

## SOME CAUSES OF THE LOW AGRICULTURAL PRODUCTION

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This chapter, which is the core of this thesis, can also be entitled, "The Agricultural Sector of the Economic System", because the causes of a low (or high) performance in a sector (or a country) are closely connected with the structure and characteristics of that sector (or that country) as a whole. We cannot claim that our study will be exhaustive; far from that, we are only going to point out "some causes" that are, in our opinion, the most important ones. These are: land tenure, price system, credit, foreign exchange and inflation, and transport. Let us examine each one separately.

### I

This problem of land tenure is per se a subject for a thesis; consequently, our analysis will be quite superficial.

The facts. The results of the last two census (1936 and 1955) will be studied. Table 16, based on the 1936 Census, has the advantages that the land is divided according to its major agricultural characteristics. If we analyze the last two categories (those of more than 500 hectares) we see that 2.7 per cent of all the landowners have 81.2 per cent of the total land, 55.1 per cent of the irrigated land, 51.4 per cent of the unirrigated land and 52.4 per cent of all the crop and planted land.

In literature of Latin America land tenure, a frequently voiced argument is that the unequal land distribution is the result of the inclusion of the sizable amount of sterile land which is predominant in the larger states. If this sterile land is not included in the picture, according to this argument, the unequal distribution of land will largely disappear. This table clearly demonstrates the falseness of this argument, at least with respect to Chile. It is true that this is not an indicator of land's productivity, but that kind of study, even when can be useful, does not affect the validity of the fact that there is concentration of land and that this concentration also reaches the best land, either irrigated or not.<sup>1</sup>

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1. We made this reference to productivity because some people, especially landholders, say that all the studies on this subject are not serious because land has different productivities, so that if we not have some "common measure" any study will lack validity. See Luis Alberto Fernandez (President of the National Agricultural Society) "Situacion en la Agricultura", Panorama Economico, No. 228 (March, 1962) p. 37.

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But land concentration is still greater than what this figure shows: if we analyze only the last strata, we will find that the number of holdings of 5,000 hectares or more is only 626. This 626 proprietors have 14,486,000 hectares, which represents 52.4 per cent of the total area of the country. In short, .3 per cent of landowners have 52.4 per cent of the land according to the same census.<sup>2</sup>

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2. Adolfo Mathei La Agricultura en Chile y la Politica Agricola Chilena, (Santiago: Imprenta Nacimiento, 1939), p. 114.

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These figures are similar in the province of Santiago, where the main market is

Table 16. Distribution of land according to the size of the holdings

Size of holdings (hectares)	Number of holdings	Crop and planted land			Forest and natural pasture	Sterile land	Total
		Irrigated	Unirrigated	Total			

(a) Number of holdings and total area for each category (thousand of hectares)

Less than 5	87,790	60.3	50.9	111.2	19.0	9.2	139.4
5 to 20	41,437	60.6	234.4	295.0	130.5	43.8	469.5
20 to 100	32,348	134.9	742.6	877.5	442.4	143.6	1463.5
100 to 500	12,281	375.4	1,082.3	1,457.7	952.2	232.4	2642.3
500 to 1000	2,220	220.6	506.1	726.7	657.0	141.1	1524.8
More than 1000	2,806	552.8	1,734.6	2,287.4	13,437.0	3127.7	18852.1
TOTAL	178,882	1,404.6	4,350.9	5,755.5	15,638.1	3697.8	25091.4

(b) Percentage of each category in relation to the total number of holdings and their area

Less than 5	49.1	4.3	1.2	1.9	.1	1.2	1.6
5 to 20	23.2	4.3	5.4	5.1	.8	1.2	1.9
20 to 100	18.1	9.6	17.1	15.2	2.8	3.9	5.8
100 to 500	6.9	26.7	24.9	25.4	6.2	6.3	10.5
500 to 1000	1.2	15.7	11.6	12.6	4.2	3.8	6.1
More than 1000	1.5	39.4	39.8	39.8	85.9	84.6	75.1

(c) Average area in hectares in each category (in thousands)

Less than 5	.7	.6	1.3	.2	.1	1.6
5 to 20	1.5	5.6	7.1	3.1	1.1	11.3
20 to 100	4.2	23.0	27.2	13.7	4.4	45.3
100 to 500	30.6	88.1	118.7	77.5	18.9	215.1
500 to 1000	99.4	228.0	327.4	295.9	63.6	686.9
More than 1000	197.0	618.2	815.2	4788.9	1114.6	6718.5
Average total	7.8	24.3	32.1	87.4	20.7	140.2

Source: U.N., Economic Commission for Latin America, Economic Survey of Latin America 1949, table 30, p. 326. (Based on Agricultural Census 1935-36, published by the Dirección General de Estadística.)



located: 60 per cent of the agricultural land belongs to only 60 landholders with more than 5,000 hectares each one.<sup>3</sup>

3. Ibid., p. 116.

Now let us turn to the most recent figures of the 1955 Census. Table 17 includes only the zone between Aconcagua and Llanquihue; this fact, nevertheless, is an advantage, notwithstanding it represents only 26 per cent of the territory, because that 26 per cent has 95 per cent of all arable land, 85 per cent of total population, and almost all the food production of the country.<sup>4</sup> In short, it is

4. David Baytelman and Rolando Chateaneuf, "Interpretacion del Censo Agrícola y Ganadero de 1955", Panorama Economico, No. 215 (September 1960), p. 273. This is a very good analysis of the 1955 Census, divided in four parts, all published in Panorama Economico: First part (I) in the number quoted; part II appeared in No. 217, (December 1960); part III in No. 219 (March 1961) and part IV in No. 223 (August 1961). Hereafter, referred to as "Interpretacion".

the main agricultural zone of the country.

