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by

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Argentina

1/ The views and opinions expressed in this paper are those of the author and do not necessarily reflect the views of the secretariat of UNIDO.

Contents

Tables in text

Introduction 1/

1. Economic growth does not start simultaneously at all points within a country. Some regions have location advantages which make possible growth in them and not in others. As national development proceeds, the centres or poles, which first originated because of certain operative location advantages, may attract people, capital and trade, not because of initial resource advantages but because of the external economies offered by a growing region. The resultant differential rates of regional economic growth tends to increase the income per capita gap between the "growing regions" and the "lagging regions". A careful analysis of all countries, whether they are developed or developing, will show the existence of regional economic differences within countries, though for some of them these differences will be more dramatic than for others.

2. With the growing post-war concern for economic development, the phenomenon of unequal rates of economic growth of regions within a country has stimulated policy-makers to consider regional development as an explicit goal of economic policy, paralleled in many countries by other usual goals such as full-employment, economic growth, price stability and income distribution. The Cassa per il Mezzogiorno in southern Italy and SUDENE in northeastern Brazil are examples of this growing social concern to reduce regional differences. In Argentina, the over-concentration of population and industry in metropolitan Buenos Aires also gave rise to discussions about policies designed to decentralize industrial activities. At the same time, the abundant natural resource area of Patagonia and the presently stagnant provinces of the Northwest have been subject to continuous national considerations in order to steer growth in these directions. However, not all regions in Argentina have the same capacity to grow. The crucial policy problem then is how to achieve rapid development in lagging and backward regions without hurting the development of the dynamic regions. It may be argued that the rate of growth of national output should not be lowered by the location of industries merely to satisfy local sentimentalism or local vested interests. Would it not be better to encourage location in the most suitable areas and thus maximize national output? But this policy may further

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increase the income gap between the rich and poor regions. Clearly we are faced at this point with a variety of conflicting political, economic and moral considerations.

3. Whether or not the income gap that exists between regions within a country should be reduced is evidently question of social policy which must be considered by the community. Economic theory cannot resolve the question, but it can assist in defining and evaluating the problem and in illuminating the character of the choices faced by the community.

4. This paper will be concerned with this problem and with the economic policies undertaken to reverse the trend towards increasing concentration of economic activities in a few areas. The analysis of subjects, such as balanced versus unbalanced regional growth, concentration versus dispersion of new industrial investments, requires first, a clear explanation of the regional government goals; second, a knowledge of the composition of future national demand as well as technological changes; and third, and understanding of the spatial distribution of resource endowments. A sound analysis of this type is obviously beyond the scope of this paper and should rather be the concern of government planning agencies. Hence, we shall not evaluate the present and future economic potential of different areas within Argentina, nor shall we make policy recommendations about future regional patterns. Our intention is to present the basic regional issues in Argentina and the alternatives which a regional planner must face before deciding about industrial location patterns.

5. Regional development planning can be analysed from a region's point of view, i.e. as stimulating the economic development of a particular region independent of the effects on the remaining regions, or from the nation's point of view, i.e. "the solution of specifically regional problems as an integral part of a general policy for the development of all regions that is pointed toward the attainment of national goals for the spatial organization of the economy".2/ We shall be concerned throughout this paper with the second point of view and approach.

6. This paper will summarize in the first section the key factors relevant to regional growth within the context of national economic growth and the

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2/ J. Friedmann (1956) Regional Development Policy: A Case Study of Venezuela, MIT Press, Cambridge, Mass., p.4.

resultant degree of regional concentration of economic activities. Current development and future possiblities are greatly influenced by the decisions and development of the past, such as the actual size of the markets as they have evolved in different regions, the resource endowments dynamically defined as they are affected by changes in final and intermediate demand and technology, and so on. Thus, the purpose of these sections is to throw light on regional growth patterns of the past as a necessary foundation for an understanding of present differential regional standards of living and rates of economic expansion. The second section analyses whether there was a convergence towards or divergence away from the national average in the rate of growth of each region as a result of the national and regional policies implemented in Argentina. In other words, it considers whether or not the relative per capita income gap between growing and lagging regions increased correspondingly as national development proceeded. The third section considers what were and are the objectives of regional development policy in Argentina. The fourth section analyses the industrial location policy followed after 1958 by central and provincial governments in order to encourage decentralization of industries, and also appraises to what extent these policies were successful in achieving the objectives sought.

