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## *Chapter 1*

# **The Foreign Sector and Chilean Economic Development: An Overview**

### **1.1 INTRODUCTION**

In discussions of economic development experience, considerable emphasis has been placed on the foreign sector. This emphasis partly reflects the view that the foreign sector can play a key role in the development process through the exploitation of dynamic comparative advantage, the transfer of technology and of command over resources, and inducements for efficiency,<sup>1</sup> and partly the fact that, in developing economies, the foreign sector is particularly subject to government influence.

Analyses of the foreign sector in actual economic development experience, however, usually have had definite limitations. In many cases the importance of quantitative restrictions in the foreign sector regime has been disregarded or understated. Historical perspective often has been lacking. Too frequently the supporting evidence is impressionistic, and available quantitative information has been ignored or not subjected to rigorous analysis. Repeatedly other macroeconomic policies and the problems to which they relate have not been kept in their proper perspective, with the result that foreign-sector considerations may be, or may appear to be, overstressed. At times partial-equilibrium conclusions have been misleading or wrong. In some cases very strong assumptions have been made about rigidities.<sup>2</sup> Considerable disagreement therefore remains about the impact of the foreign sector on developing economies.

In this study, I attempt to contribute to the analysis of the relations be-

tween international economic policies and various macroeconomic goals by a thorough examination of the experience of one specific developing country—Chile. Included among the macroeconomic goals are not only growth, but also other factors that are related to a broader definition of economic development: external position and the degree of national autonomy, stability in real and nominal terms, resource allocation and structural change, and the distribution of control over income and other resources. Some of these factors may be complementary and others may be competitive with the goal of growth.

Chile is a particularly interesting country for such a study for several reasons: (i) It has experienced a wide range of foreign-sector policies. (ii) Since the Great Depression, its attempts at industrial development under foreign-exchange control and trade restrictions have shown characteristics common to a number of other developing countries: a large and heavily protected industrial sector, recurrent balance-of-payment crises, a very large foreign debt, and high inflation which has helped to perpetuate overvaluation of the currency. (iii) Policy in the foreign sector has included responses to both substantial external and internal stimuli. (iv) Chile has had three major liberalization episodes in the past two decades, which provide a rich base for the evaluation of liberalization efforts in developing countries. (v) Recent Chilean governments have varied considerably in their political orientation. (vi) The Chilean experience has served as one of the major bases for the development of critiques of the conventional wisdom concerning development. To cite one important example, the "structuralist school" analysis of inflation and stagnation was based considerably on Chilean experience and was developed in substantial part by economists in Chile. According to the structuralists, the foreign sector is an important element in the vulnerability of certain Latin American economies to inflation and stagnation because slow and unstable export growth and a secular deterioration in the terms of trade for exports of primary products result in inadequate import capabilities and procyclical fluctuations in government revenues from foreign trade taxes.<sup>3</sup>

The interactions between the foreign sector and the rest of the Chilean economy have been quite complicated and have varied substantially over time. Moreover, in Chile more than in other countries, past events seem to have had unusually strong effects on recent policy decisions because of the catastrophic impact of some of those events, especially the Great Depression, and due to the unusually strong influence of Chilean economists who have attempted to understand the present in terms of the past.<sup>4</sup> In the next three sections of this chapter, I provide a chronological overview of the Chilean experience, in order to place the foreign sector in perspective both in a historical sense and as it relates to other areas of macroeconomic concern. In the last section, I furnish an outline of the study and a summary of my conclusions.

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## 1.2 THE PERIOD BEFORE THE GREAT DEPRESSION<sup>5</sup>

Between the Spanish discovery of the land area that is now Chile, in 1535, and the War of Independence starting in 1810, Spain imposed a very mercantilistic regime on Chile. Trade could be conducted only with Spain and the Spanish colonies; goods were required to be carried in Spanish boats; manufacturing in Chile was discouraged, and the role of the mother country in government was substantial (although the geographic isolation of Chile resulted in considerable local autonomy). In the sixteenth century, exports consisted primarily of gold and silver; leather and animal fat were added in the seventeenth century; and copper and wheat were added in the eighteenth. From the beginning, then, mining products were an important component of Chilean exports and accounted for over half of the value of exports by the end of the eighteenth century. At that time imports consisted primarily of sugar (24 per cent of the total) and tobacco (24 per cent) from Peru, and textiles (16 per cent) and Paraguayan tea (24 per cent) from Argentina. Thus, Chile had relatively more of her trade with neighboring Latin American areas at that time than she was to have in the next 170 years. At the end of the colonial period, the population of about 1 million was approximately the same in size as when the Spanish first arrived, but its composition had changed from being almost entirely Indian to approximately 80 per cent Spanish and Creole. In comparison with most other Latin American countries, this population was relatively homogeneous and not dependent on agriculture. Furthermore, Chile had a relatively well-developed transportation system and urban structure.

From 1810 until 1830 the Wars of Independence and the subsequent political consolidation dominated events in Chile with substantial negative effects on the economy. By 1830 under the leadership of Diego Portales, banditry had been reduced considerably, public administration had been reorganized, public financing had been strengthened, and public works expenditure had increased. Chile then entered into a period of political stability which was unique in mid-nineteenth century Latin America. The period from 1830 to 1860 is widely thought to have been a "golden era" of great expansion and development.

Over the long term, international economic policy had moved from the extreme restrictiveness of colonial mercantilism, in 1810, through phases II and III and, by 1850-60, into Phase IV.<sup>6</sup> The most important change in the use of quantitative policy tools took place with the enactment of the Law of Free Commerce of 1811, which opened the ports of Talcahuano, Valparaíso, and Coquimbo to all trading nations. In 1849, the remaining ports were opened, and the prohibition on the participation of foreign boats in coastal trade was

TABLE 1.1  
Exchange Rate and Selected Series on Exports, Imports, and Government Income  
and Expenditures of Chile, 1820-1930

Year	Exchange Rate (pesos, or 10 <sup>-3</sup> escudos, per U.S. dol.) (1)	Aver. Annual Exponential Growth Rate in Past 5 Yrs. (U.S. dol.)			Ratios to Total Govt. Income: Foreign Trade Taxes		
		Imports (2)	Exports (3)	Total Govt. Income (4)	Total (5)	Imports (6)	Exports (7)
1820					.44		
1825					.46		
1830	1.31				.50		
1835	1.29			.074	.57		
1840	1.29			.048	.62		
1845	1.29			.101	.52		
1850	1.06	.091	.138	.106	.57		
1855	1.09	.084	.081	.070	.56		
1860	1.14	.028	.046	.046	.56		
1865	0.70	.089	.100	.230	.23	.19	.04
1870	1.08	-.030	-.077	-.056	.33	.31	.02
1875	1.13	.053	.045	.008	.37	.36	.01
1880	1.61	-.118	.002	.078	.24	.20	.04
1885	1.95	.019	-.044	-.063	.60	.37	.23
1890	2.08	.086	.045	.067	.65	.26	.39
1895	2.93	-.064	-.053	.085	.52	.17	.35
1900	2.97	.122	.162	.021	.59	.21	.38
1905	3.19	.091	.108	.103	.41	.26	.15
1910	4.62	.093	.028	.030	.50	.19	.31
1915	6.07	-.134	-.000	-.078	.52	.13	.39
1920	5.73	.152	.110	.087	.40	.12	.28
1925	8.55	.036	.015	.086	.36	.15	.21
1930	8.26	.033	-.063	.081	.29	.19	.10

(continued)

TABLE 1.1 (concluded)

Year	Ratios to Total Govt. Income: Extraor- dinary Income <sup>a</sup> (8)	Ratios to Total Govt. Expenditures		Ratios of External Public Debt to		Aver. Actual Import Tax Rates (14)
		Devel- opment Functions <sup>b</sup> (9)	Debt Service		Ordinary Govt. Income (12)	
			Total (10)	Foreign (11)		
1820						
1825						
1830	.00				3.1	
1835	.14				2.5	
1840	.00		.06	.06	1.7	
1845	.04		.15	.12	2.7	1.16
1850	.05		.15	.13	1.8	0.42
1855	.06		.10	.08	1.1	0.35
1860	.14		.16	.13	1.9	0.56
1865	.56		.32	.10	1.5	0.44
1870	.40		.24	.17	2.5	1.07
1875	.24		.22	.16	2.7	1.22
1880	.36		.16	.10	1.9	1.05
1885	.09		.48	.35	1.5	1.08
1890	.10	.36	.14	.07	1.8	1.38
1895	.34	.28	.44	.10	2.3	2.66
1900	.23	.26	.16	.15	2.2	1.48
1905	.46	.28	.13	.13	2.0	0.88
1910	.49	.33	.13	.13	1.9	1.03
1915	.00	.31	.18	.17	2.5	1.35
1920	.02	.47	.11	.09	1.0	0.49
1925	.26	.31	.19	.16	1.4	0.69
1930	.31	.21	.08	.07	1.9	1.86

SOURCE: Calculated from data in Humud [1969:18, 100, 110, 130, 173, 205, 207, and 256].

a. Extraordinary income is from internal or external borrowing.

b. Includes expenditures by ministries of Industry, Public Works and Railroads, Agriculture and Industry, Land and Colonization, Commerce and Communications, and Development.

c. Overstates import tax rate since numerator includes import and export tax revenues.

Income

me:  
axesExports  
(7)

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.02

.01

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suspended. Price-related policy tools were limited primarily to import and export taxes, with ad valorem-equivalent explicit rates of no more than 30 per cent. A unified and almost constant nominal exchange rate (NER)<sup>7</sup> (with some appreciation against the dollar) prevailed from 1830 to 1860 (column 1 in Table 1.1), during which time the value of the escudo-equivalent in 1960 United States dollars averaged 1,529 and never varied by more than 5 per cent from that average (a degree of stability not again attained).<sup>8</sup>

The dating of the switch from Phase IV to Phase V is somewhat arbitrary.<sup>9</sup> Domestic support of laissez faire policies was growing as the secular liberalization in foreign trade progressed. Prominent in both developments was a fervent French laissez faire advocate, Jean Gustave Courcelle-Seneuil, who was an adviser to the minister of finance and a professor at the University of Chile from 1855 through 1863. Courcelle-Seneuil directly participated in the drafting of important economic legislation during his years in Chile and is said to have had considerable indirect impact through the dogmatic application of his theories by Chilean disciples over the next fifty years. Among the pieces of legislation which he drafted, the 1860 banking law, which in the words of Hirschman [1963:164], "reflected distrust of the government" by establishing "the principle of free, almost wildcat, banking," has become at the least an important symbol of the acceptance of laissez faire by the Chilean body politic. Since the 1857-61 financial crisis, which reputedly originated in fluctuations in international markets and led, in some degree, to passage of the 1860 banking law, also resulted in a break with the past, 1861 has been selected as the year of transition to a new phase.

In the 1860s and on into the late 1870s, a very liberal international economic policy prevailed, except for the suspension of convertibility during the war with Spain (1865 to mid-1866). During this phase Chilean currency first appreciated against the dollar (partly because of the Civil War in the United States) and then started a long secular depreciation (Table 1.1, column 1). The average value of an escudo-equivalent in 1960 United States dollars, however, remained at about the average 1830-60 level (i.e., \$1,512 for 1861-77 as compared to \$1,529 for 1830-60).

A succession of events occurred between 1878 and 1882 which had a strong impact on the Chilean economy for the next half-century. First, convertibility was suspended in 1878 during a financial crisis largely brought on by a decrease of 27 per cent in the real value of exports between 1872 and 1878. This decrease, in turn, was primarily due to a succession of bad harvests and a sharp decline in copper prices. Hirschman [1963:169] probably is correct in hypothesizing that the 1878 financial crisis by itself probably would not have had substantially more impact on longer-run Chilean economic events and policies than did the temporary suspension of convertibility during the 1865-66 war with Spain had not a constellation of subsequent significant events followed so

quickly. But other events did follow, and Chile never again returned to the gold standard for any period longer than six years.

Second, partially in response to the threat of having her rather substantial interests in the nitrate mines in the Atacama desert displaced, Chile fought the War of the Pacific with Peru and Bolivia from 1879 through 1882. Hope of an immediate return to convertibility was dashed by the war, and temporary restrictions on imports of nonwar materials were imposed which moved foreign trade policy back to Phase II or III. Such results were rather minor, however, in comparison with the longer-run impact of the war. Chile won and incorporated into her area Tarapacá and Antofagasta, which contained the world's only known sources of natural sodium nitrate. A new era began as nitrates dominated Chilean exports, becoming the major source of government revenue for the next half-century; and Chile became very integrated into the world economy.

Third, in 1882 the Chilean government denationalized the nitrate industry by returning ownership to the holders of certificates originally issued before the War of the Pacific by the Peruvian government.

Fourth, in 1882, after three centuries of wars, the Indian resistance in the south finally was crushed. The settling of this frontier together with the northern province won in the War of the Pacific led to the creation of new landholding and mining classes which were to join with the middle class to form a significant political power in the early twentieth century.

For the next half-century following the turbulent war years of 1878-82, a Phase IV or V international regime generally prevailed. Events and policies that resulted in some significant alterations in the foreign sector included (i) attempts to return to complete convertibility, (ii) the tariff revisions of 1897 and 1928, (iii) foreign debt accumulated in the War of the Pacific and the Civil War of 1891 and in the expanded public works programs of the 1920s, (iv) changes in world markets, (v) the resurgence of copper exports in the early twentieth century, (vi) and the establishment of the Central Bank in 1925. For this half-century preceding the Great Depression, nevertheless, foreign-sector policies were relatively homogeneous and predominantly liberal.