Table 17 is again a clear index of the degree of land concentration in Chile. On one side, .9 per cent of landholders have 46.4 per cent of the agricultural land, and 21.4 per cent of the irrigated land; on the other side, if we consider the first two stratas (holdings up to 99.9 hectares) 85.3 per cent of the farmers have only 12 per cent of the land, and 15 per cent of the irrigated land.

Table 17. Land Distribution from Aconcagua to Llanquihue  
(in hectares)

Size of holdings	Number of holdings	%	Irrigated land	%	Agricultural land	%	Total land	%
0-9.9	57.817	47.5	31.297.0	3.2	136.153.6	1.0	165.947.7	1.0
10-99.9	46.057	37.8	121.356.4	12.4	1.469.442.1	11.0	1.623.642.6	10.4
100-499.9	13.431	11.0	309.663.8	31.7	2.597.158.8	19.4	2.822.091.1	18.0
500-1999.9	3.441	2.8	306.544.4	31.3	2.965.896.7	22.2	3.217.152.5	20.0
2000 & more	1.056	.9	209.230.5	21.4	6.204.016.8	46.4	7.791.909.7	50.0
TOTALS	121.802	100.0	978.092.1	100	13.372.668.0	100	15.620.744.6	100.0

Source: "Interpretacion" (I), table 1, p. 274.

Note: The sterile land (not shown in the table) amount to the difference between agricultural land and total land.

Table 17 shows that the correlation between the degree of concentration in total land and agricultural land is very great. With respect to irrigated land the situation is somewhat different, but concentration also exists.

It is usually said that it is true that some concentration exists, but that is only the result of taking global figures, the whole country: if we study separately the best land, those located near of the major markets (v. gr., Santiago, Valparaiso) we will see that the degree of concentration is smaller, or, at least

the concentration exists only in the "unuseful" land.<sup>5</sup> This kind of arguments

5. See a letter of Guillermo Noguera (past President of the National Agricultural Society) to The Economist (June 24, 1961), p. 1356 and 1357. He says that 52 landowners (.5 per cent of landed property) owns 57.3 per cent of total land in the province of Santiago, but of this 57.3 per cent "only 3.8 per cent are really suitable for intensive cultivation--in other words, they consist of huge areas of mainly infertile soil."

are almost groundless. If we analyzed only 5 provinces (Aconcagua, Valparaiso, Santiago, O'Higgins and Colchagua) which represent the richest agricultural zone of the country, with 45 per cent of its land being irrigated, 57 per cent of the total urban population of the country living there, we will see that concentration is higher than that showed in table 17 for the whole country. (Table 18). In effect, landowners with more than 2,000 hectares (1.1 per cent of the total) have 72.7 per cent of total land, instead of 50 per cent; and 69.8 per cent of agricultural land instead of 46.4.<sup>6</sup> The only figure similar is that of irrigated land: 21.6 per cent instead of 21.4.<sup>6</sup>

6. A study of the agricultural engineer Guillermo Julio reaches different conclusions. According to him, 1.2 per cent of the landholders owns 59 per cent of the irrigated land; on the other hand, 81.3 per cent of the proprietors have only 6.3 per cent of the irrigated land. Study published in Panorama Economico, No. 70. Quoted from Anibal Pinto Hacia nuestra independencia economica (Santiago: Editorial del Pacifico, 1953), p. 134 n.

Table 18. Land Distribution in 5 Provinces (in hectares)

Size of holdings	Number of holdings	Irrigated %	Irrigated land	%	Agricultural land	%	Total land	%
0-9.9	21.284	73.1	22.727.9	5.1	36.374.4	1.1	42.652.3	1.1
10-99.9	5.513	19.0	55.940.0	12.6	152.143.0	4.7	171.939.0	4.3
100-499.9	1.427	4.9	136.854.2	31.0	282.181.0	8.7	312.330.7	7.7
500-1999.9	552	1.9	131.022.7	29.7	511.760.8	15.7	571.279.8	14.2
2000 & more	330	1.1	95.332.7	21.6	2.266,225.6	69.8	2.936.450.8	72.7
TOTAL	29.106	100	441.879.5	100	3.248.684.8	100	4.034.652.9	100

Source: "Interpretacion" (I) Table 2, p. 274.

It is not possible to make comparisons from 1936 and 1955 Census in order to know the "trends" in concentration. This impossibility is due to the fact that they used two different concepts in the definition of a holding: in 1936 they used the concept of property and in 1955 the concept of exploitation. If in 1936 one property was given to three different persons (v. gr. as renters) the 1936 Census considered that property as one holding; in 1955, because the Census attended the idea of exploitation, that same property will appear as three holdings. Obviously it would not be correct to say that concentration is smaller in 1955 just looking at the figures of the Census.<sup>7</sup>

7. Anibal Pinto, "Un 'experto' de Chicago redescubre el latifundio" Panorama



Economico No. 211 (April 1960), p. 77 ff. This is an highly polemic article, attempting to refute some misconceptions (among others the comparison between both Census) of the professor of the University of Chicago James O. Bray in his work La intensidad del uso de la tierra en relacion al tamaño de los predios en el Valle Central de Chile.

The only comments that we can make in relation with this high concentration in land is that in general this is a usual and "normal" situation in all Latin America recognized today by almost everyone. According to a publication "with some important exceptions, a high proportion of the land that is, or could be, cultivated in Latin America is in relatively few hands. Overall, some 50 per cent of farm land is owned by 1.5 per cent of the farm owners; at the other end of the scale, 73 per cent of small owners, have less than 4 per cent of the farm land."<sup>8</sup> A

8. "Land Problems in Latin America" Latin American Business Highlights (a publication of the Chase Manhattan Bank), vol. II, No. 3 (third quarter 1961), p. 4.

confirmation of this can be found in Table 19. And what is true for Latin America as a whole is also true for almost all the countries with different degrees of intensity.<sup>9</sup>

9. For an overall view of Latin American countries see table used by Harry Kantor "Agrarismo y Tierra en Latinoamerica", Combate, vol. III, No. 14 (January and February 1961), pp. 10 and 11.