7. The special emphasis given to the analysis of industrial location is a result of the greater possibilities of influencing regional patterns of industry location against those of agriculture or services, thereby generating regional growth in backward regions.

I. AN HISTORICAL REVIEW OF REGIONAL ECONOMIC GROWTH IN ARGENTINA

8. The interaction between national development and differential rates of growth among regions is closely associated with the regional distribution of "resource endowments".[3] The definition of resource endowments is not a physical concept but an economic one and includes natural resources as well as skilled labour, communication and transportation services, and so on. In other words, even though a region may not be endowed with material inputs, the location advantages may be enhanced by the influence of other endowments, such as the external economies derived from the agglomeration of economic activities. Resource endowment is not a static concept and its meaning and composition vary with the different stages of national development. These, in turn, are associated with changes in the structure of final demand and with the state of technology and organization. Thus, a stage of national economic development associated with a composition of domestic and foreign final demand largely based on agricultural products will favour those regions endowed with the resources required to satisfy such a structure of final demand. As national development proceeds, there is a change in the composition of final demand which consequently changes the composition of the resource endowments that are necessary for regional development. In this way the relative advantages among regions for supplying the commodities required by this stage of national growth are varied. In other words, the analysis of the geography of national economic expansion is closely associated with identifying stage by stage what have been the essential resource endowments in the national economy.[4]

9. Three stages of national development can be distinguished in Argentina.[5] The first one, generally known as externally oriented growth, was in effect

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3/ H. Perloff and L. Wingo Jr. [n.d.] "Natural Resources Endowment and Regional Economic Growth", in J. Spenglor (Ed.) Natural Resources and Economic Growth, and reprinted in J. Friedman and W. Alonso (Ed.) (1964) Regional Development and Planning. A Reader, MIT Press, Cambridge, Mass.

4/ Ibid.

5/ For a detailed and very interesting analysis of the Argentina economic development see C. D. Alejandro (1966) Etapas de la Industrialización Argentina, Trabajo Interno No. 18b, Centro de Investigaciones Económicas, Instituto Torcuato Di Tella, Buenos Aires; and A. Ferrer (1963) La Economía Argentina, parte I, Fondo de Cultura Economica, Mexico.

until the world crisis in the 1930s. The second stage, based on import substitution of consumer goods, extends until the beginning of the 1950s. The final and present stage relies heavily on import substitution of intermediate and capital goods.

10. For the purposes of this section, we shall define regions by grouping states in a consistent and practical way, thus, allowing statistical comparisons over long periods of time within the limitations imposed on the classification by available statistical information.

(a) East-Centre region: Buenos Aires, Córdoba, Entre Ríos, La Pampa, Santa Fé.
(b) Northeast region : Corrientes, Chaco, Formosa, Misiones.
(c) Northwest region : Catamarca, La Rioja, Jujuy, Tucumán, Salta, Santiago del Estero.
(d) West region : Mendoza, San Juan, San Luis.
(e) South region : Chubut, Neuquén, Río Negro, Santa Cruz, Tierra del Fuego.

11. This definition of regions corresponds more closely to a period which extends up to 1950. After this date Argentina modified its industrial development strategy, giving place to new dynamic centres like Córdoba and Santa Fé. This strategy will be analysed later in this study.

Externally oriented growth stage (until 1930)

12. The rapid growth of the Argentine economy between 1900-1930 was mainly due to foreign factors. During this period, the Gross National Product (GNP) grew at an annual rate of 4.5 per cent. Several factors which influenced this rate of growth were: the large magnitude of foreign demand (exports absorbed around 28 per cent of the GNP in 1900-1929); foreign investment, representing 47 per cent of total investment in 1900-1904; and immigration (in 1895 immigrants constituted a quarter of the total population, increasing their count to 30 per cent in 1914).