Five questions about that half-century of experience merit further consideration: (i) Why was complete and enduring convertibility not re-established after the War of the Pacific? (ii) Why did ownership of the major export commodities shift from Chilean to foreign hands? (iii) What was the evolution and impact of import-substitution policies? (iv) Did increased foreign dependence and vulnerability result from liberalization? (v) What was the relationship between liberalization and growth?

### 1.2.1 Failure to Re-establish Enduring Complete Convertibility.

On the face of it, the acquisition of control over the world's only nitrate source would seem to have made a return to convertibility rather easy after the War of the Pacific, given the critical role of nitrates in the manufacture of explosives and fertilizers. In the immediate postwar period, however, convertibility was not re-established because, for the reasons described below, there was a shortage of foreign exchange at the previous exchange rate level:

i. In the first half of the 1880s total export value actually declined (see column 3 in Table 1.1) because the increase in nitrate exports was more than offset by decreases in exports of copper and wheat.

ii. At the same time, government debt service on loans from abroad reached levels greater than one-third of total government expenditure, in part because of obligations incurred during the war (Table 1.1, column 11).

iii. Because of the 1882 decision to return nitrate ownership to certificate owners and because of earlier speculation in such certificates by foreigners, the Chilean share in nitrate ownership increased only from 20 per cent in 1875 to 36 per cent in 1882. Because the foreign speculation had been funded largely by the Chilean banking system, moreover, no substantial capital inflow accompanied the assumption of control of almost two-thirds of the nitrates by foreign interests.

iv. Because of internally financed government deficits and wildcat banking, the rate of inflation increased to a level of about 5 per cent per year at the same time that worldwide many prices were falling.<sup>10</sup>

Attempts to return to a metallic standard were made in 1887, 1895-98, and 1925-31. But all of these attempts were abortive because of a combination of factors, including the continuation of internal inflation, the setting of fixed NERs at overvalued levels, the large foreign debt incurred in the Civil War of 1891, and declines in external markets. Between 1878 and 1927 the value of Chilean currency depreciated steadily (Table 1.1, column 1). The escudo-equivalent in 1960 U.S. dollars decreased at a mean rate of 3.8 per cent per year with the result that in 1927 it was worth only approximately 15 per cent of its 1878 level.

### 1.2.2 Shift to Foreign Ownership of Major Exports.

Before the War of the Pacific the major exports were copper and wheat, both of which were almost entirely domestically owned. For three decades after the war, copper production fell steadily to a low in 1911 of less than 40 per cent of the 1876 peak level, and the Chilean share of world copper production fell from 44 per cent in 1878 to less than 5 per cent for 1900-15.<sup>11</sup> Agricultural exports (primarily wheat) also declined, from about 45 per cent

of the total in 1844–80 (Pinto [1962]) to approximately 10 per cent in the 1920s.<sup>12</sup> Nitrates became the dominant export in the postwar decades,<sup>13</sup> but ownership was largely in foreign hands because of the 1882 denationalization decision. After 1910 there was a resurgence of copper production, but it occurred almost entirely in foreign-owned mines.<sup>14</sup> Production increased at a mean annual exponential rate of 11.8 per cent from 1910 through 1927; the Chilean share of world production increased from 4 to 16 per cent in the same period; and copper again became the leading Chilean export. Thus the weight in exports shifted from domestically owned copper and wheat to largely foreign-owned nitrates and then to almost completely foreign-owned copper.

This move to foreign control over exports reflected a number of factors:

i. Because of transportation costs, Chile could not compete effectively with new low-cost wheat producers in North America, Russia, and Argentina.

ii. The richest copper deposits had been exhausted by 1880, resulting in a substantial increase in Chilean copper-mining costs.

iii. Overvaluation of the currency after the War of the Pacific discouraged exportation of copper and wheat, the two previously dominant and domestically controlled export commodities.

iv. A shortage of government funds, arising from heavy service charges on war debts, was an important consideration in the 1882 denationalization decision.

v. In the early twentieth century, the lack of sufficient funds from domestic sources and the limited access to the international capital market precluded Chilean-controlled application of the new capital-intensive Jackling process to the remaining relatively low-grade copper ore.

vi. Before the discovery of a practical method for fixing nitrogen from the air, in 1914, Chile's nitrates were too important a war import material for the major powers to let control rest with Chile.

vii. An economic "open door" policy was thought to be useful in attracting desired immigrants.

viii. The philosophy of the ruling elite generally was laissez faire—partially because of the continuing influence of disciples of Courcelle-Seneuil. This viewpoint was instrumental in the 1882 decision to denationalize nitrates (so that the government would not be involved in direct production) and in subsequent decisions to leave the mining industry almost completely unregulated except for the collection of export taxes on nitrates.<sup>15</sup>

ix. The ruling and commercial elite apparently identified their interests strongly with those of foreign economic entities and with foreign trade. As a result, and despite the general laissez faire policies toward the export minerals, Humud [1969:38, 40, 217] notes, the government did attempt to aid the foreign-controlled nitrate companies in times of labor-market or international-market crises.<sup>16</sup>

Because of the shift of the export minerals to foreign ownership, large transfers of funds were made from Chile to the more developed countries. In the early twentieth century, there were also substantial capital inflows, which were used in developing foreign-owned, large-scale copper mines. The evaluation of these net flows<sup>17</sup> and of other costs and benefits is very difficult because the options cannot be determined with confidence on the basis of the scanty information available. However, from the nationalistic viewpoint of the 1960s and 1970s, which is *not* the same as that of the ruling elite of those times, it appears that Chile could have gained much more than she did from her mineral riches by exercising greater control, if not actual ownership.

### 1.2.3 Evolution and Impact of Import-Substitution Policies.

Conflicting claims about the pattern of import substitution before the Great Depression abound in the Chilean literature. The following data may aid in determining the actual evolution and impact of import-substitution policies:

i. From 1830 to 1960, the ad-valorem-equivalent import tax for final consumer goods ranged from 20 to 35 per cent; for intermediate goods, from 10 to 15 per cent; and for capital goods, zero (Humud [1969:122, 125]). Thus, the tariff structure resulted in higher effective than nominal protection rates for consumer and intermediate goods industries. Export taxes included an element of protection for the processing of wheat in that the rate for flour was two-thirds that for grain. In the early part of the period from 1861 to 1896, some rationalization of the import tariff structure was made by reducing rate variances between categories. The highest ad-valorem-equivalent nominal rate also was decreased from 35 per cent to 25 per cent; so some decline in effective protection for final consumer goods resulted. Under Law 980 of 1897 the maximum import tariff rate was increased to 60 per cent for some final consumer goods and reduced to zero for some intermediate goods. Effective protection on final goods therefore increased substantially, although effective protection on some intermediate goods decreased.<sup>18</sup>

ii. Calculations based on data in Lagos [1966:26] indicate that the share of consumer goods in imports dropped from 89.6 per cent in 1870-72, to 76.2 per cent in 1878-82, and to 54.8 per cent in 1903-07. This secular decline in the relative importance of consumer goods imports is consistent with the claim of increasing substitution for such imports.

iii. The average actual import tax rates (Table 1.1, column 14) do not indicate a substantial decline immediately after 1860, but do show an increase from 1885 to 1905, a decline from 1910 to 1925, and an increase as of 1930; but these rates must be interpreted with some care because of changes in the composition of imports.

iv. Muñoz [1968:82] estimates that the total import substitution coefficient for the period from 1914–15 to 1927 was 0.431, as compared to a “normal” Chenery value of 0.194.<sup>19</sup>

v. For 1914–15 through 1929–30 Muñoz [1968:38] gives a mean annual rate of growth for real industrial GDP of 4.8 per cent. Other estimates range from 2.2 per cent to 6.0 per cent (see Table A.1, line 2.1; see also Ballesteros and Davis [1963] and CEPAL, in Muñoz [1968:38]).

vi. Both Lagos [1966:144] and Mamalakis [1971b:306] maintain that by the 1920s over a fifth of the total labor force was employed in manufacturing. For this sector to have been such a large employer, considerable industrialization must have taken place in the preceding seventy or eighty years.

Thus, the evidence suggests that at least moderate protection of final consumer goods had prevailed since the 1830s.<sup>20</sup> The degree of protection was reduced slightly in the 1860s, and a significant increase was instituted by the tariff law of 1897. The years from 1860 to the Great Depression were not characterized by substantially less protection than had prevailed before 1860, however, as Jobet [1955:42], Lagos [1966:19, 22–23, 38], Pinto [1962:16, 21, 49], and Sepúlveda [1959:36, 71–72] contend; nor did relatively low levels of protection prevail until just before the Great Depression, as Ellsworth [1945:49] and Jeanneret [1971:145] suggest. Moreover, industrial growth from 1860 to 1930 must have been substantial, although not extraordinary, in order for a manufacturing sector to have developed as large as that which existed in the 1920s. Much of this development took place, finally, through import substitution for consumer goods—a process which occurred at more than the Chenery “normal” rates, at least beginning with the outbreak of World War I and continuing thereafter.

#### 1.2.4 Liberalization, Foreign Dependence, and Vulnerability.

The contention of the structuralist school (see section 1.1) is that because of liberalization Chile became extremely dependent on the foreign sector and, therefore, more vulnerable to instabilities abroad than would otherwise have been the case. The structuralist claim of great dependence is based on the following considerations:

i. *In the years immediately preceding the Great Depression, the economy was very dependent on exports and imports.* COMMENT: This hypothesis is based on observation of ratios of exports and of imports to GDP. Available estimates of these ratios range from 0.3 to 0.6, which are quite high compared with subsequent Chilean experience and with the experience of most other countries.<sup>21</sup>

ii. *As liberalization took place, the rates of growth of real exports and imports increased to relatively high levels.* COMMENT: A crude test of this hy-

pothesis is provided by the following two regressions, in which the natural logarithms of the value of exports ( $X$ ) and of imports ( $M$ ), both in 1960 dollars, are the dependent variables and dummy variables are utilized to test whether significant phase-related deviations in growth rates occurred in the period 1844–1927:<sup>22</sup>

$$\ln(X) = 0.037 \text{ TIME} + 0.014 \text{ TIME} \cdot \text{DUM}(44-60) + 6.77 \quad (1.1)$$

(7.2)                      (1.1)                      (24.9)

$$\bar{R}^2 = 0.94, SE = 0.23, DW = 2.1, \rho = 0.79$$

$$\ln(M) = 0.048 \text{ TIME} + 0.019 \text{ TIME} \cdot \text{DUM}(44-60) \quad (1.2)$$

(5.7)                      (1.6)

$$- 0.012 \text{ TIME} \cdot \text{DUM}(78-27) + 6.49$$

(2.1)                      (27.2)

$$\bar{R}^2 = 0.93, SE = 0.22, DW = 1.7, \rho = 0.73$$

where

- $\text{TIME}$  = time trend;  
 $\text{DUM}(44-60)$  = dummy variable with value of 1.0 for 1844–60  
and 0.0 for other years;  
 $\text{DUM}(78-27)$  = dummy variable with value of 1.0 for 1878–1927  
and 0.0 for other years.

These estimates suggest that real exports and imports in fact did *not* increase more rapidly in the more liberal, post-1860 phases. To the contrary, the growth rates were, if anything, significantly higher during the period before 1860. For exports, such a result might seem surprising because of the acquisition of a major new export — nitrates — in the War of the Pacific. But apparently the decline of wheat and copper (mentioned above) offset the expansion of nitrates. Finally, the implied growth rates for exports, 0.051 for 1844–60 and 0.037 for 1860–1927, and for imports, 0.067 for 1844–60, 0.048 for 1861–77, and 0.036 for 1878–1927, are less than those reported for some of the more restrictive, post-1940 phases (lines 1.2.4.1 and 1.2.4.2 in Table A.1), and undermine the assertion that exports and imports increased quite rapidly from 1860 to 1930.

iii. *In the period before the Great Depression, government income was very dependent on the foreign sector.* COMMENT: By any available index the reliance of government income on the foreign sector was considerable: between 1820 and 1930, foreign trade taxes ranged from 23 per cent to 65 per cent of total government income; for 1908–27, taxes related to foreign income (including income taxes on copper mining) averaged 83 per cent of total taxes; between 1820 and 1930, extraordinary income (including substantial foreign

borrowing) was as high as 56 per cent of total government income; between 1840 and 1930, the resulting external public debt service was as high as 35 per cent of total government expenditures; in 1830–1930, the ratio of foreign public debt to ordinary annual government income was never below 1.0; and from 1845 to 1930, the ratio of external public debt to annual export value often exceeded 1.0 (Table 1.1, columns 5, 8, 11, 12, and 13, and Table A.1, lines 1.2.6.5 and 1.2.6.6). Regressions of ordinary (primarily taxes) and extraordinary (internal and external borrowing) government income on imports and exports for 1844–1927 provide further confirmation:<sup>23</sup>

$$OGY = 0.11M + 0.40X + 371.7 \quad (1.3)$$

(1.7)    (11.7)    (1.0)

$$\bar{R}^2 = 0.96, SE = 703., DW = 1.8, \rho = 0.71$$

$$EGY = 0.33M - 0.10X + 293.9 \quad (1.4)$$

(2.9)    (1.4)    (0.6)

$$\bar{R}^2 = 0.53, SE = 1,342., DW = 2.1, \rho = 0.58$$

where

*OGY* = ordinary government income (in thousands of 1960 dollars);

*EGY* = extraordinary government income (in thousands of 1960 dollars).

