is completely nationalized.	P
	Quantitative restrictions are intensified.	P
1972	Foreign exchange rationing is intensified. (Boycott of Chilean exports in place by the United States.)	P
1973	Foreign exchange rationing is intensified. (Boycott of Chilean exports in place by the United States.)	P
1974–1999	See Chapter 4.	

SOURCES: Dates compiled by the author from U.S. Tariff Commission (1942), Will (1957), Budget Office (1970, 1971, 1972, 1973), Ffrench-Davis (1973), Behrman (1976), Cortés Douglas et al. (1980), Hurtado (1984), Marfan (1984), and Collier and Sater (1996).

Appendix D

Political chronology of Chile, 1810–1939

1810	First national government, the Revolutionary Junta, is established.
1814	Reconquest by loyal Spanish forces.
1818	Independence is declared; Bernardo O'Higgins becomes first chief executive.
1823	O'Higgins is forced out of power.
1829	Civil war breaks out. Diego Portales and "conservatives" are victorious.
1831	First presidential election; beginning of three decades of conservative dominance.
1833	Constitution is adopted (Constitution of 1833). It centralizes power in the chief executive, including extensive powers over the limited electoral processes, thus, in effect, eliminating electoral competition for the presidency.
	Minimum income and property possession are required for males to vote.
1849	Liberal Party is founded.
1857	Conservative Party is founded.
1861	Radical Party is founded by a dissident faction of the Liberal Party.
1871	Beginning of twenty years of Liberal dominance (1871–1891).
1879–1883	War of the Pacific is fought against Bolivia and Peru over control of the nitrate mining companies operating in what is now northern Chile.
1887	Democratic Party is founded; first party in Chilean history to seek support of the masses.
1891	Civil war is fought over constitutional issues, especially the balance between the Executive and the Legislative branches of government. It occurs during the presidency of José Manuel Balmaceda, a reformist who had extended his sphere of authority in order to carry out programs of public works and improve the educational system. Anti-Balmaceda forces are victorious.
	Beginning of the parliamentary era; the role of political parties representing different sectors of the aristocracy increases. This period is characterized by ineffectual governments, ministerial instability, and debates focused on religious issues.
1912	Workers' Socialist Party is founded. (In 1921, it becomes the Communist Party.)
1920	Arturo Alessandri is elected, backed by the Liberal Alliance (Radicals, Democrats, and a fraction of his Liberal Party). In his first message to Congress he proposes establishing a meaningful social security system and abolishing parliamentary government.
	Proposed legislation is blocked by an opposition majority.
1921	Workers' Socialist Party joins the Third International and becomes the Communist Party.
	In March congressional elections, the Liberal Alliance improves its position in the Chamber but fails to break the union stranglehold on the Senate.
1924	Alessandri backers win the majority in congressional elections, but congressional obstructionism persists.

1924 September 8: The army intervenes after Congress votes itself a pay increase without approving a national budget; all pending (for four years) social legislation passes by both houses of Congress, including the enactment of an *income tax*.

Alessandri resigns after legislative victory; his exercise of executive authority had become dependent on military force.

1925 January: Another military coup by young army officers who were dissatisfied with the slow implementation of Alessandri's reform program.

March: Alessandri returns to the presidency and begins rule by decree backed by the military.

The *global complementario* taxes are enacted, adding a surcharge of 0.05 to 0.70 percent to the existing income taxes. Those earning less than 10,000 pesos annually are exempted, thus introducing a bit of progressivity to the income tax system.

The new Constitution of 1925 is adopted by national plebiscite. Suffrage is extended to all twenty-one-year-old males. A special election court (Tribunal Calificador de Elecciones) is established to supervise elections. The president and members of both houses of Congress are to be elected by direct popular vote; 45 members of Senate to serve eight-year terms, and 147 members of the House of Deputies to serve four years. Congressional elections are to be held every four years, with all seats of the lower house and half of the Senate seats at stake in each election. A complicated system of proportional representation is used for congressional elections. The president's term is set to six years, and he is not allowed to serve two consecutive terms. Usually, presidential and congressional elections do not overlap.

The president receives ample powers of appointment, power to initiate legislation, item veto, and ability to force congressional votes on pending legislation considered "urgent." The chief executive is made responsible for preparing the budget, which automatically becomes law after four months, even if the legislature has not approved it.

August 25: The Central Bank is created. The fifteen-man board of directors is composed of four representatives from government, three from private banks, four from various economic interests, and four who are appointed by Congress.