Table 19. Estimated percentage distribution of land holdings in Latin America around 1950

<u>Size of farms (Hct)</u>	<u>Percent of farms</u>	<u>Percent of land area</u>
0-20	72.6	3.7
20-100	18.0	8.4
100-1000	7.9	23.0
Over 1000	1.5	64.9

Source: Thomas Carroll "The land reform issue in Latin America" in Albert Hirschman (ed) Latin American Issues, Essays and Comments (New York: The Twentieth Century Fund, 1961), table 1, p. 165.

The Causes. The extreme concentration of land in the hands of a few in Chile and in Latin America has been usually related to the system of colonization by Spain. It is true that the Crown used to give land to the conqueror and other spanish people who were fighting and colonizing in the name of the King. The piece of land given under this circumstances was the encomienda and its owner the encomendero.<sup>10</sup> The encomienda system, along with the services of some number of indians to

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10. A description of this system and its evolution is to be found in Jean Borde and Mario Gongora Evolucion de la Propiedad Rural en el Valle del Puanguo, 2 vols. (Santiago: Editorial Universitaria, 1956). In this study one of the richest valleys of the country is analyzed. See also Jaime Eyzaguirre El Conde de la Conquista (Santiago: Editorial Juridica, 1951), to have an idea how this system worked, especially first three chapters.

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cultivate the land given to the conquistador, it is said to be the origin of the inquilinos ("An agricultural labourer who lives on the estate and in addition to food and accomodation is given a plot of land, sometimes with grazing rights, to supplement the wage paid for work carried out on behalf of his employees".<sup>11</sup>)

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11. Definition given by the International Labour Office The Landless Farmer in Latin America (Geneva: Studies and Reports, New Series No. 47, 1957), p. 114. Broadly speaking an inquilino is an agricultural worker with no land of his own.

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This view has been challenged very strongly, arguing that the inquilinos are the outcome of the stratification process that took place in the 17th and 18th Century, with the landlord rising in the social scale, and the poorer spanishes and mestizos falling. At the beginning of the Colonization the fact of being born in Spain was enough to belong to the highest strata. As the times goes on this stratification process starts.<sup>12</sup>

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12. See Mario Gongora Origen de los "Inquilinos" de Chile Central (Santiago: Universidad de Chile, Seminario de Historia Colonial, 1960).

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But this encomienda is only one aspect of land concentration. Spanish domination finished more than one century and a half ago. What has happened with the concentration of land in this 150 years of independence in the Latin American Republics? There is no serious study, to my knowledge, that can give a precise answer to this question, either with respect to Chile or the whole continent. Nevertheless, Pierson and Gil in their well known text on Latin American politics say that between 1830-1920 the same or more land which belonged to the Government or to indian communities was given to some aristocratic or military families or foreign companies, that during the three centuries of Spanish domination.<sup>13</sup> As

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13. William W. Pierson and Federico G. Gil, Governments of Latin America (New York: McGraw-Hill Book Co., 1957), p. 379.

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Baltra says, "the latifundio has its roots in the Conquist and Colonial period, but the political emancipation is not going to destroy it, but, on the contrary, to stimulate it."<sup>14</sup>

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14. Alberto Baltra, Crecimiento Economico de America Latina (Santiago: Editorial del Pacifico, 1959), p. 185.

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Another professor, rejecting the idea of the encomienda as the main explanation, put emphasis on the lack of incentives and pressures for the division of land, as the main cause that has maintained a given reality. In his opinion the market, because of its limitation, did not give the incentives to increase agricultural production: urban population was small and poor. This could be an explanation for the past century, but after our analysis in Chapter II it cannot be sustained for the present century.<sup>15</sup> On the other side, tax pressures to get

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15. Anibal Pinto Hacia Nuestra Independencia . . . op. cit., p. 137 ff. This author in a posterior study apparently thinks otherwise. See note 22 and its quotation in the text.

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a subdivision of land have been inexistent.

In our opinion the main explanation of the latifundio and its maintenance through times, resides in the fact that the possession of a large state not only have and give wealth, but also distinction, aristocratic style, and usually, political power; it fulfills the main requirement to belong to the upper strata.

As Hoselitz has said:

The status system of Latin America since the European conquest was closely tied to the system of land tenure. The conquistadors were given large grants of land in the New World and were assigned the right to have Indians resident on that land to work for them. Though the original grantees had all participated in the conquests, Europeans who came later also established large holdings, and men of mixed blood or even pure Indians or Negroes could be found among the large colonial landholders. This upper class of landholders formed an aristocracy for whom the ownership of large estates was not only a form of wealth but also a sign of social status. . . . With the acquisition of independence in the early 19th Century, the social system did not change.<sup>16</sup>

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16. Bert F. Hoselitz, "Economic Growth of Latin America" in First International Conference of Economic History, Contribution (Paris-The Hague: Mouton and Co., 1960), pp. 88 and 89. For a Spanish version of this paper see Revista Interamericana de Ciencias Sociales, vol. 1, No. 3 (1962), pp. 347-357. My italics.

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This system of land tenure, that we can call a feudal system as Darwin and others did,<sup>17</sup> has maintained its main features through centuries because it is not

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17. Charles Darwin, The Voyage of the Beagle (London: Everyman Library, 1936), p. 255. (First edition in 1839). See also U.S. Department of State Land Reform--a world Challenge (Washington: Dept. of State publication 4445, 1952), p. 5.