Variations in the foreign trade variables were consistent with a substantial proportion of the variance in ordinary government income and with over half of the variance in extraordinary government income.

Relation 1.4 merits further interpretation. The positive coefficient for the value of imports probably reflects both a secular trend in the use of extraordinary income<sup>24</sup> and the dependence of marginal imports on foreign exchange obtained from external extraordinary government income. The negative coefficient for the value of exports, although significantly nonzero only at the 10 per cent level, provides some support for the claim that the government substituted between extraordinary income sources and ordinary export tax revenues. When the latter declined the former were increased. To the extent that such extraordinary sources consisted of external debts (which were more important than internal ones), a decline in the value of exports resulted in an increase in foreign debt and in foreign dependence.

Although the foregoing evidence indicates that government income depended substantially on the foreign sector, it does not follow that this dependence was unavoidable. In fact, Humud [1969:151] reports that before the establishment of an income tax, in 1925, internal taxes generally declined as a percentage of total taxes as a result of deliberate decisions to eliminate most of these taxes.<sup>25</sup>

iv. *With increased liberalization, government revenues became more dependent on the foreign sector.* COMMENT: A test of this hypothesis is to include phase-coincident dummy variables in relations 1.3 and 1.4. In neither case, however, does such a procedure result in coefficients that are significantly nonzero even at the 15 per cent level.<sup>26</sup> Examination of the data in Table 1.1 also indicates the lack of association between dependence on the foreign sector for government revenues and phases of restrictionism. Foreign trade taxes accounted for over half of total government income both in the relatively restrictive years from 1830 to 1860 and in the more liberal and highly-nitrate-dependent period from 1885 to 1915 (columns 5, 6, and 7). The external public debt was relatively large primarily after wars and moderately so after borrowing abroad for infrastructural development (Table 1.1, columns 12 and 13).<sup>27</sup>

v. *With increased liberalization, foreign ownership increased.* COMMENT: As is discussed above, after the War of the Pacific,<sup>28</sup> foreign direct ownership of the key mineral exports increased considerably.

Thus the available evidence suggests that dependence on the foreign sector was quite substantial before the Great Depression, although not necessarily correlated with the degree of liberalization. The assertion that the economy became more vulnerable to externally generated fluctuations is more difficult to explore, but the following observations have some bearing on this issue.

i. Deviations from the secular time trend provide a measure of fluctuations, some of which, of course, originate in internal events and wars or reflect government decisions. The mean absolute proportional deviations of actual export value levels relative to the levels predicted by equation 1.1 are 0.10 (standard deviation of 0.06) for 1844-60, 0.11 (0.12) for 1861-77, and 0.19 (0.24) for 1878-1927. The mean for the last period is significantly larger at the 5 per cent level than those for the two earlier periods.<sup>29</sup> The implication of these fluctuations is that the actual value of exports fell 20 per cent below the value predicted by the model of secular time trend (equation 1.1) in eleven of the fifty years covered.<sup>30</sup> As the structuralists claim, it would be difficult correctly to anticipate the availability of foreign exchange if exports differed greatly from their anticipated levels. However, such fluctuations in exports did not increase significantly in the Phase V years 1860-77, contradicting the structuralists' contention.<sup>31</sup>

ii. The results for imports are similar. The mean absolute proportional deviations of the level of actual import values from the levels predicted by equation 1.2 are 0.09 ( $\sigma = 0.08$ ) for 1844-60, 0.10 (0.10) for 1861-78, and 0.20 (0.20) for 1878-1927. Once again, fluctuations did not increase significantly between 1844-60 and 1861-77 (test statistic = 0.3), but they did increase significantly between 1844-77 and 1878-1927 (test statistic = 2.7).

iii. An analogous calculation for the mean absolute proportional deviation from a secular trend for ordinary government income, however, gives 0.15 for 1878-1927 ( $\sigma = 0.15$ ), and this figure is not significantly different from the figure of 0.10 ( $\sigma = 0.09$ ) for the earlier period (test statistic = 1.6). The structuralists' contention is, therefore, not supported: the significantly greater fluctuations in exports and imports after the War of the Pacific did not cause significantly increased fluctuations in government revenue, which would have had inflationary effects because the government would have had to finance its debts locally, since it could not readily reduce its expenditures.

iv. After the War of the Pacific, inflation apparently was higher than before, although the evidence is quite fragmentary, but lower, nevertheless, than the rates observed after the Great Depression (Table A.1, line 2.1). Since substantial portions of these relatively moderate rates were due to such factors as wildcat banking, supply disruptions, and internal deficit financing originating in the Civil War of 1891, the structuralist claim that substantial price instability originated in the foreign sector seems to be overstated.

v. Of course, price changes are but one aspect of cyclical fluctuations. Perhaps of more importance are fluctuations in the utilization of productive capacity. The mean rate of capacity utilization for the 1908-27 period was 93 per cent, an average level not exceeded again until the 1960s for the periods included in Table A.1 (line 2.2). Thus, on the average, at least during the twenty years before the Great Depression, no evidence exists of unusually large forgone output due to fluctuations in foreign markets (or to any other possible source). However, international market conditions were associated with the two lowest troughs in capacity utilization in the period: in 1914-15, because of wartime shortages of imported intermediate supplies, and in 1919-22, because of the 1921 depression.<sup>32</sup>

### 1.2.5 Liberalization and Economic Growth.

Chilean analysts have presented two quite different characterizations of growth before the Great Depression. Conflicting policy recommendations have been made because of the different interpretations of that experience. On the one hand, Hurtado [1966:57], Lagos [1966:38-39], Pinto [1962:16], and a number of structuralists contend that the relatively important role of the government in general and of government controls on international economic transactions in particular before 1860 resulted in much greater industrialization and economic development than occurred in the more liberalized period after 1860. In contrast, de Castro and de la Cuadra [1971:1] describe the decades immediately prior to 1929 as having one of the highest growth rates on record "in an environment of free trade which made it possible to take advantage of the opportunities created by the international markets while

demanding, at the same time, efficiency in the domestic allocation of productive resources."

The conclusion that relatively high growth rates were experienced before 1860 as a result of the restrictive international trade regime seems doubtful from a number of points of view.

i. The characterization of rapid over-all economic growth is based primarily on the growth of exports, imports, and government revenues. But the presumption that these growth rates were unusually high before 1860 is not well founded. For exports the pre-1860 growth rate was found to be significantly higher than the post-1860 growth rate only at the 15 per cent level in relation 1.1. Again, for government revenues, the difference in growth rates between the two periods was not significant even at the 25 per cent level. Moreover, the rates of growth of exports and imports for 1844-60 that are implied by relations 1.1 and 1.2 were exceeded in a number of periods after the Great Depression (Table A.1, lines 1.2.4.1 and 1.2.4.2).

ii. Subsequent experience (including that during 1908-27, when imports and exports were much more important relative to over-all product than in the more agrarian and self-sufficient economy before 1860) indicates that the relations between the over-all rate of growth and the rates of growth of exports and of imports are not simple ones characterized by high correlations.<sup>33</sup>

iii. Much of the growth which did occur apparently originated not in industry, but in agriculture and mining, partly because of export opportunities in these sectors.

iv. The industrial expansion may have been an adjustment from a below-"normal" industrial sectoral share (in the Chenery [1960] sense) resulting from the effects of the Spanish colonial mercantilist policy to a "normal" share which would have occurred under a wide range of international economic regimes once Spanish control was eliminated. If so, subsequent slowing down of industrial expansion (if indeed it did occur<sup>34</sup>) may only have indicated that the relatively easy "catching up" period was over.

v. The existing data refer primarily to the years 1844-60, when substantial liberalization of international trade was occurring. Perhaps, therefore, the rapid rates of growth of imports and exports only reflected increasing propensities to trade because of the trade liberalization or high income elasticities for foreign trade.

On the other hand, even if such propensities were not increasing and income elasticities were not high, with the result that equivalent rates of growth of national income did occur, to attribute that growth to the liberalizing of foreign trade policy seems at least as consistent with the available data as to attribute it to the earlier, somewhat protectionist policies.

For the two or three decades preceding the Great Depression, more evidence is available about the probable relation of the international economic

regime to growth. For savings, the impact was mixed, in that the effect of the regime was a continued shift of resources to the government, which apparently had a fairly high propensity to save;<sup>35</sup> however, in addition, under that regime a level of negative net foreign savings was tolerated which on average was not exceeded in any period before 1965 (see Table A.1, line 1.2.6.1).<sup>36</sup> The effect of the regime on investment seems to have been positive, generally resulting in a shifting of resources from sectors of average labor productivity<sup>37</sup> to higher ones (with the one exception noted below).<sup>38</sup> Relative domestic efficiency was raised by subjecting local industry to foreign competition (at least according to de Castro and de la Cuadra [1971:1]). In addition, in the early twentieth century, new technology and substantial amounts of foreign capital were allowed to enter, so that copper mining could be developed on a large scale.

On the other hand, the regime seemed to have negative consequences because it induced the movement of some resources into the manufacturing sector, in which productivity was relatively low.<sup>39</sup> Moreover, the development of the largely foreign-owned export mining sector was allowed to proceed with little regulation to protect the interests of Chile in cases where these interests might differ from those of the owners. Finally, excessive upper-class consumption and resource transfers abroad were allowed. As a result, the returns from the mineral export booms, which might otherwise have been utilized for substantial capital accumulation, were dissipated.<sup>40</sup> The net result of these internal and external factors was a mean annual growth rate in real per capita product of 1.5 per cent for 1908-27<sup>41</sup> and, probably, a rate of about the same magnitude for the preceding decades.<sup>42</sup> Such a growth rate is not low for the Chilean experience, but it is exceeded by the rates recorded in several subsequent periods (Table A.1, line 5.1). Even if one is willing to assume a very strong relationship between trade policies and growth, therefore, this order of magnitude seems to justify neither the Hurtado-Lagos-Pinto characterization of that relationship as low and due to the failure of free trade, nor the de Castro-de la Cuadra claim of it as high and due to the very positive effects of free trade in the years before the Great Depression.<sup>43</sup>

### 1.3 THE IMPACT OF THE GREAT DEPRESSION

The Great Depression began to affect Chile in 1930. The resulting substantial change in the over-all economic situation is clear from the following observations. In 1930 the capacity to import fell 28 per cent,<sup>44</sup> the real value of imports fell 13 per cent, capacity utilization fell 11 per cent, and real mining product fell 27 per cent (with declines of 32 per cent in copper production, 47 per cent in nitrate production, and 25 per cent in nitrate employment);

per capita real GDP fell 14 per cent. Sectoral increases in real product per capita occurred only in agriculture and in government. Because of "misguided stubbornness in defending the gold standard" (Hirschman [1963:179]), monetary policy was contractionary because of a 29 per cent decline in gold reserves. Credit was restricted, wholesale prices declined 13.4 per cent, the real Central Bank interest rate increased 3.4 per cent, and the NER remained constant. The only significant anticyclical policy was an increase of 10 per cent in real government production, and this was financed by foreign borrowing.<sup>45</sup>

The extensive negative impact of the Great Depression on the Chilean economy in 1930 was intensified even further in 1931 and 1932. By the latter year, in comparison with 1929, the export capacity to import was 18 per cent, the real value of imports was 13 per cent, nitrate production was 23 per cent, nitrate employment was 15 per cent, copper production was 32 per cent, capacity utilization was 55 per cent, and per capita GDP was 49 per cent.<sup>46</sup> Even granted that 1929 was a boom year for the Chilean economy, and even though authorities differ in their estimates for this period (see, for example, Mamalakis [1971b:40; 1965:384] and Ballesteros and Davis [1963]), the conclusion that the declines were catastrophic is incontestable on any basis. Indeed, a League of Nations report characterized Chile as the hardest hit of any country by the Great Depression.

For the purposes of this study the most important reaction to the Great Depression was the abrupt change in the prevailing economic philosophy and policy from liberalism to restrictionism and, somewhat more slowly, to interventionism. Tremendous frustration resulted from too much *dependencia* on the external sector.<sup>47</sup> In hopes of reducing that dependence and the associated vulnerability, acceleration of internal industrial development was desired. Restrictive policies, especially for the foreign sector, were seen as the most effective means of encouraging domestic industry, reducing dependence on the foreign sector, and conserving scarce foreign exchange. Therefore quite restrictive policies were imposed in 1931.