Alessandri resigns again after potential presidential candidate Carlos Ibañez refuses to leave the War Ministry prior to the October elections. Ibañez had been one of the coup leaders that had brought Alessandri back to power.

Ibañez "proposes" a single compromise candidate—Emiliano Figueroa—who easily wins the election.

1927 May: Figueroa resigns as Ibañez wields power as (still) the war minister and interior minister simultaneously. Ibañez establishes a dictatorship that lasts four years.

1928 The Agricultural Colonization Institute is created and given the power to purchase and subdivide large estates that are offered for sale and to promote the settlement of previously uncultivated land.

1930 Scheduled congressional elections are *not* held.

1931 June: Chile defaults on its foreign debt.

July: Chile leaves the gold standard and establishes a system of multiple exchange controls.

July 22: Students seize the main building of the University of Chile. A general strike follows the violent repression of the student protest.

July 26: Ibañez resigns and is exiled in Argentina. Fifteen months of political chaos follows.

1931 The fascist National Socialist Party is formed.

The Radical Socialist Party is founded.

1932 Price controls are enacted.

October 20: Simultaneous presidential and congressional elections occur.

Arturo Alessandri wins again, with backing from the Radicals, Democrats, and factions of the Liberal and Conservative parties.

Gustavo Ross is finance minister in Alessandri's second presidency, 1932–1938.

1933 The Socialist Party is founded, through the merger of several small parties and groups.

Price controls are lifted.

1934 April: The Radical Party demands the resignations of cabinet ministers from Liberal and Conservative parties. Alessandri rejects these demands, and the Radicals withdraw from the cabinet, with the Democrats following promptly.

1936 February: Railway workers strike in protest against the economic policies of the Alessandri administration and the absence of wage adjustments in response to increases in the cost of living. The strike spreads to other industries, and Communist agitation mounts. The right-wing Legislature (that is, it is dominated by the Liberals and Conservatives) grants emergency powers to the Executive, and the administration responds with repression. The army takes over the operation of the railroads and suppresses the strike and Communist demonstrations. The opposition press is closed, and numerous leaders of the left are exiled or placed under house arrest.

February 6: The Socialist Party convention calls for closer cooperation with Communists and Radicals.

February 22: A Radical congressman proposes the Chilean Popular Front, using a name similar to center-left coalitions that exist in France and Spain.

March: The Radicals approve participation in such a coalition.

April 8: A pact forming the Popular Front is signed by the Radical, Democratic, Socialist, Radical Socialist, and Communist parties.

1937 A minimum salary (*sueldo vital*) is enacted, aimed at setting a wage level that will provide the basic necessities for an individual employee.

January: The Chilean Confederation of Labor (Confederación de Trabajadores de Chile) is founded and also becomes a member of the Popular Front.

Congressional elections are carried out; the Popular Front coalition makes substantial gains, despite alleged bribery directed by Gustavo Ross and the failure of the new coalition to effectively organize and cooperate in the campaign.

November 28: Radical Party members vote to select their candidate. The outcome is very close, and it is a few days before Pedro Aguirre Cerda is declared victorious.

1938 The Falange Party is formed by younger members of the Conservative Party who are disappointed with the slow rise of social consciousness in their former party.

1938 April: The Popular Front's nominating convention takes place. After the Socialist Marmaduke Grove is persuaded to drop his candidacy, Aguirre Cerda is nominated.

Carlos Ibañez returns from Argentina to run for president, supported by the Popular Liberating Alliance, which contains factions of the Liberal Party, splinter groups from all the parties of the Popular Front (except the Communists), and the Radical Socialists and National Socialist (Nazi) parties.

September 5: A group of Nazis attempt a coup to bring Ibañez to power. The coup is violently suppressed by the police.

October 25: Presidential election. Aguirre Cerda wins, with 222,720 votes, or 50.3 percent; Ross, 218,609 votes, or 49.3 percent.

The existing congressional composition (from 1937 congressional elections): Of 145 members in the lower house, Liberals and Conservatives have 67 seats; the Popular Front, 63. Of 45 senators, the Liberals and Conservatives have 23; the Popular Front, 18.

1939 January 24: Devastating earthquake strikes Concepción, the second largest industrial city, killing approximately fifty thousand people and leaving seventy thousand homeless.

April 24: Congress enacts legislation establishing CORFO.

August 25: A failed coup is instigated by Carlos Ibañez, after his Popular Liberating Alliance is denied cabinet representation. Ibañez is again exiled in Argentina. A huge popular demonstration follows in Santiago—a show of popular support for Aguirre Cerda.

August: Announcement of the Russo-German nonaggression pact leads to Communist disassociation with the Popular Front government, as happened throughout the world.