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only an economic system of exploitation of land, but also a social and political system with enough power to retain its privileges.<sup>18</sup> More than twenty years ago

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18. See Pierson and Gil, op. cit., p. 378 ff.

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an acute observer put the difficult question, that now faces almost all Latin American countries: "Will the members of the hacendado class themselves, still the dominant political element in the country, permit the adoption of measures tending in any manner toward a lessening of their dominance?"<sup>19</sup>

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19. George McBride, Chile: Land and Society (New York: American Geographical Society, 1936), p. 380. McBride gives a big importance to the encomiendas, but recognizes that "social motive for retaining ancestral estates unbroken" was strong enough as to become more important than the law of 1857 abolishing the mayorazgos. Ibid., chapter IV esp. pp. 120-122.

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The answer to this question will be attempted on the last chapter. Here, to sum up, we only want to point out that the causes of this concentration are not only historical, but legal, economical, social and political. Indeed a better study is needed on this specific issue.

The causal relationship: latifundio-productivity. We are going to sustain the thesis that Chilean agrarian structure is one of the main, if not the main, obstacle to the increase in productivity. This is a well established idea defended by almost all Chilean scholars,<sup>20</sup> some foreign ones<sup>21</sup> and international organizations

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20. See, v. gr. Alberto Baltra, op. cit., Anibal Pinto, op. cit., Jorge Ahumada, op. cit.

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21. V. gr. Nicholas Kaldor, "Problemas economicos de Chile" El Trimestre Economico, vol. 26 (April-June 1959), pp. 170-221; Rene Dumond "Subdesarrollo, hambre y subempleo en la agricultura" Politica No. 9 (Caracas, May 1960), pp. 75-89, esp. p. 81 ff; P. T. Ellsworth Chile, an economy in transition (New York: The Macmillan Co., 1945), esp. p. 150 ff; Borge Kragh "The problem of inflation in developing countries: Chile, a case study" in Gottfried Bombach (ed) Stabile Preise in Wachsender Wirtschaft (Tubingen: J.C.B. Mohr, 1960) esp. p. 263.

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such as ECLA and FAO.

The landholder, to begin with, is a businessman absolutely different to what we call an entrepreneur. He owns a large area of land which gives him prestige and almost always power. At the same time it gives him a steady and sure source of income, but this income derived from his wealth is so large even with land partially utilized, that he has no incentives to fully utilize it in order to further increase his income.<sup>22</sup> The spur of competition is almost inexistent and

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22. Cf. study of ECLA in note 28.

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the desire of improvement and innovation is difficult to find. Anibal Pinto calls this phenomenon the "economic psychology" of the latifundista, a man with very little knowledge of his work, usually living out of the hacienda.<sup>23</sup>

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23. Anibal Pinto, Chile, un caso de desarrollo frustrado (Santiago: Editorial Universitaria, 1959), p. 86.

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The characteristic of the latifundio is its extensive system of exploitation, as opposed to the intensive one. His methods are conservative and with very little mechanization. Not every big extension of land is a latifundio: we reserve that name only to those big extension of land uneconomically exploited, with a great waste of resources. Unfortunately, in Chile, big landholding and latifundio have become almost synonymous.

Up to this point we have been talking only about latifundio. The other side of this coin is the minifundio, those small landholding, whose output is only enough to feed its owner and his family. The minifundio's cultivation usually is intensive in the sense that all the small extension of land is overused, producing, normally, the erosion of the soil. Moreover, "the extremely small holdings, made up generally of good lands, are not used for agricultural and livestock production because of their small size."<sup>24</sup> Of course, the minifundio

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24. Jose Ramon Astorga "Land tenure problems in Chile" in Kenneth H. Parsons, Raymond J. Penn and Philip M. Rauf (eds) Land Tenure (Madison, Wisconsin: The University of Wisconsin Press, 1956), p. 248.

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problem is only one aspect of the big concentration of land.

This agrarian structure has been the major obstacle in the agricultural development. As Pinto has said, during one century--1930-1930--Chilean agriculture had everything in its favor: internal markets, foreign exchanges to improve technology, affluent credit, "social tranquility", laissez faire policy on the side of the Government . . . and even inflation to relieve their debts. And nevertheless instead of improving, agriculture was going back.<sup>25</sup> From this it appears clear

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25. A. Pinto, Chile . . . op. cit., p. 84.

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that if the country wants progress in this field a reform to this out-of-date structure must be made. These ideas are confirmed by the findings of the IBRD-FAO Mission that went to Chile in 1951. They found that small size farms are in general better cultivated than the larger ones.<sup>26</sup> An example is given by a

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26. The Agricultural Economy of Chile, op. cit., p. 100 ff. esp. chart 1.

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division of 82 large holdings in 3.000 smaller ones. When this was made "the farmed land increased from 12 per cent to 27 per cent of the "productive land". This compares with a figure of 20 per cent for Chile as a whole.<sup>27</sup>

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27. Ibid., p. 104.

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In 1953 the Economic Commission for Latin America using a 5 per cent sampling conducted a survey in the provinces of Santiago and Valparaiso to analyze some factors that impede the agricultural development. This survey is of extraordinary importance not only because it is one of the few serious ones in this respect but also because it demonstrated inambiguously the causal relationship agrarian structure-productivity.<sup>28</sup>

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28. ECLA, Analysis of some factors which act as an obstacle to the increases of agricultural production. A specific investigation based on sampling technique. (ECLA-FAO: E/CN.12/306) 1953, (mimeo). All the farms were divided in ten different categories, from group 1 with the smaller farms to group 10 with the biggest.

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In this survey was clearly stated:

Taking into consideration the predominant part played by the larger properties (Groups 8, 9 and 10) in the samples taken together with their reduced production per unit of irrigated land compared to the smaller properties, it may be concluded that, with the raising of the production of the first to the level of the second, the total production of the region could be practically doubled.<sup>29</sup>

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29. Ibid., p. 78. Emphasis mine.