Before the Great Depression, as is noted in the previous section, some tendencies toward greater control of international economic relations and reduced dependence on the foreign sector had existed. For example, industrial import substitution apparently was a major aim of the 1897 and 1928 tariff laws and the 1925 tax legislation served to lessen the dependence of government revenues on the foreign sector. Despite these elements of continuity, however, the periods before and after the Great Depression differed substantially in the range and nature of the policy tools used. For the eighty years before the Great Depression, the major policy tools were a unified NER and indirect taxes on foreign trade; the characteristics of phases IV and V dominated. For the forty years after the Depression, the economy was characterized

by the more restrictive phases—I, II, and III—except for a brief experience of Phase IV in 1959–61. The major policy tools (see Part II, below) included multiple exchange rates, a myriad of indirect taxes and surcharges on imports, direct taxes on the major export producers, licensing, quotas, permitted and prohibited lists, prior deposits on imports, special regimes for exports and imports, explicit and implicit subsidies, tax rebates, bilateral and compensation agreements, and regulations concerning direct investment and related flows and capital movements. Not only was there great expansion in the variety of policy tools utilized in the attempt to run the more highly controlled system of the post-depression era, but also there were great increases in both the frequency of policy changes and specificity of policy. The Great Depression, thus, delineated the most important break in the history of the Chilean experience of quantitative restrictions.

#### 1.4 PHASES OF EXCHANGE CONTROL AFTER THE GREAT DEPRESSION<sup>48</sup>

##### 1.4.1 1931–55: Phases I and II—A Quarter Century of Quantitative Restrictions.

Phase I restrictions were imposed in 1931 and followed by twenty-five years of Phase II ad hoc adjustment in the foreign trade regime in attempts to offset the perceived negative results of the restrictions. The degree of quantitative restrictions was relatively constant throughout the quarter century, but policy in other areas of economic activity was less consistent.<sup>49</sup> Four subphases<sup>50</sup> of the basically Phase-II-type foreign-sector regime may be distinguished: 1931–39, 1940–46, 1947–51, and 1952–55.

##### 1931 TO 1939.

The first years were characterized by the sharp economic decline discussed in the previous section. The subsequent recovery was only partial: by 1939, real per capita GDP was 76 per cent of the 1930 level and 66 per cent of the peak-1929 level, and the value of exports in constant United States dollars was 53 per cent of the 1930 level and 29 per cent of the peak 1920 level.<sup>51</sup> The resulting subphase means for the growth rate in real per capita GDP (Chart 1.1) and for the level of capacity utilization were the lowest among all post-1907 phases and subphases. The subphase mean for the index of export capacity to import was tied for second lowest (Chart 1.1). Moreover, even though prices declined initially (as mentioned above), the rate of inflation rose to a mean level of 8.5 per cent (Chart 1.1).<sup>52</sup> Despite definite improvements since the early 1930s, therefore, at the end of this subphase the

over-all economic situation remained substantially worse than that which had prevailed before the Great Depression.

#### 1940 TO 1946.

This subphase was dominated by two features: First, the Popular Front government pursued a generally expansionary policy, especially in regard to the activities of CORFO (Corporación de Fomento), a quasi-public development corporation established in 1939. Second, World War II had the effect of substantially increasing the demand for Chilean copper and reducing the availability of imports.<sup>53</sup>

Economic activity increased considerably because of heightened aggregate demand. Mean capacity utilization returned to its pre-Depression level, which was not exceeded again until the 1960s (Chart 1.1). The mean rate of growth of real GDP per capita was the highest recorded in 1908-64 (Chart 1.1). The mean annual rate of growth of real industrial product, 7.5 per cent, was the highest attained in 1908-70 (line 5.2 in Table A.1).

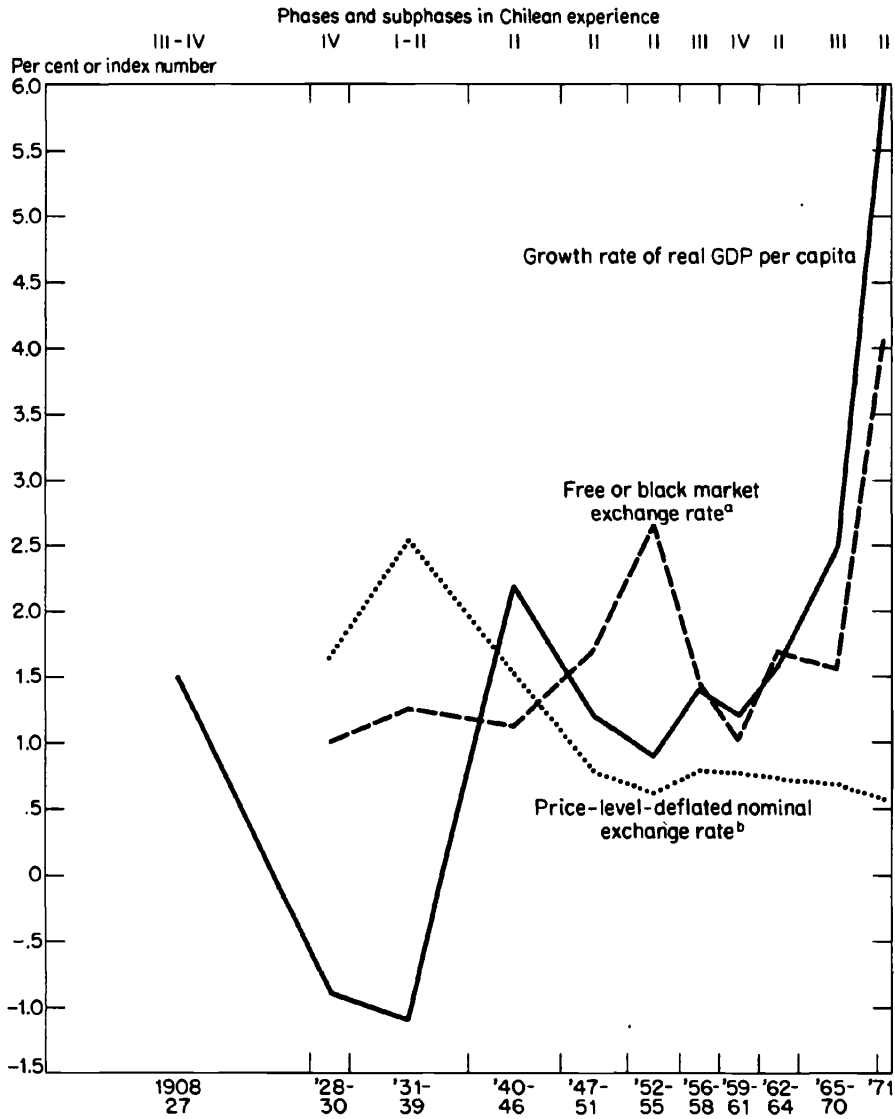
The factors leading to these gains in real terms, however, also led to substantial inflationary pressures. Aggregate demand pressures, moreover, were reinforced by worldwide price increases: over the seven years 1940-46, unit import values in foreign currency and the imported component of the wholesale price index increased at mean annual rates of 15.2 and 38.8 per cent, respectively. The mean annual rate of change in the GDP deflator increased to 15.1 per cent (Chart 1.1).

Despite the much higher physical quantities of copper exported, the index of export capacity to import fell slightly to the lowest mean value among the periods for which data is available, 1928-66 (Chart 1.1).<sup>54</sup> This decline reflected the combination of fixed copper prices in 1942-46 (due to an agreement with the United States as part of the war effort) and rapidly rising import prices (line 1.1.5.1 in Table A.1). The PLD-NER, moreover, dropped almost 40 per cent because devaluations did not match the internal inflation (Chart 1.1). The exchange control system nevertheless loosened up somewhat. One possible indication is that the ratio of the free- or black-market exchange rate to the average exchange rate actually declined by 11 per cent (Chart 1.1).<sup>55</sup> The lack of more pressure on foreign exchange despite the declines in the capacity to import and in the PLD-NER was due to two factors mentioned above—the increase in the international price of imports and the limited availability of imports—and to considerable CORFO-related net capital inflows.

#### 1947 TO 1951.

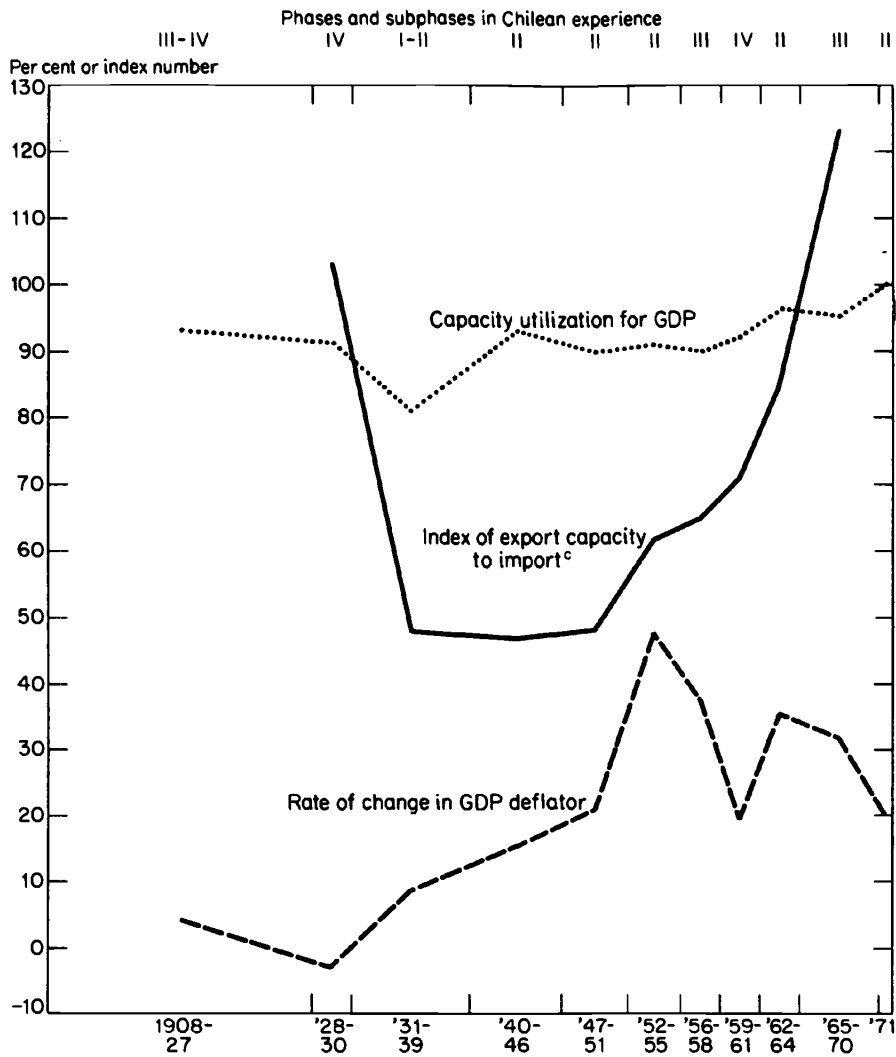
This immediate-postwar subphase was characterized by reduced capacity utilization and growth, but accelerated inflation at an average annual level of

CHART 1.1  
**Selected Macroeconomic Variables During Phases and Subphases of the  
 Chilean Exchange Control Regime, 1908-71**



(continued)

CHART 1.1 (concluded)



SOURCE: Table A.1, lines 1.1.1, 1.1.3, 5.1, 1.2.6.3, 2.1, and 2.2.

a. Expressed as a multiple of the national accounts rate.

b. January 1, 1959 = 1.00 (see note to line 1.1.1 in Table A.1).

c. 1965 = 100. In 1965-70 phase, average is for 1965-66 only.

20.8 per cent (Chart 1.1). The stagnation partially reflected the depression in the world copper market in 1948–49. Some of the inflationary pressure likewise originated in the foreign sector (i.e., the unit value of imports increased 23.6 per cent in 1947 and 16.8 per cent in 1951; the unit value of exports increased 31.4 per cent in 1947 and 26.5 per cent in 1951). A midperiod attempt under Finance Minister Jorge Alessandri to revitalize the economy and reduce inflation was abortive.

The constant-dollar value of both exports and imports increased at very high mean rates (Table A.1, lines 1.2.4.1 and 1.2.4.2).<sup>56</sup> The former rose initially because of the termination of the fixed copper price, dropped in the intermediate years because of recessionary conditions abroad, and increased in 1951 because of the Korean War boom. The latter grew because of a 48 per cent fall in the PLD-NER (Chart 1.1)<sup>57</sup> and pent-up demand from the war. In fact, imports would have increased even more had not exchange control increased somewhat due to the scarcity of foreign exchange (Table A.1, lines 1.1.3 and 1.2.6.2.).