September: The Socialist Party orders the resignation of its three cabinet members. Behind the resignations is a basic policy conflict: the Socialists want a stronger policy to improve the living conditions of the lower classes than has thus far been achieved. Blame for the policy "failure" is laid on the Radical Party, which has five cabinet positions and a close working relationship with independent finance minister Roberto Wachholtz. Aguirre Cerda permits cabinet changes that bring in more "effective" socialist ministers. Oscar Schnake becomes minister of development, and a young Salvador Allende becomes minister of health.

December: Wachholtz is replaced by Radical Pedro Enrique Alfonso, who is more acceptable to the Socialists.

Price controls are resumed. The most significant wage increase of the Popular Front government is enacted: wages are increased by 20 percent by government decree. Note that this measure comes shortly after the Popular Front took power.

Introduction

1. Rajapatirana (1996) is an exception. This contribution explores only the empirical correlation between trade policies in Latin America and the current account deficit.

2. The political science literature has also focused on the relative power position of states within the international system. This view has been labeled the "system-centered" approach. See Ikenberry et al. (1988) for a review of this and other approaches.

3. See Rodrik (1995), Rosendorff (1996), and Mitra (2000) for recent contributions to this literature.

Chapter 1

1. The rule used for classifying each article or book was to first consider the background of the author. When the authors belong to both disciplines, then the editorial board of the journal was considered. There is one case of an interdisciplinary book (Odell and Willet 1990), but only one of its single-author chapters was selected for the present review (Mares 1990).

2. In Lavergne (1983, 37) "the decision-making unit is the 'government.'"

3. Rodrik (1994) develops a related concept, which he labels the "political cost-benefit ratio." This article is discussed further below.

4. Baldwin (1989b) uses this distinction (the "economic self-interest" versus the "social concerns" approach) to organize his literature review.

5. "Consumer surplus" refers to the welfare of consumers. It is usually measured as the area under the demand curve.

6. On the theory of domestic divergences, see also the generalized theory of distortions by Bhagwati (1971). Srinivasan (1996, 6–10) includes a brief discussion about the relationship between "endogenous trade policy" and the generalized theory of distortions.

7. Corden (1997, 282) uses the word "perceptions" in this sense.

8. Corden (1974, 45–48) explains that trade taxes can be preferable from a welfare viewpoint when domestic taxes have collection costs.

9. See Corden (1974, 88–104) for a general discussion about the effects of protection on the pattern of income distribution.

10. The empirical literature is more sympathetic to the specific factors approach—see Magee et al. (1989, 101–110), Irwin (1996a), and the review below.

11. Of course, when Olson wrote his seminal work in the 1960s, information and telecommunications technology was less developed than today. It remains to be seen (tested scientifically) whether recent technological revolutions will change the logic of collective action.

12. This view is misleading when firms or whole economic sectors are the "consumers" of imported intermediate goods. Also, due to Lerner's symmetry, import taxes are indirect taxes on exports because protection induces a reallocation of factors of production into the import-competing sector. Firms in export industries have incentives to organize collective action to lobby against protection. For examples from the United States, see Destler and Odell (1987) and Milner (1988).

13. Pincus (1975) studies the U.S. tariff structure in 1824; Lavergne (1983) studies the U.S. tariff structure during 1964–1972.

14. There is an empirical debate about the weight U.S. policymakers give to national welfare as opposed to campaign financing. Most empirical studies of the Grossman and Helpman model have found surprisingly high relative weights of the national welfare concern, which implies that lobbying expenditures or campaign contributions matter but have a modest impact. See the review by Gawande and Krishna (2002). A recent article by Kee et al. (2003) presents much lower estimates of the weight given to welfare.

15. Deardorff (1987) formalized the concept of the conservative social welfare function to show that countries following the principle of this function would prefer to use import quotas rather than tariffs.

16. Protection is a useful policy for policymakers who have a conservative social welfare function under certain circumstances: when income-insurance markets are not available and when the costs of raising revenues to finance production subsidies are relatively high. See Corden (1974, 107–109 and 321).

17. The traditional approach was originally presented by Meade (1955) and further developed by Johnson (1965b).

18. To some extent this is still the conventional wisdom—see Thorp (1998) and Bulmer-Thomas (1994).

19. Diaz Alejandro (1970, table 5.1) uses three indicators related to the average tariff: (1) import duties/value of imports at international prices, (2) value of imports based on the price specified by the *aforo*/value of imports at international prices, and (3) import duties/value of imports based on the *aforo* price. The 1906 tariff law determined an estimated unit value or *aforo* for merchandise imports. Ad valorem tariffs were then imposed on goods based

on this predetermined price, which in effect made them product-specific tariffs, whose ad valorem value would fluctuate with the market-determined international price. These prices were revised in 1911, 1923, and 1931.