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An explanation of this situation can be found in the fact that great amount of cultivable, irrigated land was kept under natural pasture or lying fallow. ECLA says that the reasons given to justify this incredible situation were justified as far as 24 per cent of that land is concerned. But, in 35 per cent the owners lack of interest was the reason to not cultivate the mentioned land. It is interesting to note that the biggest extensions of irrigated land belongs to the bigger farms. (Table 20) Commenting this table ECLA says:

There is a striking increase in absolute numbers in the area which is not properly exploited by these Groups (9 and 10), since the two of the together account for 87 per cent of the total amount of land left in these conditions in the agricultural year in which we are concerned.<sup>30</sup>

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30. Ibid., p. 41.

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And this 35 per cent not properly cultivated by lack of interest is nothing more than Pinto's concept of "economic psychology", explained by ECLA in the following way:

. . . in Chile, as in other countries where agriculture is not at a highly developed stage and where the labourer's standard of living is low, the farmer, unlike the industrialist or the owner of a commercial enterprise, sees no threat to his economic stability in the fact that his plant or property and his staff of executives are not working at full capacity. On the contrary, many farmers consider that the greater the intensification of work and the larger the investment, the greater are the risks.<sup>31</sup>

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31. Ibid., pp. 60-61.

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Table 20. Number of properties and area of cultivable irrigated land kept under natural pasture or lying fallow

Number of the group	Number of properties	A	B	C	D	E	F
1	41	5	1	20	16	12	75
2	41	15	2	20	19	3	16
3	41	28	3	11	49	4	9
4	41	36	1	3	78	1	1
5	41	29	8	27	186	58	31
6	41	35	9	26	203	19	9
7	41	34	8	24	555	252	47
8	41	39	12	31	802	103	13
9	37	33	19	58	4.015	1.807	47
10	32	32	17	52	10.190	1.235	12
TOTALS		286	80	28	16.110	3.586	22

Explanation:

A: Number of properties with irrigated land

B: Number of properties with irrigated land kept under natural pasture or lying fallow

C: Percentage of B on A ( $B/A \times 100$ )

D: Cultivable irrigated land in hectares

E: Irrigated area kept under natural pasture or lying fallow in hectares

F: Percentage of E on D ( $E/D \times 100$ )

Source: ECLA Analysis of some . . . op. cit., table 13, p. 40.

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Baytelman and Chateanouf studying the provinces of Aconcagua, Valparaiso, Santiago, O'Higgins and Colchagua arrived at conclusions similar to ECLA. This provinces, as we said earlier, are the best market for food products; consequently, in this zone, the incentives for a good and intensive cultivation of soil are the greatest. This author has found that in the smallest farms (from 0 to 9.9 hectares) 98.7 per cent of irrigated land is cultivated; this percentage decreases to 88.1 per cent in the next strata (10-99.9), to 76.7 per cent in farms between 500 and 1.999.9 hectares and to 68.9 per cent in the biggest farms of more than 2.000 hectares. "From this data it is deduced that the intensity in the use of land is inversely proportional to the size of the landholdings."<sup>32</sup>

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32. "Interpretacion" (part III) table 1, pp. 62 and 63.

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Baytelman and Chateanouf extend this analysis with a study of the "index of efficiency" in the different size farms and with different agricultural products. Their conclusions show very clearly that the smaller ones (0 to 9.9 hectares) are more efficient than the biggest farms of more than 500 hectares. With respect to farms between 100 and 499 hectares "more studies are necessary to know where is the best efficiency size."<sup>33</sup>

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33. Ibid., p. 65.

Up to this point we have been dealing only with the structure of agriculture, i.e., concentration of land. Now we must turn our attention to different but related matters: who works the land and who is the entrepreneur? This could be considered, properly speaking a problem of "land tenure", meaning by that "all those arrangements by which farmers or others hold or control land and that condition its use and occupancy."<sup>34</sup> This is a broader concept than the concept of

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34. Denis A. Fitzgerald, "Land Reform and Economic Development" in Parsons, Penn and Raup (eds.), op. cit., p. 44.

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private property or exploitation that we have been analyzing.

ECLA sampling showed that 73 per cent of the holdings were operated by owners, 18.2 per cent by tenants and 8.8 per cent by medieros (share-croppers). But this data is not enough. We must try to answer at least two questions: 1) Is it possible to establish some connection between size of farms and land tenure?; 2) How many owners of the land direct the work personally and how many use administrators? Finally, we must see what importance the answers have to these questions from the point of view of efficiency and productivity.

Table 21 responds the first question. 70.1 per cent of the total land is worked by its owners and 22.8 per cent by tenants. The other two categories together account for 7.1 per cent only. From the table appears clear that the land worked by the owner decreases as the size of the landholding increases; the reverse situation takes place in the tenant land.

Table 21. Land tenure system by farm size (thousands of hectares)

Farm size has	Total has	Owns land has	%	Tenants land has	%	Given land(a) has	%	Occupied land(b) has	%
0-9.9	217.6	184.1	84.6	16.6	7.7	11.1	5.1	5.8	2.6
10-99.9	1.833.7	1.555.0	84.8	115.2	6.3	78.1	4.3	85.4	4.6
100-499.9	3.263.7	2.663.7	81.6	327.9	10.0	121.8	3.7	150.3	4.6
500-1.999.9	4.212.9	3.131.8	74.3	526.5	12.5	204.1	4.8	350.5	8.3
2.000 & more	18.184.3	11.878.8	65.3	5.341.4	29.4	463.5	2.5	500.7	2.8
TOTALS	27.712.3	19.413.4	70.1	6.327.6	22.8	878.7	3.2	1.092.6	3.9

- (a) "Given land" are those that the owner gives voluntarily to a person for its exploitation without the obligation of the latter to pay a rent or any other kind of payment.
- (b) "Occupied land" is that which is taken for its agricultural exploitation without the consent of the owner of the land as it is usually the case of Government's lands. (squatters land in U. S.)