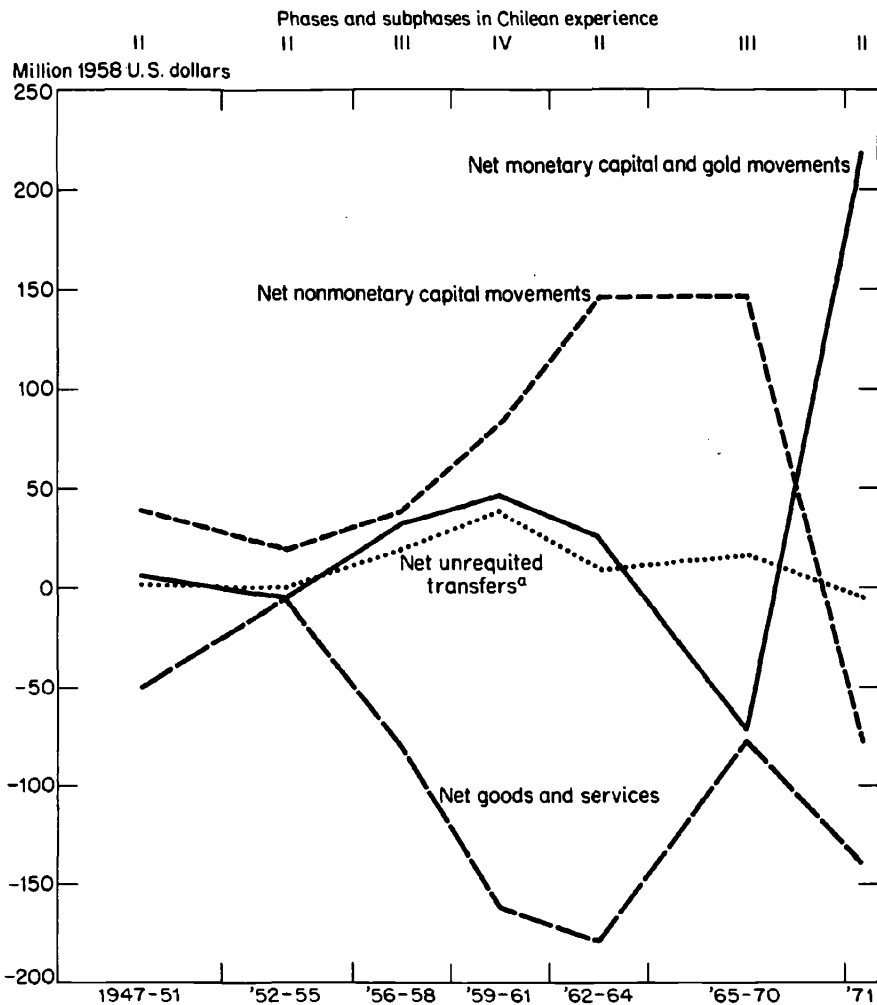
#### 1952 TO 1955.

The predominant features of these years included rising economic and political instability and rampant inflation. The mean growth rate in per capita GDP sank to a postwar trough, mean capacity utilization remained relatively low, and the mean annual inflation rate skyrocketed to 47.8 per cent (Chart 1.1).

Near the end of this subphase, the internal situation deteriorated greatly. In 1954 and 1955, real per capita GDP decreased by a total of 4 per cent, capacity utilization fell to an average level of 89 per cent (the lowest level since the mid-1930s), real wages fell by a total of 17 per cent below the historic high of 1953, annual strikes and labor conflicts increased an average of 25 per cent above the previous all-time high of 1953, and the mean annual increase in the GDP deflator was 71.7 per cent. In May 1954, a major blue-collar strike took place, and a state of siege was declared in September. In 1955, three different ministers of finance held office in the first half of the year. In July, a general strike occurred, the long-silent Central Bank issued a report on the inflation which recommended forceful anti-inflationary measures, and rumors of a military-backed suspension of the Constitution abounded.<sup>58</sup>

In the external sector, in contrast, the immediate situation was relatively favorable in many respects. The mean export capacity to import increased 29 per cent (Chart 1.1). The mean deficit on the goods and services account was the smallest in absolute value in the postwar period (Chart 1.2). In 1954 and 1955, furthermore, the constant-dollar value of net foreign loans to the Chilean government increased rapidly. In 1955 exports and imports in con-

**CHART 1.2**  
**Major Components of Chile's Balance of Payments During Phases and Subphases**  
**of Her Exchange Control Regime, 1947-71**



SOURCE: Table 8.1. Values for 1965-69 and 1970 from that table have been combined in order to obtain the 1965-70 averages shown here.

a. Value for 1971 calculated from data in Table 8.1 under assumption that errors and omissions were nil.

stant dollars rose 18.4 and 11.0 per cent, respectively, and the terms of trade were the most favorable since 1937.

But the PLD-NER declined to the lowest level of the whole period from 1908 to 1970 because devaluation lagged behind inflation (Chart 1.1). The resulting high demand for foreign exchange was augmented by the effects of capital flight prompted by internal instability. Exchange control therefore was intensified, reaching a postwar high (line 1.2.5.2 in Table A.1). The average ratio of the black-market to the legal exchange rate reached a record high of 2.66, a level not attained again until 1971 (Chart 1.1).

#### **1.4.2 1956-58: Phase III—The Ibañez-Klein-Saks Stabilization and Liberalization Program.**

Because of the rapidly deteriorating internal situation, in mid-1955 the government hired the Washington-based Klein-Saks consulting firm to advise in the formulation of a stabilization program. The effort of stabilization plus liberalization that commenced in early 1956 was strongly identified with the Klein-Saks mission.

A number of indices suggest that this stabilization attempt met with at least initial success. The mean rate of rise of prices was reduced from 47.8 per cent in 1952-55 to 37.6 per cent in 1956-58 (Chart 1.1), with annual rises declining from 58.3 per cent in 1956 to 28.3 per cent in 1957 and to 26.3 per cent in 1958. Although the mean rate of capacity utilization declined slightly below the 1952-55 average, it was higher than the 1954 and 1955 levels (Chart 1.1). The mean rate of growth of per capita real GDP was the highest recorded among the phases and subphases since the end of the Second World War (Chart 1.1), as a decline in industry was more than offset by increases in agriculture and other sectors (lines 5.1, 5.2, and 5.3 in Table A.1). However, in most respects, the economy worsened in 1958.

In the foreign sector, liberalization resulted in a shift to a Phase III regime. Accompanying this liberalization was a fall of 46 per cent in the mean ratio of the black-market NER to the over-all average NER, a rise of 30 per cent in the PLD-NER, and an increase of 5 per cent in the mean export capacity to import (Chart 1.1). Imports grew so much more rapidly than exports, however, that the mean deficit on the goods and services account in millions of 1958 dollars increased from -5.6 to -81.7 (Chart 1.2). This enlarged deficit was partially offset by mean increases in net unrequited transfers from -0.1 to 19.6 million 1958 dollars (largely due to foreign official support for the stabilization effort) and in net nonmonetary capital inflows from 18.6 to 37.4 million 1958 dollars (Chart 1.2). But mean net monetary capital and gold movements also increased—from -5.6 to 32.7 million 1958 dollars (Chart 1.2)—which placed growing pressure on the dwindling foreign

exchange reserves. Among the causes of this pressure were a reduction in export value due to a decline in the terms of trade, which reflected recessionary conditions in foreign markets (line 1.1.5.1 in Table A.1) and increased demand for foreign exchange for imports due to the decline in the PLD-NER after the fixing of NERs at constant levels in mid-1957. As a result of the increasing pressure on foreign exchange reserves, exchange controls were intensified in the last half of this phase, although probably not to the same degree as in 1955.

#### **1.4.3 1959–61: Phase IV—The Alessandri Stabilization and Liberalization Policies.**

In the presidential election of late 1958, Jorge Alessandri, a conservative, narrowly defeated Senator Salvador Allende Gossens, the Socialist candidate. The new government had no formal stabilization program, but generally hoped to achieve price stabilization and to revitalize the economy through increased supplies of all goods, to be induced by liberalized internal and external policies. In comparison with the Klein-Saks program of the previous phase, the Alessandri government seemed to place revitalization above price stabilization<sup>59</sup> and to place greater importance on the role of a liberalized foreign sector.

The Alessandri policies had mixed results during this period. The mean capacity utilization rate was the highest since the Second World War, although lower than rates attained in the 1960s and early 1970s (Chart 1.1). The mean rate of inflation was the lowest in the entire postwar period, 1946–71 (Chart 1.1). In all the twenty-six postwar years through 1971, rates as low as the ones in 1960 and 1961—9.5 and 7.9 per cent—were recorded only two other times. The rate of growth of real GDP, however, fell to the lowest mean level of any phase after 1955, although it did exceed the means for the subphases between 1928 and 1940 and 1947–55.

Liberalization of the foreign sector proceeded steadily. The result was a Phase IV regime, the most liberal since the Great Depression. One index of the relative lack of restrictions is the drop in the mean ratio of the black-market NER to the average legal NER; it fell 30 per cent to a post-Depression low of approximately 1.0 (Chart 1.1 and line 1.2.6.2 in Table A.1).

The mean export capacity to import rose by 9 per cent (Chart 1.1) despite a small decline in the mean terms of trade (line 1.1.5.1 in Table A.1). The fall in the mean PLD-NER, which resulted from the maintenance of a fixed NER after the January 1959 devaluation (Chart 1.1), and the reduction of restrictions on imports, however, resulted in an increase of over 18 per cent in the mean value of imports in constant dollars (line 1.2 in Table 8.1). The mean deficit on the goods and services account, therefore, rose from -81.7 to -163.0 millions of 1958 dollars (Chart 1.2). Despite partially offsetting increases in mean net unrequited transfers, which resulted from international

support of the stabilization program, and in mean net nonmonetary capital inflows, which resulted from new foreign investment and capital repatriation, compensatory mean net monetary movements reached the highest level of the 1947-70 period (Chart 1.2). Mean net foreign reserves held by the banking system fell from \$29.9 million in the previous phase to -\$60.0 million in this one (line 1.2.6.4 in Table A.1). At the end of 1961 these reserves amounted to -\$164.8 million.

#### 1.4.4 1962-64: Phase II—Reversal to Restrictionism, Interventionism, and Inflation.

In December 1961 the Central Bank's liquid foreign reserves were equal to the value of about ten days of imports, a considerable number of import applications were pending, and the Central Bank could no longer borrow abroad because of the substantial outstanding foreign debt. Near the end of that month, therefore, the Central Bank revoked all grants of authority to deal in foreign exchange and established temporary 10,000 per cent prior-deposit requirements on all imports. The Alessandri stabilization attempt and the Phase IV type of foreign-sector regime thus came to an end. The next three years were characterized even less than the 1959-61 period by a systematic over-all economic program. Instead, piecemeal policies led to a generally more complicated and restrictive system.

The general performance of the economy in 1962-64 was in some respects quite satisfactory. The mean rate of growth of real GDP was the highest since the Second World War (Chart 1.1). The mean rate of capacity utilization was the highest it had been in any phase or subphase from 1908 to 1964 (Chart 1.1). However, there were problems. The mean annual rate of change of prices increased to 35.4 per cent (Chart 1.1), with levels recorded in 1963 and 1964 that were exceeded in the Chilean experience only in the near-hyperinflations of 1954-56 and 1972-76. The relatively high mean rate of growth, moreover, was due almost entirely to events in 1962. On a per capita basis, the economy in real terms almost stagnated in 1963 and 1964.

Inflation outpaced even the rather substantial devaluations; so the PLD-NER fell another 5 per cent (Chart 1.1). The increased inducement to import was restrained only by the return of quantitative restrictions to a Phase II level. The mean ratio of the black-market NER to the average of the legal NERs rose to 1.70 (Chart 1.1), providing one measure of the increase in exchange control. Bacha and Taylor [1963:144] estimate that the degree of overvaluation averaged 47 per cent in this phase.

The export capacity to import increased about 20 per cent (Chart 1.1) because of an improvement of almost 10 per cent in the terms of trade (line 1.1.5.1 in Table A.1) and an expansion in the physical quantity of copper

exports. Even though exports grew more rapidly than imports, however, the mean net deficit on the goods and services account rose to its largest value in the postwar period primarily because of the large augmentation in net factor payments abroad (Chart 1.2, and line 5 in Table 8.1). Mean net unrequited transfers fell, but mean net nonmonetary capital inflows increased substantially because mean net inflow of loans to the central government was the highest recorded in any period since World War II (Chart 1.2 and line 13.1 in Table 8.1). As one result, mean net monetary capital and gold movements fell to almost half the level of the previous period (Chart 1.3). As another result, foreign debt by the end of 1964 had risen to \$1,896 million—278 per cent of the export value or 36.1 per cent of GDP for that year.

#### 1.4.5 1965–70: Phase III—The Frei Stabilization and Liberalization Program.

In the presidential election of late 1964 the Christian Democratic candidate, Eduardo Frei Montalva, won by a substantial margin (the runner-up, once again, was Senator Salvador Allende, the leftist-front candidate). The new government had as its goals substantial changes in the economic, political, and social fabric of the country. Among the major objectives were (i) increases in the rates of economic growth through higher capacity utilization and capacity expansion;<sup>60</sup> (ii) gradual programmed price stabilization; (iii) redistribution of income and of political power toward the lower economic classes; (iv) increased national control over the national destiny and the elimination of balance of payments problems by changing the nature of control over Chilean mineral resources, by increasing the capacity to export both traditional and nontraditional products, and by increasing domestic production in “dynamic” sectors; and (v) structural changes including reforms in agriculture, social security, education, the Constitution, housing, taxation, government, and (later) industrial organization; and popular promotion (*promoción popular*) of wider participation in decision making.

These broad objectives had firm roots in the structuralist analysis of the Chilean economy. Price stabilization was included as one of the major objectives for the third time in a decade, but was not given priority over all other aims. Foreign-sector liberalization was initiated in some ways almost immediately. A sliding-peg NER policy was introduced in April 1965, with weekly or biweekly devaluations (section 3.2). Exchange control was reduced much more, however, in the last half of the period, after the Vietnam War-related copper boom had provided increased foreign exchange and the momentum for internal reform had died. The result was a Phase III regime over the period as a whole, with perhaps some Phase IV characteristics appearing in the last years.