20. Rodrik (1995, 1478) shows that generally speaking there is a negative correlation between gross domestic product per capita and measures of openness. Estimates of effective rates of protection across industries within several LDCs in the 1960s can be found in Balassa et al. (1971).

21. Irwin (1998) estimates, on the basis of both partial equilibrium and general equilibrium models, that the Smoot-Hawley tariff had a modest effect on the volume of imports (causing a decline of 4 percent to 8 percent). Since imports were only about 4 percent of gross national product, the tariff probably produced direct efficiency losses that were very small relative to the business-cycle fluctuations of the time. Marfan (1984) argues that protectionist trade policies aided the recovery of the Chilean economy after 1933.

22. Drazen and Grilli (1993) make a normative argument that can be derived from the positive theory that crises lead to reforms. Namely, crises can be welfare improving.

23. From a policy standpoint, this credibility argument implies that the level of protection (and its by-product distortions) would be lower in the context of a rules-based safeguard system, as suggested by Deardorff (1987).

24. This is the case for many other welfare-related justifications for protection, including the well-known infant-industry argument, which also justifies transient protection for industries with very specific characteristics (i.e., unexploited dynamic economies of scale). See Corden (1974, chapter 9).

25. Srinivasan (1996, 6–8) briefly discusses the welfare effects of rent-seeking activities in the presence of domestic distortions and endogenous protection. But he does not make a direct link between the domestic distortion (divergence), the diversion of productive resources due to the resulting rent seeking, and the final level of protection.

26. "Effective" tariff rates refer to the ratio of import duty revenues to the value of total imports. It is unclear whether this variable varies linearly with nominal tariff rates, especially at high levels of the latter, at least in developing countries toward the end of the twentieth century. For a discussion of the biases intrinsic to this proxy for the level of protection, see Pritchett and Sethi (1994).

27. Although Dixit is a renowned economist, the *American Political Science Review* published this article.

28. The structuralist tradition in realist thought was initiated by Waltz (1959) and further developed by him (Waltz 1979).

29. For the precise definition of "system," see Waltz (1979, chapter 5). The system is composed of nation states, which have their place within an international hierarchy of power (influence). The "system" is much like a market: it emerges from interactions and competition among its parts (the

nation states). The concept of "power" was later replaced by "prestige" in Gilpin (1981). This latter concept is broader than military might and includes economic and ideological influence.

30. Corden (1995) uses the term "FTA bandwagon" to describe a similar effect from the U.S. decision to negotiate bilateral free-trade agreements in the 1980s and 1990s.

31. LDCs tend to have a more concentrated (less diversified) export structure than developed countries. Thus they also tend to have higher terms of trade volatility.

32. This is an example of an interdisciplinary effort: Pastor is an economist by training; Wise is a political scientist. The article was published by *International Organization*, which is mostly read by political scientists.

33. Gasiorowski (1995) provides convincing econometric evidence that economic conditions (either inflation crises or falls in economic growth rates) are also associated with the likelihood that a country will experience a change in political regime. This evidence is consistent with the view that economic crises can change policy regimes.

34. See, for example, Lohman and O'Halloran (1994).

Chapter 2

1. On the measurement of trade policies, see also Baldwin (1989a) and Laird and Yeats (1990). For a critical review of the empirical literature that links "openness" indicators to economic growth, see Rodríguez and Rodrik (1999).

2. International transport costs, territorial size, domestic and foreign incomes, and other factors also affect trade shares. Pritchett (1996) suggests a technique for estimating openness indicators adjusted for the influence of transport costs. This approach was not feasible for the present study because of data limitations.

3. Chapter 3 in this study econometrically analyzes the effects of various variables on the probability of trade policy changes.

4. Cortés Douglas et al. (1980) provide the most complete review of Chilean trade policies between 1810 and 1970. Will (1957) is quite useful for the years before independence through the nineteenth century. U.S. Tariff Commission (1942) covers the period between 1929 and 1938 in detail. Likewise, Ffrench-Davis (1973) covers the period between 1952 and 1970. Edwards and Edwards (1991), French-Davis et al. (1992), and Chapter 4 in the present study, among others, cover the policies implemented between 1971 and the present. Other useful sources are Hurtado (1984) for 1830–1930 and the text of general Chilean history by Collier and Sater (1996).