13. Argentina shows in this period a diversified structure of demand in relation to her level of income, and a structure of domestic production greatly concentrated on agricultural output. Thus, comparing the structure of total demand with the structure of domestic output, there was an excess supply of agricultural goods and an excess demand (beyond domestic output) for manufacturing

goods. Foreign trade balanced this disequilibrium: Argentina exported agricultural goods and imported manufactured goods.

14. What was the regional impact of this national strategy of development? Did it tend to create significant disparities among regions? Since the second half of the nineteenth century, the Argentine economy had based its national economic development strategy on producing goods required to satisfy an ever increasing foreign demand. To serve such a purpose, the essential resources were arable land with its concomitant physical requirements of climate and water, and also an accesible natural port. The East-Centre region, particularly Buenos Aires, had the required natural resources to satisfy such a growing demand: 92 per cent of the total hectares were planted with wheat, corn, barley and flax, and 82 per cent of the livestock were in the East-Centre region. Thus, Argentina followed this general pattern of regional growth. Buenos Aires with its port was the nucleus of an agricultural hinterland well endowed for the production of a staple commodity in demand on the world market.

15. Since good agricultural land was almost a free resource as opposed to capital being dear, the expansion of production was affected by bringing more land into production and so extending the limits of the hinterland. This expansion of the hinterland required increases in social overhead facilities in the transportation system, as well as increases in the size of the labour force, obtained by stimulating international migration to Argentina. The railways lines which fanned out from the port of Buenos Aires, making possible the export of agricultural goods and the import of manufactured goods, concentrated 75 per cent of its extension (1895) in the East-Centre region. Moreover, in 1925 about 83 per cent of the government expenditures in roads were in this region.[6/] Foreign population represented 34 per cent of the total population in 1895 and 35,5 per cent in 1914, and the East-Centre region absorbed almost 90 per cent of the total immigration to Argentina. Since more than 80 per cent of immigrants were in the working age groups, the quality and size of the labour force in the East-Centre region benefited much more than any other area.

6/ A. Bunge (1928) Economic Argentina, Buenos Aires, p.162.

16. The development of the agricultural heartland brought with it an increasing series of processing and servicing activities. Thus, the dynamic industries of the period were directly related to the processing of agricultural inputs such as meat-packing, milling, wool-washing, and quebracho extract. These industries, concentrated in the East-Centre region, absorbed almost 90 per cent of the investment throughout the years 1895-1914. Financial, commercial and governmental services were also greatly concentrated in this region because of the influence of the port of Buenos Aires and the location of the federal Government in the city of Buenos Aires. Also 70.7 per cent of the total number of commercial banks and 85.7 per cent of banks employees were in the East-Centre region.

17. The East-Centre region was better linked to the rest of the world than to other regions within Argentina. The other parts of the country isolated from any favourable trade contact with the dynamic region, concentrated on production to satisfy local demands. The exceptions were a few nationally desired commodities, such as wine in Mendoza and sugar in Tucumán. But even for those commodities the income elasticity of demand was not very high, thus limiting the growth stimulus provided by exporting them. This lack of national integration and interregional trade made it impossible for the growing pole of Buenos Aires to transmit growth impetus to the other regions.

18. In short, this period of the Argentina development was characterized by strong polarization forces working in favour of Buenos Aires and as a detriment to the rest of the country. An even more important effect was that this resource-dominated expansion of the economy set the stage for the next period of development by establishing a spatial distribution of markets, social overhead capital, and labour force, therefore conditioning the nature of succeeding growth. Thus, 65.8 per cent of the total population in 1895 and 73.4 per cent in 1914 were living in the East-Centre region, which represented less than one third of the total geographic area of Argentina; 86 per cent (1893) and 70 per cent (1914) of the central government public investments were made in this region.