Source: "Interpretacion" (part IV) table 1, p. 222.

The land given to medieros decreases with the increase in the size of farm holdings; nevertheless, the number of medieros increase with the size of the farm. (Table 22)

The importance of family as part of the labor force decreases with the size of the farm, but workers and technical personnel become more important relatively with the increase of size, in table 22. This situation is easily explicable and no further comments are required. What is worth to point out is that with smaller



size farms a big proportion of the labor force is constituted by women and children under 15 years of age: about 30 per cent is formed by women and about 12 per cent by children in farms up to 100 hectares.<sup>35</sup>

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35. "Interpretacion" (part IV) table 3, p. 223.

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Table 22. Personnel of farms classified by kind of worker (in percentages)

Farm sizes	Owners, tenants and their families	Administrators white-collars and technical workers	Inquilinos & medieros	Workers
0-9.9	81.8	1.8	3.6	12.8
10-99.9	69.5	2.2	8.1	20.0
100-499.9	39.1	4.5	20.8	35.6
500-1,999.9	14.3	6.9	31.0	47.8
2,000 & more	7.4	7.8	33.0	51.8

Source: "Interpretacion", (part IV) table 4, p. 224.

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ECLA in the survey many times cited, tried to find a relationship between land tenure and efficiency. For this it utilized the percentage of irrigated arable land kept unsown as the "index" of efficiency. From this point of view, owners operating farms either personally or through administrators, maintained 28 per cent of the area uncultivated; renters, spur by the need of making profits to pay that rent had only 17 per cent under natural pasture and share-croppers were, by far, the most efficient: only 2 per cent was not cultivated, but they had only 3 per cent of the total irrigated arable land of the area. (From this it must not be deduced that the share-cropper system is the best. On the contrary, as it is well known, it is strongly criticized and today is inexistence in advanced countries. Dumond says that a system such as that of Chile in which the owner gets 50 per cent of the crop (not of the profits) by his contribution of the land was used in Europe since the end of the Middle Ages up to the XVI Century.<sup>36</sup>

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36. Rene Dumond, op. cit., p. 81.

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Table 23 is an attempt to answer the second question. There is a steady increase in the percentage of irrigated land kept under natural pasture as we move from the owner, to the manager and absentee landlord. It is clear that the best utilization of resources is not made in those farms directed by managers or absentee proprietors.

To sum up, it is our belief that the out-of-date agrarian structure of Chile has been the major cause of the lag between increases in population and increases in agricultural production, discussed in chapter II. In the indeed strong expression of ECLA

The agrarian structure is largely responsible for low agricultural labour productivity and the consequent miserable level and inequitable distribution of income, bad soil utilization, the poor rate of capital formation, the scarcity of up-to-date farming



techniques, the archaic systems of labour remuneration and the low educational level of the rural population.<sup>37</sup>

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37. ECLA Economic Survey for Latin America, 1959 (E/CN.12/541) 1960, p. 120 (mimeo). ECLA is referring to Latin America as a whole, but we think that fits in Chilean reality.

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II

Chilean landholders explaining the poor performance of agriculture usually make use of prices and credits as the main factor. For instance, in June 1961 in a congress held in Santiago by all the Agricultural Associations it was said that agriculture was in a difficult situation, due to 3 factors: the maintenance of deteriorated prices, situation that was not corrected in the moment that the stabilization program started, the existence of a credit policy incompatible with the need of agriculture and the lack of definition and stability in an agricultural policy.<sup>38</sup>

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38. The resolutions of this Assembly on Agricultural Policy and on Social problem are reproduced in Panorama Economico No. 221 (June, 1961), p. 141 ff.

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Let us see the validity of that assertion. But before we start analyzing the trends on prices and its formation, it can be useful to remind that the function of a price system in an underdeveloped country is very far from the textbook model that we always have in mind.<sup>39</sup>

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39. See the excellent discussion by Thomas Balogh, "Economic Policy and the Price System" Economic Bulletin for Latin America, vol. VI, No. 1 (March, 1961), pp. 41-53.

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Rigidities and lack of mobility on factors of production, the "normal" situation of monopoly or oligopoly in industry and banking (preventing a better utilization of credit and capital) are just some factors that explain why we are far from the model. This is a subject in which we cannot proceed, but something will be said about prices on agriculture to explain why a play of the free forces (as it is implied in all the statements of agricultures) is not the solution to the problem of low production, if we are going to maintain the status quo in the agrarian structure.

One of the reasons why the price system in the whole economy does not work is because the inelasticity of the productive structure, and in this specific aspect agriculture has a very important role. This is so not because the landlord has a different motive other than the profit maximization, but because he has in addition to that other motives no less important. According to Balogh:

The owners of the vast feudal landholdings . . . have no interest in improving the land, or even in maximizing output in the short run. They are interested in the maximization of their income over time, with the constraint of being able to maintain the most effective supervision of the work of their labourers and of incurring as little effort and risks, both

economical and political, as possible. Thus in a large part of Latin America, as well as of the Afro-Eurasia area there is a heavy concentration on crops or animals needing relatively little care and enabling the holder to absent himself for the maximum of time. Moreover, modern techniques could necessitate education, and education may encourage change. The aversion to change thus contributes to the continuance of out-moded production techniques.