5. The period of intense trade liberalization from 1974 to the present is analyzed comprehensively in Chapter 4 of the present study.

6. In that study, economic policy regimes were labeled as phases ranging from I, the most protectionist, to V, the most liberal. Please note that Luders (1998) does not use the same labels as Behrman (1976).

7. Dornbusch and Edwards (1990) defined "macroeconomic populism" as the eventual monetization of fiscal deficits.

8. Capital controls were common in many Latin American countries. See, for example, U.S. Tariff Commission (1942) and Macario (1964).

9. Edwards (1988) defines the "equilibrium" real exchange rate as the ratio of tradable to non-tradable prices that maintain internal and external balance. By "overvaluation," I mean that the real exchange rate is maintained above the equilibrium level. Capital controls, foreign exchange rationing, and multiple exchange rates that discriminate in favor of import-competing industries might have the import-substitution effect as well as the appreciation effect.

10. However, we do not know if international trade costs fell more than costs for domestic commerce.

11. Lagos Escobar (1966), however, shows that the concentration of manufacturing became much higher after 1937.

12. Chapter 3 provides an econometric analysis of a related question concerning the exact break year in the evolution of openness.

13. The Hodrick-Prescott–filtered trend is similar to a trend estimated with a moving window or in a rolling regression. In OLS, this would entail estimating $\overline{R}$ by considering an infinitely large λ in equation (2.1) (i.e., a constant rate of change in the trend component) sequentially for periods of a given duration. The disadvantages of a rolling OLS estimate of the trend are, first, the loss of observations at the beginning of the sample, and second, the lack of precision resulting from small subsamples.

14. Chapter 3 briefly describes statistical tests of stationarity. I used the augmented Dickey-Fuller test.

15. The economic impact of the war and its aftermath are discussed in more detail below in this chapter.

16. Cortés Douglas et al. (1980, 150) cite the language used in the corresponding Law No. 980.

17. Unlike most countries that followed Britain's example, Chile was under the gold standard only during 1895–1898. This regime was reinstated during 1925–1931. In the interim, private banks issued inconvertible paper money, and the Treasury issued inconvertible promissory notes. During 1931–1956, Chile operated under a plethora of exchange controls, with a somewhat flexible or adjustable exchange rate regime. The exchange rate was floated during 1956–1959 with an effort to liberalize the capital account. A fixed exchange rate was in place in 1959–1962, and a managed float was implemented during 1962–1970. The capital account was closed during 1970–1973. The exchange rate policies from 1974 to the present are discussed in Chapter 4.

18. Trade taxes motivated by protectionist goals would in theory produce less revenues than revenue-maximizing tariffs. The author thanks an anonymous referee for highlighting this point. For a simple exposition of the theory, see Corden (1997, chapter 4).

19. Inflation reached triple digits in 1970–1973 (see Chapter 4).

20. After the conquest of the Bolivian littoral and of Tarapaca (from Peru) in the north in June 1881, the Chilean Congress granted ownership of the *salitreras* to Chilean citizens who could demonstrate that they had owned the firms before their nationalization by the Peruvian government in 1875. The remaining mines were auctioned, also to Chilean investors (Collier and Sater 1996, 143–144).

21. Figures 2.4 and 2.5 show significant improvements in Chile's terms of trade during 1915–1917.

22. In 1912, while Subercaseaux was a member of the House of Deputies, the economist-politician said: "For a number of years we have had a depreciated exchange which has fluctuated between 10d. and 11d., and with respect to the future we know nothing save that it is not impossible for it to rise to 18d. or fall to 8d. This is an absolutely insupportable situation for a monetary unit. For who can close a contract in pesos which are today worth 11d. and tomorrow may be worth 18d.?" (Subercaseaux 1922, 141).

23. Many political battles were fought in Chile over the balance of powers between the legislature and the executive, including the Civil War of 1891. See Appendix D.

24. All citations in this paragraph are translations from *Boletin de la Sofofa*, volume 38, number 1, January 1921.

25. Translated from *Sesiones ordinarias del Congreso*, February 17, 1921, p. 1465.

26. Ibid.

27. On the role of Courcelle-Seneuil as both a government adviser and educator, see also Hirschman (1986). The French economist's influence was most apparent in the Banking Law of 1860, which allowed private banks to issue paper money, with a limit of up to 150 percent of a bank's capital. He was also influential for the passage of the liberal "New Customs Ordinance" of 1864—see Subercaseaux (1922), Will (1957), and Hurtado (1984).

28. *Sesiones ordinarias del Congreso*, June 1, 1921, "Mensaje del Presidente Arturo Alessandri," p. 26.