Import substitution of consumer goods stage (until mid 1950s)

19. Until the 1930 world crisis, the strategy adopted by the Government, based mainly on foreign demand and inflow of capital and labour, was successfully implemented, if we measure this success in terms of the growth rate of GNP and the rate of capital accumulation. But the 1930 crisis affected and changed the way in which international trade was operating. There was an excess supply of agricultural products and excess demand for intermediate and capital goods. Since one of the objectives in Argentina after the world crisis was to preserve the income level, there was a transfer of resources in order to adjust the structure of production to the existing situation. Hence, Argentina embarked on a very important import substitution process and much more emphasis was given to domestic demand. The share of manufacturing value added in the total value added increased from 15 per cent (1900-1904) to 19 per cent in 1925-1929 and to 30 per cent in 1957-1961, and foreign imports went down from 25 per cent of GNP (1925-1929) to 8 per cent in 1957-1961.

20. The relevance of this new strategy to Argentina is more clearly seen when we consider in greater detail its industrialization pattern after 1930. By dividing the period after 1930 into two sub-periods, 1/ 1937-1939 / 1948-1950 and 1948-1950 / 1959-1961, it is observed that different branches of the manufacturing sector not only grew at different rates when compared with each other, but also played different roles in the import substitution process. Import substitution from 1937-1939 to 1948-1950 was significant in the "lighter" branches of manufacturing (foodstuffs and beverages, tobacco, textiles, clothing, wood products, printing and publishing, and leather products), while showing a lag in those branches that produced capital goods and intermediate products. After 1950 import substitution of capital goods and intermediate products became progressively more important. Both patterns are shown in Table 1, which compares the increase in the aggregate value added of several industrial activities in relation to the increase of the aggregate value added of the whole manufacturing sector. Thus, while consumer goods industries represented 59 per cent of the increase in the aggregate value of the manufacturing sector in the first period, this figure was reduced to 14 per cent in the second period. This contrast is

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1/ C. F. D. Alejandro (1966) Etapas de la Industrialización Argentina, Trabajo Interno No. 18b, Centro de Investigaciones Económicas, Instituto Torcuato Di Tella, Buenos Aires.

Table 1

Participation of branches of manufacturing in the total increase in value added in manufacturing, 1927-1929 to 1959-1961
(percentages)

	1927-1929/ 1948-1950	1948-1950/ 1959-1961
Primarily consumer goods industries	**58.6**	**13.9**
Foodstuffs and beverages	21.6	6.6
Tobacco	3.2	1.5
Textiles	23.5	2.5
Clothing	3.6	0.9
Wood products	3.1	0.1
Printing and publishing	- 0.4	- 0.2
Leather products	2.8	0.7
Other manufacturing	1.2	1.8
Primarily intermediate and capital goods industries	**41.3**	**86.1**
Paper and cardboard	1.0	2.2
Chemicals	4.8	9.4
Petroleum refining	9.0	12.0
Rubber	2.5	2.9
Stone, glass and ceramics	2.4	2.6
Metals	9.0	18.7
Vehicles and machinery	10.3	26.7
Electrical machinery and appliances	2.3	11.6

Source: Alejandro, C. F. D. (1966) Etapas de la Industrialización Argentina, Trabajo Interno No. 18b, Centro de Investigaciones Económicas, Instituto Torcuato Di Tella, Buenos Aires.

more clearly evident in the case of foodstuffs, beverages and textiles, which represented 45 per cent in 1927-1929 / 1948-1950 and after that only 9 per cent. On the other hand, vehicles and machinery, electrical machinery and appliances, and metals increased their total share from 21.6 per cent to 57 per cent.

21. Table 2 shows that by the mid 1950s the possibility of substituting consumer goods imports was almost exhausted, and further import substitution had to come from intermediate and capital goods. For the period 1950-1954, metals, vehicles and machinery, and mining products accounted for more than half of the total imports, and the possibilities of substituting imports by increasing domestic production of lighter industries were very small, since most goods imported were items which could not be produced in Argentina or were items necessary because of barter agreements.