The indication of a number of indices is that the average general economic performance was relatively satisfactory during the Frei regime (Chart 1.1). The mean growth rate of per capita real product was the highest attained in any phase or subphase since 1908. The mean capacity utilization level had been exceeded only once before. The mean rate of change in the GDP deflator declined significantly from the level of the 1962-64 phase.

Once again, however, the mean values disguise a deteriorating intraphase situation. Almost all of the per capita real growth, the highest capacity utilization rates, and the lowest rates of inflation occurred in 1965 and 1966. Thereafter, the economy was relatively stagnant with increasing inflation.

The mean value of exports in constant dollars rose almost 60 per cent because of the copper-market boom of the late 1960s (line 1.1 in Table 8.1). For the first time, the export capacity to import exceeded the pre-Depression level (Chart 1.1). Because of the continuing fall in the mean PLD-NER (Chart 1.1) and the reduction in exchange control, mean PLD-EERs dropped considerably. Mean imports in constant dollars increased 21 per cent (line 1.2 in Table A.1). The net impact of the changes in exports and imports was a reduction of almost 60 per cent in the mean deficit on the goods and services account (Chart 1.2), despite an increase of 75 per cent in the mean net outflow of investment income (Table 8.1, line 5). The reduction in this deficit, together with slight increases in mean net unrequited transfers and nonmonetary capital inflows, resulted in a drop in mean compensatory capital and gold movements to post-World War II lows (Chart 1.2). By the end of this phase, net international reserves of the banking system had reached the highest level in at least two decades. But the foreign debt nevertheless grew at an average rate of 7.3 per cent per year to a level of approximately \$3 billion by late 1970—248 per cent of annual export value or 27.2 per cent of GDP.<sup>61</sup> The debt position thus was ominous despite the benefits from the copper-market boom.

#### 1.4.6 1971-73: Phase II—Allende and Popular Unity Policies.

In the presidential election of late 1970 Salvador Allende, the candidate of Popular Unity (a coalition of the Communist, Socialist, Radical, and several minor parties), narrowly defeated former president Alessandri (thus reversing the results of the 1958 election). According to Américo Zorrilla [1970:1477], the first minister of finance, the central long-run aim of the new government was "to transform the present economic structure, terminating the power of foreign and domestic monopolistic capital and of the latifundia, in order to initiate the construction of socialism."<sup>62</sup> Related medium- and long-run goals included: (i) the redirection of benefits of the economy more to lower- and middle-income classes; (ii) the development of an extensive multilevel plan-

ning system with wide participation; (iii) the reduction of external dependence in all of its possible forms; and (iv) the establishment of a new ownership structure for the means of production—state (basic natural resources, large monopolies, banks, foreign commerce, and other strategic activities for development), mixed (parts of the industrial, fishing, mining, and trade sectors), and private. The government proposed to move toward these goals gradually and constitutionally in “the Chilean way,” not by extralegal means.

To broaden support for the long-run attempt to transform society, the government recognized that some short-run successes were essential. The components of short-run policy, as outlined in the 1971 plan, were the following:

i. Revitalization of the economy by reducing uncertainty through the use of guaranteed production contracts with the state and by increasing aggregate demand through increased exports, a substantial redistribution of income, and a large increase in government expenditures on public works, housing, and human capital;

ii. Constraint of inflation by strict price controls, by freezing the NER, and by increasing supplies from domestic production (by means of increased capacity utilization) and from imports (which would be financed through expanded exports and the available international reserves accumulated during the 1960s copper boom);

iii. Redistribution of income to the lower and middle classes by a minimum readjustment of wages and salaries of 100 per cent of past price increases (and larger adjustments for lower wages and salaries) in combination with reduced inflation; by increased lower-income housing; by increased human-capital investment (especially in education and in health); by increased employment; by reductions in returns to national and foreign higher-income groups through the nationalization of key subsectors in the economy; by accelerated agrarian reform; and by the democratization of the distribution of credit;

iv. Redistribution of control over resources from the private to the public sector in hopes of providing the basis for planned “harmonized and balanced growth” which would favor the lower and middle classes by expanding the planning apparatus and by extending state control into the productive sector;

v. Initiation of structural reform, which would lay the basis for high long-run growth and for the transformation to socialism by means of accelerated investment of public-sector enterprises,<sup>63</sup> by the enlargement of the role of the state in the economy, and by acceleration of agrarian reform;

vi. Expansion of state activities in all aspects of international economic interchange by the reintroduction of a Phase II regime in order to reduce foreign dependence of all types and to utilize the foreign sector in the pursuit of the other aims mentioned above.

In 1971 the performance of the economy was quite positive in a number of important general respects. Capacity utilization rose to a very high level

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(Chart 1.1). Unemployment dropped substantially (Table A.1, line 2.3).<sup>64</sup> The rate of change of prices fell to 20 per cent (Chart 1.1). Imports in constant dollars increased over 6 per cent (Table 8.1, line 1.2). The rate of growth of per capita real product soared above the means of any phases or subphases since 1907 (Chart 1.1) and exceeded annual means of every year but one after the Second World War.

In the same year the new government also succeeded in several ways in its aims of transforming ownership relations and of extending state control. With unanimous legislative support, Chile completely nationalized large-scale copper mining, which previously had been subject to considerable foreign control.<sup>65</sup> The state extended its direct control over a number of other formerly foreign- and domestically-owned enterprises, including most private banks. The government accelerated agrarian reform. Exchange control increased, and the public-sector share in approved import registration rose from 34 per cent in 1970 to 44 per cent in 1971 (and to 65 per cent in the first eight months of 1972).

Some of these short-term gains, however, were purchased at significant long-term costs:

i. The high growth in 1971 reflected higher capacity utilization resulting from expansion of current consumption more than it did an increase in productive capacity. In fact, in that year the rate of augmentation of capacity declined. Real physical investment dropped by 7.7 per cent (Table A.1, line 5.4),<sup>66</sup> and the constant-dollar value of imported machinery and equipment fell 16.8 per cent.<sup>67</sup> The fall in the rate of growth of industrial production from values ranging from 10.8 to 14.7 per cent in 1971 to 2.5–2.8 per cent in 1972 may reflect in part the approach of the economy to capacity limits.<sup>68</sup>

ii. The decline in the rate of change of prices in 1971 occurred despite a 121 per cent increase in the money supply because of greater supplies of goods from domestic production and imports, more extensive price controls, the maintenance of a fixed NER, and an upward shift in the demand for real monetary balances resulting from income redistribution and changed expectations. Given the augmentation of the money supply and of labor payments, these measures could not suppress inflation for long. In late 1971, the pace of price increases began to accelerate. In 1972 the consumer price index rose 178 per cent, an all-time high. Inflation increased even more in 1973. Black markets flourished for many commodities.

iii. The constant-dollar value of exports dropped 12 per cent in 1971 (Table 8.1, line 1.1) and declined again in 1972<sup>69</sup> because of the slump in the world copper market<sup>70</sup> and the failure of Chilean production to reach planned levels (e.g., in 1971, production was less than 80 per cent of that planned for the year). In part because of United States reaction to the terms of the copper nationalization, net unrequited transfers in constant dollars also fell, and net nonmonetary movements in constant dollars plummeted (Chart 1.2). At the

same time imports in constant dollars increased over 6 per cent in 1971 (Table 8.1, line 1.2) and approved import registrations apparently rose even faster in 1972.<sup>71</sup> As a result, international reserves held by the banking system fell by over \$300 million in 1971, net monetary capital and gold outflows in constant dollars reached a post-World War II high (Chart 1.3), and a severe foreign exchange shortage existed by the end of 1971. Therefore, the escudo was devalued by 30 per cent in December 1971 and by 58 per cent in August 1972, exchange control became much more restrictive, and the large foreign debt obligations were renegotiated in 1972.<sup>72</sup> Nevertheless, the country continued to be on the verge of foreign-exchange crises.

iv. The attempt to transform the power and ownership relations of society caused considerable politicization and polarization in Chilean society. In 1972 martial law had to be invoked several times, and the economy ground to a halt in October because of a 25-day work stoppage by the Truck Owners' Association (supported by many business and professional groups) which was terminated after the government added three military members to the cabinet. Internal instabilities increased in 1973. Copper miners went on strike in May. An attempted military coup was squelched on June 29, 1973. Truckers, businessmen, and professionals again struck. On September 11, Allende died in a military coup.

## 1.5 MAJOR CONCLUSIONS

Not all of the detailed results of this book can be presented here in a sufficiently brief form. The following points, however, integrate and summarize many of the major thrusts of this analysis of the Chilean experience.

i. *Early origins of exchange control and import substitution.* The introduction of exchange control as an element of Chilean international economic policy was *not* a post-World War II phenomenon, as apparently was the case in a number of other developing economies. Instead, exchange control was introduced in the early 1930s in response to the devastating impact of the Great Depression on a previously quite open economy.<sup>73</sup> Moreover, fairly continuous conscious attempts to industrialize by import substitution dated back at least to the 1897 tariff law (and, perhaps with less continuity, to before 1860). Most of the aggregate industrial import substitution which had been accomplished by the mid-1960s had in fact been achieved before the end of World War II. Thus, although the exhaustion of foreign reserves accumulated during World War II and the end of the Korean War boom intensified exchange control and efforts to induce import substitution, both of these phenomena originated much earlier.

ii. *Cyclical pattern of restrictions and overvaluation in a system in disequilibrium.* After the Second World War disequilibrium combined with an

overvalued NER prevailed because of the perceived negative impact of devaluation on income distribution, inflation, and the cost of imported capital goods. The intensity of exchange control, however, varied considerably. The system, in combination with external stimuli, generated cycles in the degree of complexity and restrictiveness. Subsequent to devaluation and rationalization, ad hoc changes of greater specificity were made with increasing frequency because of the perception of unintended side effects of quantitative restrictions, the attempt by the government to use such restrictions for a multitude of reasons additional to managing the balance of payments, and the growing overvaluation due to internal inflation. In each cycle the government resisted formal devaluation for some time because of the perceived negative impact of the action. However, inflation was so fast that, despite accelerated ad hoc changes in Chile's international economic policy, devaluation of the NER(s) to new fixed rates (generally accompanied by considerable rationalization and some liberalization) could not be avoided. At that point the cycle would begin anew. Moreover, even when the government operated a sliding-peg NER policy with frequent devaluations, the NER(s) remained overvalued so that the cycle was only moderated, but not eliminated.

iii. *Motivations for shifts in exchange control.* External developments have been influential in the decisions to alter foreign-sector policies. Extensive exchange control was reintroduced in reaction to the Great Depression. No other course was judged to be possible at the time. The experience of the 1930s also led to some general attitudes which have shaped the evaluation of policy possibilities in the ensuing decades: export pessimism and a desire to establish greater domestic control over the national economic destiny, even at the cost of forgoing possibly considerable static comparative advantage. Specific policies, however, often have been ad hoc responses to immediate foreign market conditions. Precarious foreign-exchange situations have developed repeatedly because of the disequilibrium system with its limited inducements for export expansion and extensive needs for intermediate and capital goods imports for the import-substitution industries. Instead of establishing greater independence from the international market, therefore, the trade regime in some respects caused the economy to become more vulnerable to foreign-market fluctuations. Thus, restrictiveness tightened during slumps in the world copper market and loosened during booms in that market (such as those related to the Second World War, the Korean War, and the Vietnam War).

The importance of external conditions, however, should not be overstated. Most of the recent shifts from one phase to another have been but a part of much larger policy programs for which the dominant causal factors have been internal political changes and policy considerations (especially those concerning cyclical fluctuations and income distribution).

iv. *Nominal versus effective devaluations.* Except when the sliding-peg

exchange-rate policy was in effect, in 1965-70, effective devaluations were smaller in magnitude than the nominal devaluations from which they resulted because devaluations usually have been accompanied by partial removal of import restrictions, surcharges, and export subsidies. Another factor of considerable importance, however, is that devaluations have led to substantial and fairly immediate responses in the domestic price level. Thus, care must be taken in the assessment of liberalization attempts not to confuse formal alterations in exchange rates with effective devaluations.

v. *Problems in evaluating the impact of foreign-sector policies.* The difficulties in assessing the effects of foreign trade and payments policies are many, as is well-known. Several, which are made quite clear in the present study, however, merit mention because they are often ignored in other analyses. (a) Partial-equilibrium conclusions about the impact of changes in the magnitude and, in some cases, even the direction of the foreign-sector regime may be very misleading. The general-equilibrium analysis below, for example, suggests that the impact of devaluation on the balance of payments and on employment is much less positive than has been suggested by partial-equilibrium analyses because of indirect offsetting effects transmitted in large part through the monetary and price system. (b) The time patterns of responses to policy changes vary considerably from one area of concern to another. In some cases, moreover, the direction of the response reverses over time. An evaluation of the success or failure of such policies, therefore, may depend crucially upon what time period is relevant. (c) If the empirical measures derived from the Chilean experience are appropriate indicators, substantial effort may have been misplaced in the considerable recent literature on alternative protection and resource-cost estimates. Intrameasure differences in the treatment of the cost of capital, for example, apparently are about as important a source of disparities among sectors as are the much more debated distinctions between EPRs and DRCs. Some of the other intrameasure concerns which have received relatively great emphasis (e.g., the treatment of nontraded inputs), moreover, do not make much difference. Within a general-equilibrium context, finally, the pattern of changes in the prices ratios of final to intermediate products frequently differs from patterns of changes in either capacity utilization or capacity creation. Measures related to the price ratios, therefore, may be quite misleading indicators of short- and long-run resource shifts.<sup>74</sup>

vi. *Wide variations in economic costs.* Variations in DRCs are quite large both between and within sectors. Some industries appear to be quite efficient, while others require a large multiple of all resources in order to save an identical amount of foreign exchange. This large variation apparently reflects the failure of the exchange control system to indicate differences in social profitability to individual decision makers. Industries are encouraged indiscrimi-

nately. The result is a much higher social cost than might obtain if the low-cost industries could be given preference.

vii. *Short- and medium-term constraints on exchange liberalization.* In light of the short- and medium-term impact (i.e., within one to three years) on major areas of the economy, the repeated reluctance of Chilean governments to devalue and to reduce exchange control is understandable, especially if a high enough discount rate is used. In the short run, the results of tightened quantitative restrictions have been to enlarge the net command over international resources from trade; extend national autonomy by some measure; increase capacity utilization; and favor industry over other goods sectors and goods over services. In the short run, devaluation makes a smaller positive contribution to the balance of payments than is often suggested, causes an immediate reduction in capacity utilization, has a substantial inflationary impact, is discriminatory against industry, and has substantial unwanted effects by shifting control over income and over resources away from labor and the government and toward foreigners.<sup>75</sup> In many respects specific liberalizations adopted toward previously foreign-owned large-scale mining, e.g., the *Nuevo Trato* of 1955, which is discussed in subsection 4.2.1, did not on balance work to Chile's advantage.