29. Ibid.

30. Ibid., p. 27.

31. The fact that CORFO still exists today provides suggestive evidence that institutions tend to persist over time, even after the ideologies and circumstances that led to their establishment are no longer present.

Chapter 3

1. This does not mean that terms-of-trade changes or currency devaluations do not have any impact on these measures of openness. In fact, as will be discussed later in this chapter, terms-of-trade shocks and macroeconomic crises can lead to policy changes, which then change the level of openness of the economy.

2. Note that the trade-shares series are shown in Figure 2.2 in Chapter 2.

3. The issue of measurement errors in the historical series is also dealt with in the discussion of the econometric methodology.

4. Ignoring accumulation of reserves, the current account is $CA = TB + iD = KA$ (capital inflows). Therefore, $TB = KA - iD$, where i is the interest charged on debt D and TB is the trade balance.

5. Simpler methods for calculating measures of volatility produce observations that are serially correlated. For example, one could estimate standard deviations from a moving average. But each standard deviation would be affected by all the observations in the sample period.

6. A time trend was also included in equation (3.7), but it was not significant. Therefore, the conditional variance used in the econometric models below uses the estimated conditional variance estimated without the time trend. The constant in equation (3.6) was significant at the 10 percent level; the other variables in equations (3.6) and (3.7) were significant at the 1 percent level.

7. During the years of the Radical period and Allende's administration, there were no episodes of liberalization. Hence, there is not enough variance to estimate the effects of the explanatory variables.

8. An alternative is the Logit model. The difference between Logit and Probit is the assumption regarding the distribution of the errors. Logit assumes a "logistic" distribution; Probit assumes a normal distribution. There is no way of knowing which distribution is more applicable, but Logit and Probit results usually do not differ in most applications. They did not differ in this case.

9. There is also a problem with the quality of some of the historical economic time series from Braun et al. (1998). For example, the GDP data for 1810–1816 are based on an extrapolation done with a constant growth rate of 0.44 percent. The labor force data for 1810–1854 were extrapolated on the basis of a constant share of sectoral labor force distribution equal to the average shares from the period 1854–1863.

10. Probit regressions are often used in labor economics, for example, to estimate unemployment equations.

Chapter 4

1. On the Chilean reforms, see Harberger (1985), Edwards (1985), Edwards and Edwards (1991), and Bosworth et al. (1994). The unemployment rate rose to double digits in 1999 when Chile experienced its first recession in more than a decade.

2. The term "change team" comes from Waterbury (1993). See the literature review in Chapter 1.

3. The effective rate of protection is a measure of the relative degree of inefficiency of domestic production relative to international production. A positive value means that domestic value added for that particular activity exceeds value added at international prices. The effective tariff for good $i(\gamma_i)$ is computed by $\gamma_i = (t_i - \sum a_{ij}t_j)/(1 - \sum a_{ij})$, where t_i is the nominal tariff, a_{ij} is the input/output coefficient between input j and good i, and t_j is the nominal tariff on input j. Notice that if the good and all inputs have the same nominal tariff, then the effective and nominal rates of protection are the same ($\gamma_i = t_i$). It should be noted that from a general equilibrium perspective, the usefulness of the concept of effective rates of protection is quite limited according to Bhagwati and Srinivasan (1979).

4. On the degree of effective protection in Chile's agricultural sector before the reform, see Varas (1975). Behrman (1976, table A.3) lists effective rates of protection for products within the agricultural sector ranging between −11 and −39 percent in 1967. Alternative measures can also be found in Balassa et al. (1971).

5. The initial maxi-devaluation responded in part to the need to avoid an almost imminent balance of payments crisis. As the tariff process continued, the crawling peg tried to maintain the high level of the real exchange rate.

6. Price bands for wheat were originally introduced in 1977, but in 1978, the president of the National Society of Agricultural Producers (SNA, in Spanish) asked the government to eliminate them because the international price of wheat was high and the price bands did not act as an instrument of protection under those circumstances. Finally, the price bands were "legalized" on June 30, 1986, after the implementation of Law No. 18,525, Article 12. See Chacra and Jorquera (1991, 3) and Venturelli (2003).

7. The Central Bank Autonomy Act was implemented in April 1990.

8. Formal negotiations with the United States were initiated in December 2000. The agreement was signed in late 2002, and the legislatures of both countries approved it in April 2003. Formal implementation began in January 2004. Chile also negotiated and implemented a trade agreement with South Korea (2002–2003). An agreement was reached with the European Union in 2002 and became operational in February 2003. In addition, Chile has several other agreements with Latin American countries, including Mexico (1997), Canada (1997), Central America, Bolivia, Colombia, Peru, and

Venezuela and with the countries of the European Free Trade Association (EFTA).