22. These changes in both demand and supply conditions which appeared with the import substitution strategy influenced the new stage of regional development. The geographic distribution of markets and overhead facilities governed the location of industries brought about by the strategy of substituting imported consumer goods by domestic production. The major markets were concentrated in Buenos Aires, Córdoba and Santa Fé. Tables 3 and 4 show that most of the consumer goods industries were concentrated in Buenos Aires (including the federal capital). Foodstuff, beverage and textile industries, which absorbed almost half of the increase in total national value added in manufacturing in 1927-1929 / 1948-1950, were concentrated heavily in the East-Centre region. This region reduced its share in the total number of foodstuffs and beverages establishments from 80 per cent (1935) to 72 per cent (1953), as well as in the total number of workers from 84.9 per cent (1935) to 73.1 per cent (1953), since these industries tend to locate near urban cities which were growing in size throughout the country. On the other hand, textile industries were almost exclusively concentrated in the East-Centre region, i.e., more than 90 per cent of both total number of establishments and workers were to be found in this region, particularly in metropolitan Buenos Aires.

23. The industrialisation process until the mid 1950s indicates that Buenos Aires did profit from the Hirschman "polarization effect". This region grew until 1930 because it had the natural resources (in terms of appropriate and fertile land, as well as a natural port for the exit of goods) required to satisfy foreign demand. Later, however, the agglomeration economies, built

Table 2

Structure of merchandise imports and share of imports in total available supplies: 1950-1954
(percentages)

	Structure of merchandise imports as percentages of total imports	Imports as percentages of the sum of the value of domestic production plus imports for each category
Foodstuffs and beverages	4.4 a/	2.0
Tobacco	0.4	0.2
Textiles	8.2	8.3
Clothing	0.3	0.1
Wood and its products	3.7	16.3
Paper and cardboard	3.6	21.1
Chemical products	7.4	14.1
Petroleum refining	7.6	16.3
Rubber products	1.5	11.9
Stone, glass and ceramics	2.1	7.7
Metals	18.6	25.9
Vehicles and machinery	21.5	28.6
Electrical machinery and appliances	3.8	20.8
Other manufacturing	1.9	16.6
Mining products	13.0	57.8

Source: Alejandro, C. F. D. (1966) Etapas de la Industrialización Argentina, Trabajo, Interno No. 13b, Centro de Investigaciones Económicas, Instituto Torcuato Di Tella, Buenos Aires.

a/ Including unprocessed foodstuffs.

Table 1

Foodstuffs and beverages: regional distribution of the total number of establishments and workers, 1935-1953

(percentages)

Region	1935		1937		1939		1941		1946		1948		1953	
	E	W	E	W	E	W	E	W	E	W	E	W	E	W
East-Centre	80.1	84.9	80.1	84.2	79.5	84.6	78.7	85.0	73.9	82.9	74.5	81.3	72.2	73.1
Buenos Aires	61.0	66.9	61.2	66.5	59.2	66.2	58.1	66.5	41.7	60.6	41.8	59.5	40.0	51.3
Santa Fé	9.5	10.6	8.6	9.9	9.6	10.4	9.5	10.3	14.7	12.7	14.7	12.1	12.9	5.5
Córdoba	5.3	4.0	5.7	4.1	5.9	4.1	6.8	4.4	12.1	5.7	12.7	5.8	13.9	11.6
Others	4.3	3.4	4.6	3.7	4.8	3.9	4.3	3.8	5.4	3.9	5.3	3.9	5.4	4.7
North-East	3.7	2.1	3.9	2.0	4.3	2.4	4.3	2.-	5.0	2.6	5.0	2.8	6.2	3.4
North-West	6.3	6.5	6.2	7.3	6.3	6.9	6.3	6.2	5.9	7.0	5.9	8.3	7.6	15.6
West	8.7	6.1	8.6	5.9	8.5	5.6	0.4	5.9	11.8	6.5	11.4	6.7	11.2	7.0
South	1.2	0.4	1.2	0.6	1.4	0.5	1.3	0.6	3.4	1.0	3.2	0.9	2.8	0.9

Note: E = Establishments W = Workers.

Sources: National Industrial Census for each of the years considered.