Exchange control to maintain an overvalued NER is, of course, hardly without undesirable features even in the short run: Exports have been discouraged.<sup>76</sup> Variations in imports have been increased, with disruptive effects on supplies in wide areas of the economy. The composition of imports has been altered in unwanted ways. Government deficits have been enlarged because revenues from exports and imports were reduced;<sup>77</sup> as a result, inflation has been increased and income distribution changed for the worse. Finally, substantial resources have been needed to operate the system.

Thus the point is not that overvaluation plus exchange control is without costs, but that there are substantial costs as well as possible benefits to moving away from the type of payments regime which has been dominant in Chile for the past four decades. Without a specific welfare function, it is not clear that the benefits outweigh the costs. The repeated reluctance of Chilean governments to liberalize the foreign sector may be quite rational, or at least understandable. Even if the government is convinced that the long-run net benefits of eliminating exchange control and overvaluation are positive and substantial, it might reasonably hesitate to proceed with such changes because of the high short- and medium-term costs as seen either from the broad viewpoint of the nation or from the narrower political interests of the governing group.<sup>78</sup> Given the history of past failures of programs of liberalization plus stabilization, future significant liberalization probably will be attempted only if the government is convinced of the following: that the long-run net benefits will be sub-

stantial, that it had unusually broad internal political support derived from a widespread perception that it could resolve a severe economic or political crisis, and that it had expectations of a very large command over foreign resources from capital inflows or from a copper-market boom.

viii. *Development and exchange liberalization.* Many interrelationships exist between the trade and payments regimes and economic development. Although foreign-sector policies affect many aspects of the economy, the evidence to be presented in this study does not indicate overwhelming support for either of two polar positions, (a) that exchange control accelerates development, since resources can be allocated directly to the uses where developmental pay-offs are the highest or (b) that liberalization quickens development because of international transfer of knowledge, comparative advantage, and market pressures for efficiency. Instead, the evidence is mixed and indicates that both of these positions may overstate the contribution that changes in the foreign trade regime could make to development.

It is possible that the underlying evidence is too closely tied to short-run situations, despite my attempts to incorporate adjustments to longer-run phenomena. A liberalization which was viewed as permanent might have substantially greater positive impacts on growth through large nonmarginal changes such as Fishlow [1974] reports in the Brazilian case. Perhaps Bruton [1967] is correct in his speculation that exchange control has resulted in substantially less productivity growth in Chile and other Latin American countries because much of the economy has been isolated from international market pressures for increasing efficiency.

I am fairly sympathetic to the notion that the Chilean exchange control system may have dampened development achievements. The system has not seemed sufficiently flexible to adapt to changing conditions. Protection, once granted, has been very difficult to reverse. In the early 1960s, some of the most protected industrial subsectors included the traditional ones which had received deliberate protection—in some cases since the 1897 tariff law—and in which import substitution had been achieved largely before the Second World War. The exchange control system seems to have an inner logic of its own which perpetuates its existence because of the costs of dismantling it despite the limitations it may impose on development achievements.

On the basis of the present study alone, however, it would be primarily speculative to assert that really substantial development benefits can be attained through the selection of a particular foreign-exchange regime. Although there is plenty of evidence of interaction between such regimes and variables which are widely thought to be related to the development process, the results do not warrant a firm conclusion about the preferred type of regime. Part of the problem, of course, is that our knowledge of what really underlies the process of development is limited.

ix. *Gradual versus abrupt liberalizations.* If liberalization is to have a substantial long-run development payoff, expectations that the policy will be permanent must be strengthened. Otherwise, efforts will be devoted not to increasing productivity, but to obtaining the private benefits of greater protection. Given the failure of three liberalizations and four stabilization attempts in less than two decades, it will not be easy to make new programs credible.

Gradual attempts have the advantage of allowing some short-run gains. But they probably would not cause sufficient short-run benefits to enable the maintenance of the necessary political momentum until longer-run returns became clear. The best hope for a successful liberalization, therefore, probably is an abrupt imposition which incurs certain short-run costs, but also alters expectations so that longer-run advantages may become obvious before political momentum falters.

#### NOTES

1. Some analysts have developed the contrary view—that the role of the foreign sector in economic development is not necessarily positive. In some cases, these views, which are mentioned below, have been based on the Chilean experience.

2. Different studies have different weaknesses. Those with broader historical and macroeconomic perspectives often tend to be less rigorous analytically (for example, Pinto [1962]). Those with a more careful and detailed data analysis often tend to have a limited historical perspective (for example, Jeanneret [1971]). (The bibliography provided at the end of this book contains publication details for all works cited.)

3. For fuller presentations and critiques of the structuralist analysis, see Baer [1967], Behrman [1974], Corbo [1971], Edel [1969], Campos [1964], Pazos [1972], Prebisch [1961], Seers [1963], Sierra [1969], Sunkel [1958] and Wachter [1974].

4. Analyses of Chilean economic history which have had substantial impact in recent years include Ahumada [1956], Pinto [1962, 1964], Sunkel [1958], and Instituto de Economía [1956, 1963]. Part of this impact is due to the important political and advisory positions which economists have held in Chile for more than a century. A few examples include Jean Gustave Courcelle-Seneuil (see section 1.2, below); Felipe Herrera, who served as minister of finance in 1953 in the Ibañez government; Carlos Massad and Jorge Cauas, who served as president and vice-president of the Central Bank in the Frei administration of 1964–70; and Pedro Vúskovic, who was minister of economics for the first twenty-two months of the Allende government.

5. Basic sources for this section include Ballesteros and Davis [1963], Cohen [1960], Ellsworth [1945], García [1964], Hirschman [1963], Humud [1969], Hurtado [1966], Lagos [1966], Mamalakis [1971b], Mamalakis [1965], Marshall [1957], Muñoz [1968], Pinto [1962], Reynolds [1965], and Rufatt [1972].

6. The phases are defined in Appendix D. These phases are descriptive only; no causal inference is intended.

7. For a definition of this and all other terms and abbreviations relating to the foreign trade regimes, see Appendix D.

8. The value of the escudo-equivalent in 1960 U.S. dollars at time  $t$  is the purchasing power in terms of 1960 dollars of one escudo (or, equivalently, 1,000 pesos) at time  $t$ .

(In 1960, the basic currency unit was changed from the peso to the escudo at a conversion rate of 1,000 pesos per escudo.) For more recent periods, see Table A.1, line 1.1.2.

9. Pinto [1962:15], in fact, suggests that the next phase (i.e., Phase V) may have started as early as 1848.

10. For the decades from 1880 to 1930, Hirschman [1963:160] reports average annual rates of change of prices ranging from 3 to 8 per cent (see also Table A.1, line 2.1, below). For extensive discussions of the causes of this inflation see Fetter [1931], García [1964:12-15], Hirschman [1963:160-183], Humud [1969:64-72], Mamalakis [1971b:97-98, 117-120], Marshall [1957:4-9], and Pinto [1962:59-64].

11. Unless otherwise noted, data in this study on long-run trends in the copper subsector are based on Senado, Oficina de Informaciones [1971:20-21].

12. The estimate by Hurtado [1966:38-59] is lower than Pinto's. On either count, however, a substantial postwar decline in the share of agriculture is implied.

13. In fact the foreign-owned share of nitrates increased from 64 per cent in 1882 to 85 per cent in 1901. See Mamalakis [1971b:105-115, 415-498] and Pinto [1962:53-57] for these and other details about nitrates in this era.

14. Mamalakis [1971b:498] estimates that Chilean ownership was 4.5 per cent of the total in 1918. Reynolds [1965:219] estimates that the Chilean share was 11 per cent in 1920.

15. For example, before the establishment of an income tax, in 1925, the tax incidence on the gross value of copper production was 0.8 per cent, and neither copper nor nitrates were subject to the impact of significant nontax government policies. Even after the imposition of the income tax on copper, less than 40 per cent of the total value of production of large-scale copper mining remained in Chile (of which over three-fourths was for local operating expenses), and less than 1 per cent of the labor force was employed in large-scale copper mining. The comparatively low value of series 1.1.5.2 in Table A.1 despite high copper prices also reflects limited linkage. For further details see Reynolds [1965:223, 226, 376, and 378].

16. For further discussion of these factors, see Gunder-Frank [1969:17-84, 89-98], Mamalakis [1971b:105-115, 465-498] and Pinto [1962:53-57].

17. Mamalakis [1971b:106-115] suggests that in the early twentieth century factor payments abroad for mining (copper as well as nitrates) were largely offset by capital inflows and probably were less in magnitude than the amounts involved in the flights of domestic capital resulting from internal instability. This analysis seems to be at least partially misleading in that the capital inflows to which he refers were primarily for large-scale copper mining from which substantial net outflows were to occur for at least four decades subsequent to the end of this period.

18. Muñoz [1968:19] claims that a substantial increase in average tariff rates was implemented earlier in 1878. Humud's [1969:100, 122, 130] data, however, indicates that the general legal tariff rate was 25 per cent both before and after 1878 and that the average actual nominal rate did not increase substantially at that time.

19. These import substitution coefficients are defined as  $(u_0 - u_1) (D_1 + M_1) / (D_1 - D_0)$ , where  $D$  equals domestic production,  $M$  equals imported supply,  $u = M/D$ , and the subscripts refer to the endpoints of the time period over which the comparison is made. For a critique of this measure based on the exclusion of impacts on intermediate products, see Morley and Smith [1970].

20. Mamalakis [1971b:84] suggests that the increased taxes on industrial imports in the 1830-60 period reflected not a deliberate intent of the government to protect domestic industry per se, but a desire on the part of the powerful agricultural elite to shift the tax burden to the economy as a whole. However, considerable evidence exists,

both for this and for later periods, that protection was an important motivation for upward adjustments in the tariff structure. For examples, see Ellsworth [1945:49], Jeaneret [1971:145], and Mamalakis [1971b:14].

21. For the import-to-GDP ratio, Ellsworth [1945:3] presents a range of 0.30 to 0.40 for before the Great Depression, and CEPAL (as reported in Muñoz [1968:83]) estimates 0.31 in 1929. A comparison of the Humud [1969] trade data and the Ballesteros and Davis [1963] product data suggest that by 1929, the ratio had fallen substantially from previous levels. In Table A.1, for the period from 1908 to 1927, the import ratio (line 1.2.6.7) is 0.52, and the export ratio (line 1.2.6.8) is 0.58: both seem somewhat high. The discrepancy in the same table between the export ratio and the ratio of mining GDP (line 3.1.1.2) to over-all GDP also raises similar doubts. However, some discrepancies would be expected because of the considerable size of positive net factor payments abroad and because the GDP estimates are based on real quantity data while the real value of exports reflects secularly increasing relative prices for nitrates over the period.

22. Throughout this study all regression estimates presented are based on ordinary least squares techniques, except when the Cochrane-Orcutt procedure has been utilized to estimate a first-order autocorrelation coefficient ( $\rho$ ). The absolute values of  $t$  statistics are presented in parentheses beneath the point estimates.  $\bar{R}^2$  is the coefficient of determination (corrected for degrees of freedom),  $SE$  is the standard error of estimate, and  $DW$  is the Durbin-Watson statistic. The data source for this and all other regression estimates presented in this subsection is Humud [1969].

23. Additive and multiplicative dummy variables for different phases were excluded because the coefficients of the dummies were not significantly different from zero even at the 15 per cent level.

24. A simple autocorrelated time trend model, however, is consistent with only 14 per cent of the variation in extraordinary government income over the sample.

25. Moreover, deliberate decisions were made to change the tax structure in ways which increased the susceptibility of government income to fluctuations in world markets. For example, Law 23 of 1897 liberated all exports from taxes except for nitrates and iodine. If it is assumed that there was less than perfect correlation among fluctuations in revenues from the different exports, the risk of fluctuations in government revenues was thereby increased.