9. For additional arguments in favor of this "crisis hypothesis," see Drazen and Grilli (1993), Williamson and Haggard (1994), Tornell (1995), and Bruno and Easterly (1996). For a skeptical view, see Rajapatirana et al. (1997). These authors show that historically, many macroeconomic crises in Latin America have resulted in the "tightening" of trade policies. Support from the multilateral institutions—either in the form of technical assistance or through the provision of funds—may help the reform effort, once it has been launched. However, there is significant evidence that the multilaterals—and mostly the International Monetary Fund and the World Bank—have not usually played a fundamental role in the initiation of reforms (see Edwards 1997a). Moreover, Haggard and Webb (1994, 5) argue that there are no recorded reform episodes since the mid-1970s that have failed exclusively because of a lack of financial support from the multilateral financial institutions. See also Chapter 1.

10. Domínguez (1997, 7) defines technopols as follows: "Technopols are a variant of technocrats. In addition to being technocrats . . . technopols are political leaders (1) at or near the top of their country's government and political life (including opposition political parties) who (2) go beyond their specialized expertise to draw on various different streams of knowledge and who (3) vigorously participate in the nation's political life (4) for the purpose of affecting politics well beyond the economic realm and who may, at times, be associated with an effort to 'remake' their country's politics, economics, and society. Technopols so defined may operate in either authoritarian or democratic regimes." As mentioned in Chapter 1, Waterbury (1993) prefers the term "change team," and Hira (1998) analyzes the role of "knowledge networks."

11. Boeninger (1992, 275) coined the term "populist temptation," referring to the short-term incentive that fiscal and monetary authorities face to finance public expenditures by excessive borrowing and/or issuing currency. For a detailed analysis of populist macroeconomic policies, see Dornbusch and Edwards (1990).

12. In Chile, plebiscite votes took place in 1980 and 1988. The former was "noncompetitive" and was convened at the peak of an economic boom. Nevertheless, current expenditures grew at an average annual rate of 11 percent between 1979 and 1981 (Fontaine 1996, 14).

13. This would be the case if the opening of the capital account is done in the context of an overall liberalization program, in which the country becomes attractive for foreign investors and speculators (see McKinnon 1991).

14. Lal (1985) presents a dissenting view. Hanson (1995) has argued that under some circumstances the capital account should be liberalized early on.

15. See Balassa et al. (1971) for estimates of sectoral effective rates of protection in several developing countries during the 1960s.

16. For an historical review of arguments against free trade, see Irwin (1996a).

17. From an efficiency point of view, however, it is more difficult to defend a uniform tariff. Using an intertemporal general equilibrium approach, Edwards (1997b) shows that the optimal tariff structure would depend on a number of variables and would only by chance be characterized by a uniform nominal tariff.

18. In 1956, the University of Chicago and the Catholic University of Chile signed an agreement aimed at training Chilean economists in Chicago (see Valdés 1995).

19. Alessandri lost the elections to Marxist candidate Salvador Allende by merely thirty-three hundred votes.

20. The document became known among the members of the group as "the brick" (*el ladrillo*), a reference to the size of the manuscript.

21. In September 1973, a week after the coup, the Planning Ministry printed two hundred numbered copies. The Centro de Estudios Públicos finally published the document in 1992.

22. Harberger (1959), for example, provided early estimates of the effects of Chile's protective structure.

23. The program incorrectly argued that a uniform import tariff was second best optimal from a welfare perspective.

24. The most important writings of the reform skeptics were collected in a volume titled *Trayectoria de una crítica* (*Trajectory of a Critique*) published in 1982 (Arellano et al. 1982).

25. Boletín Mensual, Banco Central de Chile, December 1977, pp. 1960–1961.

26. During the Pinochet regime the military did not allow open political discussions. As a result, debates on economic policy became a substitute for political discussions. The CIEPLAN economists played an important and brave role in maintaining some sense of perspective in Chile during these years.

27. Telephone interview with Ricardo Ffrench-Davis, Santiago, Chile, August 17, 1997.

28. He goes on to suggest that under democratic rule, import tariffs should be increased to an average of 30 percent, with a maximum effective rate of protection of 60 percent. He argued, however, that these policies would "not result in a return to the import substitution model, as was known in Chile and Latin America during the 1950s and 1960s" (Foxley 1983, 54).