The inequality in the distribution of land, which permits the landlord to be sure of a large income, also reduces the marginal utility of increments in terms of effort. Thus the traditional assumptions about the working of the system, assumptions on which important policy recommendations are based, are undoubtedly vitiated.<sup>40</sup>

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<sup>40</sup>. Ibid., p. 46. See also Jorge Ahumada (note 48) esp. p. 25 for a similar conclusion.

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Moreover, when we have minifundio, the poor worker does not have the means to react to a change of price, if he knows and have some interest about that price because usually he consumes all he produces. In addition to this, as Balogh points out, if the cultivation is performed through a mediero, all the income for the landlord is rent; he has no monetary cost since he only contributes the land and this factor, at least in underdeveloped countries, demands very little care. If his income is large enough, what incentive a rise in price will have if in order to respond to it he must change the old and comfortable system of medieria. (This is so because the share cropper does not have the means and knowledge to improve the crop.)

To these factors, that we can call structurals, making difficult the response of agriculture to a change in prices, we must add the instability of crops, which is primarily dependent on climateris conditions. For instance, between 1940-1954 the percentages in production from one year to the next go from 25 per cent to minus 12 per cent.<sup>41</sup> Of course in the long run it is possible to

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<sup>41</sup>. Jaime Barrios M. "Consideraciones acerca de la inflacion chilena" Economia (Chile) No. 58 (First quarter 1958), p. 56.

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have an intensification in the cultivation of soil, but this is braked by the "Structural" factors.

Nevertheless, the existence of price control in agricultural products is not due to the former explanation. They are the outcome of a much simpler situation: inflation. Once that inflation starts, there is an irresistible temptation on the part of the Governments to control prices, especially food, by their economic implications in the cost of living. This has been the general rule in Chile.<sup>42</sup>

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<sup>42</sup>. On this aspect see Denis Lambert Les Inflationes Sud-Americaines, Inflation de Sous-developpement et inflation de croissance (Paris: Institute des Hautes Etudes de l'Amérique Latine, 1959), p. 130 ff. Also, Roberto de Oliveira Campos "La Inflacion y el Crecimiento Equilibrado" in Howard S. Ellis (ed) El Desarrollo Economico y America Latina (Mexico: Fondo de Cultura Economica, 1960), p. 104 ff.

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But the intervention of the Government began in 1930 when the great crisis determined a decline in the demand of agricultural products. F. A. Encina writing in 1911 with great precision explained why Chilean agriculture had declined since 1870 and how it had become dependent in the nitrate market. Since that date agriculture declined to compete in the world market, as before, adjusting itself with the internal market, especially that of the North, created by the expansion of the nitrate.<sup>43</sup> When the big depression came the nitrate industry faced a very

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43. Francisco Antonio Encina Nuestra Inferioridad Economica (Santiago: Editorial Universitaria, 1955 edition), p. 104 ff.

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difficult situation. Chile was one of the most affected countries (until today the terms of trade are under the pre-1929 level) and unemployment grew all over the country. Agricultural products had no demand. The Government (a conservative one) decided to fix minimum prices beginning with the wheat market. When by 1938 the political situation changed (a leftist government was in power) and inflation was beginning to "increase prices in a bigger amount than that usual", the Government, using almost the same apparatus inherited from the conservatives, started fixing maximum prices in agricultural products. This situation has been, generally speaking, maintained until the present day. So that the competitive laissez faire model has been abandoned more than 30 years ago.

At the same time, at the beginning of the '30's Government control of foreign trade was established. Among other institutions, it was created the Junta de Exportacion Agricola (Agricultural Export Board) to encourage the increase on agricultural exports and to indicate the amounts and the products that could be exported, taking care that the domestic market would be well supplied. The powers of this Board were widened in the following years.

Another institution "of the depression" was the Comisariato General de Subsistencias y Precios (General Commissariat of Subsistences and Prices)<sup>44</sup> which

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44. This Commissariat was created in the "one hundred days" of the Socialist Republic, but was not dissolved by the subsequent conservative Government of Alessandri.

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was the price control office for consumer products of "prime necessity". This organization had the widest imaginable powers, but they were seldom exercised. But here again, by 1939 this institution was resuscitated and an absolute price control began<sup>45</sup> including agricultural products.

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45. P. T. Ellsworth writing by 1942 mentioned the following products subject to price control: tea, lumber, sugar, rice, farinaceous pastes, oats, coal, kerosene, alcohol, candles, beans, wheat, sanitary fixtures, yerba mate, cement, galvanized iron sheets, textiles, electrical goods, paper and rents of residences and commercial buildings. (Op. cit., p. 82, n. 11.)

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In 1945 the Board of Agricultural Export was replaced by the Instituto de Economia Agricola (Institute of Agricultural Economics) which among other things fixed the price of wheat and determined the foreign trade in agriculture. It also had the purchasing power to maintain the established price. This Institute together



with the Commissariat began in 1947 to import livestock from Argentina directly.

Since 1953 the Instituto Nacional de Comercio--INACO-- (National Institute of Commerce) has replaced the former Institute and the Superintendencia de Abastecimientos y Precios (Superintendents of Supply and Prices) the former Commissariat.

Let us give an example of this intervention analyzing the wheat market. Wheat is harvested between December through March. The functions of transforming this wheat to flour and its distribution belongs to the State and private persons.

The Government through the Minister of Economics fixes the commercial price per unit of wheat. "This price is unique in the sense that there does not exist any legal disposition that permits to pay more or less of that amount . . ."46

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46. Ministerio de Agricultura, La Agricultura Chilena on el Quinquenio 1951-1955, op. cit., p. 148.

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Buyers and sellers can change this price only in consideration of the quality of wheat. This fixed price operates in December, and it is increased by 2 per cent every month during the first 5 months. Usually the act of selling takes place during the harvest, but some farmers, especially the smaller ones, use to sell before the harvest. This produced some problems about the quality of wheat and because this and other problems the Government created INACO as a big purchasing power in the market.