26. The estimation of regressions analogous to relations 1.1 and 1.2, but with ordinary and extraordinary government income as the respective dependent variables, also did not yield evidence of a significant phase-coincident shift in growth rates.

27. Higher debt ratios were recorded in 1830-35 after the War of Independence, in 1870-75 after the war with Spain of 1865-66, and starting in 1895 after the Civil War of 1891. A particularly high debt ratio was not maintained in 1885 after the War of the Pacific because the acquisition of control over revenues from nitrates made rapid amortization possible (see column 11). The relatively high ratios in 1830-45, 1870-75, 1900-15, and 1930 also partially reflected foreign borrowing for infrastructure construction.

28. After the War of the Pacific, foreign trade policy was relatively liberal, although convertibility generally was not maintained and the 1897 tariff law substantially increased industrial protection.

29. The critical value for a normally distributed series is 2.0; the test statistic is 2.5.

30. The years are 1885, 1886, 1891-94, 1899, 1914, 1919, 1921, and 1922.

31. The test statistic of 0.3 is far below the critical value of 2.0.

32. The low capacity utilization rates in 1914-15, however, may be due to in-

adequacies in the industrial-sector data used in the underlying series (see Muñoz [1968:66, 82]).

33. For a satisfactory examination of such interrelationships a general-equilibrium model is required. See section 2.1 below.

34. Muñoz [1968:13-23] suggests that the post-1860 experience in industrial growth may have been substantially better than Pinto and others have claimed.

35. The average proportion of government expenditure devoted to development ranged from 0.26 to 0.47 after 1890 (Table 1.1, col. 9). For a listing of the external government borrowings and their uses (which included substantial construction of infrastructure) see Humud [1969:73-80]. Information on investment in human capital is scarce, but Mamalakis [1971b:128] does report that literacy increased from 13.5 per cent in 1854 to 56.1 per cent in 1930 and that compulsory primary education was introduced (at least de jure) in 1920.

36. Savings also may have been affected positively by the transfer of resources out of agriculture or by forced savings induced by the inflation (both of which may have been partly brought on by the international economic regime), but no concrete evidence is available.

37. Of course marginal, not average, products are of real interest, but to the extent that the production process can be approximated by a Cobb-Douglas production function, the marginal and average products are proportional.

38. The following estimates of the sector share of the labor force in Census years are from Ballesteros and Davis [1963:176], and may be compared with the estimates for the sector share of GDP in Table A.1, lines 3.1.1.1 to 3.1.1.3; but see also note 20, above:

	1907	1920	1930
Agriculture	37.7%	36.2%	34.7%
Mining	2.8	4.1	5.1
Industry and construction	17.6	15.2	18.3
Transportation	3.4	4.8	3.8
Government	5.3	4.2	7.6
Commerce and services	33.2	35.5	30.5

39. Not only was industry a sector of lower than average labor productivity, but Muñoz [1968:61] estimates that average industrial labor productivity declined 14.4 per cent between 1914-16 and 1922-24.

40. I do not imply that the Chilean elite did not act in their own best interests in this period, but that they did not act in the best national interests of Chile as viewed decades later by such commentators as Hurtado [1966:70], Lagos [1966:40], Mamalakis [1971b:133, 488] and Pinto [1962:73-74].

41. The data presented in Ballesteros and Davis [1963] imply this growth rate (Table A.1, line 5.1). This estimate may be on the low side. Mamalakis [1971b:40] argues that if the more rapidly growing services sectors are included (Ballesteros and Davis include only the goods sectors) the rate may be closer to 2.0 per cent. Moreover, Muñoz [1968:35-40] maintains that for industry the Ballesteros and Davis estimates are biased downward because of the inclusion of artisan industry in the 1907 base-year census, but not in subsequent censuses, and because of the assumption of almost no industrial growth during World War I (owing to a lack of data) instead of the 8-9 per cent annual estimate which Muñoz makes. On the other hand, Muñoz also claims that the Ballesteros and Davis estimates may be high in the early 1920s because of insufficient adjustment for depressed international market conditions. Moreover, the extremely high ratios for imports and exports relative to GDP (lines 1.2.5.7 and 1.2.5.8

in Table A.1) suggest that the estimates of the level of GDP for the early part of this period may be low relative to those for foreign trade. Since the foreign trade estimates are probably more securely based, this last observation implies a higher level of GDP in the earlier years and a lower rate of growth.

42. Evidence for earlier decades is very limited, but the growth of government income and expenditures and exports and imports (all in constant dollars) in conjunction with measures of the importance of related variables relative to total product in 1908-27 (lines 1.2.6.7, 1.2.6.8, and 3.1.2.3 in Table A.1) are suggestive. For 1844-1927 mean exponential growth rates for ordinary government income and expenditures were 0.043 and 0.044 respectively (with no significant phase-coincident deviations). Government income and expenditure may have grown somewhat faster than total product during this period, but probably not very much so, or the estimate for government current expenditures relative to GDP for 1908-27 (line 3.1.2.3 in Table A.1) would have been higher. Adjustment for probable population growth implies a growth rate in per capita product of about the same or slightly higher magnitude as that in the text. Analogous considerations for exports and imports (including the growth rates in relations 1.1 and 1.2 and the high ratios in lines 1.2.6.7, and 1.2.6.8 in Table A.1) imply a growth rate in per capita product of about the same or slightly lower magnitude.

43. De Castro and de la Cuadra [1971:1] also refer to the Ballesteros and Davis estimates, but ignore the warning that the 1928 and 1929 figures probably are misleading because of high nitrate prices and the large transitory inflow of foreign capital. Therefore, they emphasize the 2.7 per cent growth rate for 1908-29 instead of the 1.5 per cent growth rate for 1908-27.

44. The 1929 capacity-to-import level, in fact, was not attained again until 1966.

45. See Cohen [1960:8-9], Ellsworth [1945:34-35], Hirschman [1963:179], Marshall [1957:8-11], and Pinto [1962:109-119] for more detailed discussions of this period. For data in the text that are not included in Table A.1, see Cohen [1960:8-9] for gold reserves, Hurtado [1966:Tables 13 and 23] for the mining data, Mamalakis [1965:Appendix Table 1] for the real interest rate, and Ballesteros and Davis [1963:160] for real government production.

46. For the sources for these and other measures of the decline in the Chilean economy due to the Great Depression, see Table A.1, lines 1.1.5.1, 1.2.4.1, 1.2.4.2, 1.2.6.3, 1.2.6.7, 1.2.6.8, 2.2, and 5.1 to 5.3; Hurtado [1966:Table 23]; and Senado, Oficina de Informaciones [1971:21].

47. Moran [1970] presents an interesting discussion of *dependencia* in Chilean decisions concerning large-scale copper mining in recent decades.

48. Basic general studies which summarize Chilean economic policies and performance since the Great Depression include Behrman [1974], Cauas [1972], Corbo [1971], Ellsworth [1945], French-Davis [1971], García [1964], Gunder-Frank [1972], Hirschman [1963], Instituto de Economía [1956, 1963], Lagos [1966], Luders [1968, 1970], Mamalakis [1971b], Marshall [1957], Muñoz [1968], Pinto [1962], Pisciotta [1971], and Sierra [1969].

49. During this quarter century Chile also was headed by a fairly wide range of governments. One immediate result of the catastrophe of the Great Depression was a short period of political instability. The violent economic contraction in mid-1931 gave opponents of what Hirschman [1963:179] refers to as General Carlos Ibañez del Campo's "thinly veiled military dictatorship" an opportunity to force Ibañez to resign on July 26, 1931. Fifteen months of instability followed, including the "100 days of Socialism" in 1932 under Carlos Davila. In October 1932, Arturo Alessandri was elected with support from the right to head a new government which succeeded in restoring

political and economic stability. Near the end of 1938 a Popular Front government was elected under Pedro Aguirre Cerda, who was succeeded (after his death in 1941) by Juan Antonio Ríos. In 1946 Gabriel Gonzalez Videla was elected with considerable support from the left, but during the six years of his administration, the government moved substantially to the right. In 1952, Ibañez again was elected as an independent candidate who, it was widely hoped, would be a strong man capable of eliminating internal instability. Ibañez served through the end of this quarter century and through the liberalization attempt of 1956-58.

50. The availability of national accounts starting in 1940 also entered into the choice of 1940 as the start of the second subphase.

51. Unless otherwise noted, the sources for the data in this section may be found in Tables 8.1 and A.1:

52. This was probably the highest decadal mean in at least a century, although information is very scanty for before 1880 (see note 1, above, and Table A.1, line 2.1).

53. The relatively high mean rate of growth of the constant-dollar value of imports for 1940-46 (Table A.1, line 1.2.4.1) reflects the high rates of growth in 1940 and 1946 (the latter apparently related to pent-up demand) which offset the substantial declines (40.5 per cent in 1942) resulting largely from shortages of imported supplies during the war.

54. Import capacity is somewhat understated because the variable does not adequately reflect the increase in the proportion of each dollar of Chilean copper sales which was returned to Chile (compare lines 1.1.5.1 and 1.1.5.2 in Table A.1).

55. This ratio equals 1 if there is no exchange control and tends to be correlated with the degree of exchange control, although the correlation is less than perfect because of the relative narrowness of the black market in foreign exchange and because of the impact of illegal activity on supply and demand in this market.

56. The index of export capacity to import, however, rose much less (Chart 1.1) than the constant-dollar value of exports because the Chilean unit value of imports used in the former index increased more rapidly than the United States deflator used in the latter index.

57. After 1946, and continuing to the present, devaluations have been a regular part of the Chilean experience. They generally did not, however, keep up with the inflation. See section 3.2 and Table A.7.

58. For further descriptions of economic conditions in these years see Cohen [1960: 23-24], French-Davis [1971:160], and Hirschman [1963:199-202].

59. Of course, in this period, price increases were substantially below the range of 70-80 per cent that prevailed when the 1956 stabilization effort was started, which may explain the difference in the degree of preoccupation with price stability between the two administrations.

60. In a comparative sense, Chilean economic growth had not been particularly high for some time. According to unpublished 1970 UNCTAD calculations, for the 1950-65 period Chile ranked twenty-ninth among 45 developing countries in the degree of increase of its per capita GDP. For 1960-65, Chile ranked thirty-eighth among 56 countries.

61. These relative measures indicate a slight decline in the importance of the debt during 1965-70.

62. In addition to Zorrilla [1970], sources on which this summary of the objectives of the Allende government is based include Allende [1971], Cauas [1972:46-56], CORFO [1970-71], Gunder-Frank [1972:16-18], Hobsbaum [1971:23-32], ODEPLAN [1971a, 1971b], Pisciotta [1971:236-237], and Vúskovic [1971:385-399].

63. The imported component of such investment, however, would be lower than in the past in order to reduce external dependence.

64. June 1972 unemployment had dropped further, to a level of 3.7 per cent.

65. Before the Chileanization and nationalization policies of the previous phase, large-scale copper mining had been entirely foreign-owned. Under Frei, however, a substantial share of ownership had been returned to Chile. For details, see subsection 4.2.1, below.

66. De Castro [1972:45] suggests that actual investment may in fact have declined more than 7.7 per cent because much of the construction investment was done by the government and measured at factor cost. It was, therefore, overvalued in real terms because of the very high rate of increase of wages.

67. On the other hand, investment in human capital may have increased. Minister of Economics Vúskovic also suggested that the changing of the structure of ownership, which was accelerated in this period, was a prerequisite to sustained long-run Chilean development.

68. The ranges refer to the alternative estimates given in Banco Central [1973b].

69. In the first three quarters of 1972, shipments were down 21 per cent in current dollars and export returns increased only 1.5 per cent in current dollars.

70. To provide some perspective, however, the 1971 and 1972 copper prices still were higher than those received for any year before 1965 and, according to Cauas [1972:52], were higher than the price which had been used in 1970 in the Central Bank in its projections for 1971.

71. In the first eight months of 1972 current-dollar registrations were 17.9 per cent above the level of the comparable period for 1971.

72. The Allende government inherited \$3 billion of foreign debts with amortization and interest payments of \$433 million due in 1971, \$409 million due in 1972, \$410 million due in 1973, and \$388 million due in 1974. In April 1972 the Paris Club (the United States and ten other major creditors) recommended the adoption of a new payments program over an eight-year period, including a two-year grace period on 70 per cent of the Chilean debts which were due between November 1, 1971, and December 31, 1972. The creditors promised to study "with good will" the refinancing of those debt payments due in 1973, but no agreement on further rescheduling had been reached by the end of the Allende government.

73. Perhaps one should say that exchange control was reintroduced, since substantial control had existed a century earlier.

74. That changes in measures based on price ratios of final to intermediate products do not induce resource allocation changes except under very special assumptions has been well-established for some time on a theoretical level. The present results illustrate how such measures also may be quite inadequate in empirical applications.

75. The recent reduction of foreign ownership which is described in subsections 4.2.1 and 4.3.2 may have reduced the impact of this effect.

76. Nontraditional exports, the expansion of which has long been desired in order to reduce risks by diversifying, have been particularly discouraged (section 7.2).

77. Revenues from imports have fallen more than total imports because of the tendency to favor "essential" imports with relatively low tariff rates when restrictions have been intensified.

78. In the past, of course, pressures resulting from internal inflation have forced the government to devalue despite the costs, but then generally an attempt was made again to maintain an overvalued NER.