29. See Edwards and Edwards (1991, 222–226) for an early discussion of the Aylwin program.

30. Tariffs were reduced to 11 percent across the board on June of 1991.

31. *Newsweek* (Latin American edition), March 26, 1990.

32. Ibid.

33. The basic approach is based on the standard Stolper-Samuelson framework linking sectoral (factor) income shares to relative prices. It assumes that the interests of workers and capitalists are independent of the sector where they operate initially, and it ignores important macroeconomic considerations, including the potential role of the exchange rate. Extensions of the basic Stolper-Samuelson framework allow for additional actors, as well as complex relationships among them. A powerful extension, which has become popular among political scientists working on the political economy of trade, assumes that some of the factors (e.g., capital) are sector-specific. In this case, capitalist interests differ depending on which goods the capitalists produce. In this framework, owners of capital across sectors may have conflicting interests. See Chapter 1.

34. This does not mean that the basic principles of international trade theory cease to be relevant. In fact, the extended general equilibrium framework sketched here continues to be extremely powerful.

35. For instance, a Chilean sociologist, Garretón (1986, 147), wrote that in the case of Chile, "we are . . . dealing with a program to lay the groundwork for a new social order . . . we must direct our attention to the capacity of diverse sectors in the dominant power bloc to achieve hegemony within it. The attempt to restructure society . . . can take several directions depending on the capacity of particular sectors to generalize these interests or to impose their own ideology within the victorious coalition." In fact, the general issue of "state autonomy" from economic and social interests has had a long trajectory in the social sciences. See, for example, chapter 1 in Hamilton (1982).

36. On the role of "legitimacy," see Linz (1978, 16–19).

37. Campero (1984, 1991) provides detailed analyses of the role of business associations in shaping the policies of the dictatorship.

38. On the effect of connected lending by the grupos, see Arellano (1985) and Galvez and Tybout (1985).

39. However, the privatized, fully capitalized system that replaced the publicly managed pay-as-you-go system does offer a minimum pension.

40. The fact that from an economic viewpoint the rebate on import duties eliminates the anti-export bias of the import tariff does not mean that this compensation scheme did not have political consequences.

41. I already mentioned that firms that benefited from directed credit before the reforms lost such privileges.

42. On the discretionary application of the price bands, see also Chacra and Jorquera (1991) and footnote 6 in this chapter.

43. According to de la Cuadra and Hachette (1991, 227), "The government gradually opened the Chilean economy to foreign capital between 1974 and 1981. Medium-term capital movements were progressively deregulated (through reductions in reserve requirements), with overall global limits on borrowing eliminated in 1979; the only limitation on total bank indebtedness

[was] the maximum allowed debt-to-capital ratio (20 to 1). Restrictions on monthly inflows were eliminated in April 1980. Short-term financial credits were not allowed until 1981."

44. The controls included a reserve requirement of 20 percent of external credits that had to be deposited in a non-interest-bearing account at the Central Bank for a minimum period of ninety days. In addition, a tax of 1.2 percent on domestic credit operations was extended to cover external loans (Ffrench-Davis et al. 1995, 121).

45. Venturelli (2003) demonstrates that between 1984 and 2000, approximately 8.9 percent of the implied transfers of about US$1.2 billion due to the price bands on wheat, sugar, and oil paid by consumers to producers and the government treasury was paid to the poorest decile of the population, whereas the richest decile paid about 11.6 percent of the total. Given that the income share of the poorest decile in Chile is much lower than for the richest, these numbers imply that the poor paid a larger share of their household income (0.4 percent) than the rich (0.06 percent).

46. For example, Saez et al. (1995, 46, translated) argued that when the Aylwin administration came to power in 1990, they had "to consider, to promote exports as well as better market access, [that] the implementation of complementary policies [to unilateralism] that would provide greater reciprocity [was] required . . . hence the strategy began to be shaped as various opportunities changed the scenarios, thus incorporating the negotiation of free trade agreements into the trade policy agenda." It is noteworthy that recent, unpublished research by Caroline Freund (2003) suggests that developing countries generally do not achieve better market access from trade negotiations by maintaining high levels of protection.

47. "Chile Backs Off from Planned Tariff Cut," *The Journal of Commerce*, March 3, 1998, p. 1A.

48. Again, makers of trade policy of the Aylwin administration wrote that "during [the early 1990s] the authorities had to face sectorial pressures to raise the level of protection. . . . In practice, it is possible to conclude that these pressures were not fruitful and the sectors were left to operate under a uniform protection environment" (Saez et al. 1995, 49, translated).

49. On senescent industry protection, see Hillman (1982), Cassing and Hillman (1986), and Chapter 1.

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