If private companies have the financial means to buy all the supply at the prices determined by the Government, the Government is unlikely that will use its purchasing power. If they cannot do it, INACO through credits given by the Government and its bank will buy the harvest; but even this Institute is not infinitely elastic in its demand, and sometimes agriculturist must use other systems to get money (usually warrants). The wheat bought by INACO can be sent to the mills or stored in his own warehouses. INACO is also the institution which must do the imports of wheat so that the absolute supply is controlled by the Government.

We will not discuss if those controls were good or bad, but we want to note that they were initiated when the demand for agricultural products was low (similar to the situation in U.S.) and afterwards, to avoid a big increase in price, because the increase of demand. This process was not initiated because the Government wanted it; it was because the farmers needed it during the depression.47

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47. This can be confirmed just looking at the newspapers of that time, v. gr. see El Mercurio (February 6, 1933), p. 14 publishing the resolution of an Agricultural Convention. They asked for a "minimum price" in products of land that covers cost and an equitable profit.

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Nevertheless, today this fact seems to be forgotten, giving the impression that the intervention started as an act of the "socialistic" mind of the Government.

The time has come to analyze the assertion that in the last years agricultural prices, controlled by the Government, has risen less than the increase in prices in other products.

Jorge Ahumada maintains that price relations is unfavourable for agriculture meaning by that "That in comparison with other countries it is required (in

Chile) a much greater volume of agricultural products to get any one unit of a non-agricultural product."<sup>48</sup> This situation, that he proves with a table showing

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48. Jorge Ahumada "Una tesis sobre el estancamiento de la economía chilena" *Economía*, vol. XVIII, No. 60 and 61 (Third and Fourth quarter 1958), p. 22. See also, *idem*, En vez de la Miseria, op. cit., p. 111 ff.

the situation between Chile and U.S., has its origin in two causes: low productivity in agriculture and price policy followed by the Government. Attempting an explanation to the latter cause Ahumada ask himself if it could be possible for the Government to take other position. His answer is not because, 1) was necessary to give preference to industry which was in the substitution process in order to ameliorate the effect of the deterioration of the terms of trade and 2) because the emigration to the cities lowered wages increasing the unequal distribution of income, so that the low group urban family expending 75 per cent of their income on food and clothing is not going to accept any rise in food prices. In other words, the big urban market of agricultural products was formed in its great majority by people of very low income.

Ahumada concludes that this situation must be solved, but a new price policy in agriculture will be unuseful "if at the same time several other things are not done, among them, the transformation of the tenure of the land."<sup>49</sup>

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49. Jorge Ahumada, En vez de . . ., p. 112.

A more "normal" index is to take a given year as a base and to compare how the prices have changed in the different sectors. Table 24 even when is referring only to a 9 year period has the advantage that covers the most "interventionist" period by the State. Agricultural prices are the highest among the national products.

Table 24. Wholesale good prices by sectors  
(1913=100)

Years	Agricultural	Industrial	Mining	Imported	Total
1938	439	473	203	674	432
1940	482	473	214	758	464
1946	1121	1067	367	1748	1030
1947	1539	1359	537	2089	1328

Source: A. Pinto, Chile . . . op. cit., table XI, p. 159.

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Table 25 confirms this trend during a period of almost 30 years. With the exception of the 1931-35 period, agricultural prices are always higher than the general index, according to the Minister of Agriculture. In other words, it is possible to talk, as Kaldor does, that during this period it has had an improvement in the internal terms of trade in favor of agriculture.<sup>50</sup>

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50. Nicholas Kaldor, op. cit., p. 198.



Table 25. Comparison between the index of wholesale agricultural prices and the general index of wholesale prices  
(1934-38=100)

Years	Agricultural Prices A	General Prices B	Price Relation A/B
1928	56.1	49.3	113.8
1930	45.7	42.9	106.5
1932	54.9	58.8	93.4
1934	74.4	88.1	84.4
1936	98.9	97.3	101.6
1938	118.9	110.5	107.2
1940	130.1	118.7	109.6
1942	196.6	188.4	104.4
1944	232.3	214.6	108.6
1946	302.6	263.6	114.8
1948	490.9	390.5	125.7
1950	638.4	522.4	122.2
1952	1.116.4	847.3	131.8
1954	2.325.0	1.635.4	142.2
1955	4.087.7	2.883.7	140.1

Source: Ministerio de Agricultura. La Agricultura Chilena . . . op. cit., table 123, p. 183.

Not only agricultural prices have been improving, but also they have improved in relation with the price of inputs of agricultural products. Table 26 shows an increase of 45 per cent in the prices of agriculture as compared with those of its inputs; nevertheless, it must be recognized that from this point of view, agricultural prices have been low, but with a tendency to rise.

Table 26. The Prices of Agricultural Inputs and Outputs  
(Base 1951-55 = 100)

Years	Price index of agric. inputs A	Price index of agric. products B	Index of relative prices B/A x 100
1946	24.3	18.1	74.5
1947	29.6	23.9	80.7
1948	34.4	27.4	79.6
1949	37.4	31.3	83.7
1950	40.8	37.2	91.2
1951	50.3	47.7	94.8
1952	65.5	63.3	96.6
1953	89.8	76.2	84.2
1954	113.9	117.6	103.2
1955	180.6	195.2	108.1

Source: Osvaldo Sunkel, op. cit., table 2, p. 557, based on La Agricultura Chilena . . . op. cit.



Finally, as could be imagined, notwithstanding the betterment of agricultural prices, those products subject to price control have had a relative deterioration with respect to non-controlled products.<sup>51</sup>

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<sup>51</sup>. Ministerio de Agricultura, La Agricultura . . . op. cit., p. 190 and annex 63.

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