Table 4

Textiles: regional distribution of the total number of establishments and workers, 1935-1953 a/

(percentages)

Region	1935		1937		1939		1941		1946		1948		1953	
	E	W	E	W	E	W	E	W	E	W	E	W	E	W
East-Centre	91.7	98.1	92.6	96.9	90.8	98.8	91.9	98.8	90.0	95.7	90.7	94.9	91.6	95.6
Buenos Aires	81.0	93.6	81.9	94.5	80.2	94.8	81.8	95.0	72.7	90.1	75.4	90.3	77.4	90.1
Santa Fé	7.1	3.3	6.2	3.1	6.7	3.0	6.2	2.9	9.4	3.4	8.4	3.1	7.6	3.8
Córdoba	2.9	0.7	3.3	0.9	3.2	0.9	3.0	0.8	6.0	1.7	5.3	1.2	5.2	1.3
Others	0.7	0.5	1.2	0.4	0.7	0.1	0.9	0.1	1.9	0.5	1.6	0.3	1.4	0.4
North-East	4.5	0.7	3.8	0.3	5.7	0.5	4.2	0.4	2.6	1.4	2.3	1.3	2.0	2.8
North-West	2.6	0.8	2.5	0.4	2.0	0.3	2.4	0.4	3.8	1.9	3.7	3.1	3.1	1.0
West	1.2	0.4	1.1	0.4	1.5	0.4	1.5	0.4	2.3	0.9	2.6	0.6	2.6	0.5
South	-	-	-	-	-	-	-	-	0.8	0.1	0.7	0.1	0.7	0.1

Sources: National Industrial Census for each of the years considered.

Note: E = Establishments W = Workers.

a/ In 1946, 1948 and 1953 clothing included.

up during this first stage of development, stimulated the location of those industrial activities induced by the national import substitution strategy. This industrialization process, primarily concentrated in metropolitan Buenos Aires, had unfavourable equity effects on the other regions, since they now had to buy regional manufactured goods produced behind newly created tariff walls instead of similar goods which had previously been imported from abroad at lower prices.

24. The regional growth impetus provided by the national strategy in a given region will be significative if the final and intermediate demand for its resources has a high income elasticity, extensive geographic backward and forward linkages and a high domestic regional income multiplier.8/ The demand for foodstuffs, beverages and textiles has generally a low income elasticity of demand. However, the trade barriers imposed after 1930 on imports of these commodities created an immediate domestic vacuum which was filled by national production. Thus, its production during this stage of development had a crucial dynamic role in promoting national growth and also regional growth for the supplying regions. A preliminary study9/ of forward and backward linkages of the Argentine economy using the 1950 national input-output matrix, shows that the textile sector is ranked first in terms of both linkages. If these linkages are analysed separately, the textile sector, particularly apparel, is ranked first for its forward linkages, which were geographically associated with metropolitan Buenos Aires, but only fourth for the backward linkages, which were not completely associated with Buenos Aires. Thus, the expansion of the textile industry increased the demand for resources in the primary producer regions, but since they were only engaged in processing the inputs for the first stage of industry, this resource base did not induce the location of any important linked activity in these regions. Foodstuff and beverage activities were ranked third in terms of both linkages, but in this case had much stronger backward than forward linkages.

8/ H. Perloff and L. Wingo Jr. [n.d.] "Natural Resources Endowment and Regional Economic Growth", in J. Spengler (Ed.) Natural Resources and Economic Growth, and reprinted in J. Friedman and W. Alonso (Ed.) (1964) Regional Development and Planning, A Reader, MIT Press, Cambridge, Mass.

9/ J. Sakamoto (1967) Medición de las repercusiones del proceso de industrialización sobre la economía: Un análisis crítico del modelo Baer-Kerstenetzky, Trabajo Interno No. 36, Centro de Investigaciones Económicas, Instituto Torcuato Di Tella.

Both linkages for the production of foodstuffs and beverages were almost entirely associated with Buenos Aires. Finally, the regional income multiplier in the East-Centre region was supposedly high owing to the new emphasis on domestic expenditures as well as the self-sufficient economic structure of this region.

25. In short, the East-Centre region, particularly metropolitan Buenos Aires, was able to grow during the first three decades of this century because it had the appropriate resource endowment needed to produce for export markets. The income thus generated was partly spent in this region, which stimulated further growth, and partly spent on imports from foreign countries. This pattern of growth increasingly expanded the major urban centres of the country, developed local markets, expanded the region's social infrastructure (public and private capital), increased skilled labour and servicing institutions, all of which enhanced the attractiveness of this area because of the external economies derived from this agglomeration of resources. The change in the supply pattern which came after the world crisis in the 1930s, in addition to the domestic production of previously imported consumer goods, made further growth possible in the East-Centre region because it had the "appropriate resources" required by the new composition of final and intermediate demand, as well as the mutual reinforcement of linkage and multiplier effects. Thus, after 1930 we can observe a deepening of the heartland economy built upon the geographic pattern of activities brought about during the export-base regional development period.

Import substitution of intermediate and capital goods stage (since the mid 1950s)

26. Regional growth in the East Centre region has been promoted first by its ability to produce staple commodities in high demand on European markets and then secondly, by exporting to other regions consumer manufactured goods previously imported and nationally wanted. However, the expansion of this region after the 1950s would have been slowed down if its development had continued to be based on production of agricultural and manufactured consumer goods, which were hindered by their low income elasticity of demand. The 1955 consumption elasticity of demand for foodstuffs supplied by the agricultural sector (fruit, milk, fish, vegetables, etc.) was 0.4; for foodstuffs and beverages supplied by the manufacturing sector it was also 0.4, and for textiles, 0.75.[10/]

10/ Naciones Unidas (1958) El desarrollo económico de la Argentina, vol.1, p.111. (Sales No. 59.11.G3.)

Rapid advances in the post-war period in the East-Centre region would have required changes in the product-mix of the region and the production of nationally wanted commodities with high income elasticity coefficients. In other words, the continuation of the growth stimulus in the East-Centre region depended on the ability of finding new rapid growth sectors complementing the existing slow growth sectors.

27. The rising per capita income throughout the country was continuously changing the structure of the national final demand because of the different income elasticity of demand for goods and services. In 1955 chemical products had an elasticity coefficient of 2.0, oil products 2.0, rubber 1.60, machinery and electric appliances 2.4, vehicles and machinery 2.0, metals 1.60, etc.[11/] Therefore, the continuous expansion of the East-Centre region would have required changing its industry-mix by attracting some of this large-scale industries, and/or making more dynamic the demand for the already established industries in the region by stimulating foreign demand. But these changes in the final demand structure came together with balance of payments problems which induced Government policy makers to set up a new national strategy based now on the import substitution of intermediate and capital goods. This second stage of industrialisation, which took place after 1950, developed industries such as vehicles and machinery, electric machinery and appliances, metals, chemical and petrochemical products. The expansion of these industries absorbed 66.4 per cent of the value added in manufacturing in 1948-1950 / 1951-1961 while only 26.4 per cent in 1927-1929 / 1948-1950.

28. The East-Centre region was able to attract most of these industries because its market coincided with the centre of gravity of the national market, and because of the external economies obtained from the agglomeration of industries and social overhead investment. Both factors provided this region with the economic environment most conducive for operating as the attraction pole. If Argentina instead of embarking on this process of import substitution, had adopted a different strategy of importing these non-durable consumer goods and stimulating as exports to foreign countries the commodities produced in areas other than the East-Centre region, the geographical impact would have been different. Growth in the East-Centre region would have been much less dynamic

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11/ Ibid.

because its industry-mix was based on goods with inelastic demand, while development would have taken place in those regions with good resource endowments to satisfy this newly created foreign demand. Therefore, the strategy of import substitution made further growth possible in the East-Centre region by attracting production of commodities with high income elasticity of demand.

29. This new pattern of industrial development also had significant effects within the East-Centre region. Until the mid 1950s the attraction pole for new industries was metropolitan Buenos Aires, mainly because the interplay of resource and non-resource advantages stimulated polarization forces in its favour. But the central Government investments in the East-Centre region's infrastructure did not proceed at the same rate as the demand for its services. The shortage of social overhead investment in metropolitan Buenos Aires was particularly relevant to electrical supply. The lack of government supply of this service led industrial enterprises to obtain private generators to supply their own electricity. Industrial firms had to decide in the early 1950s whether to locate in Buenos Aires and to take care of the additional needed funds for investment and related costs[12/] in avoiding risks and losses when electrical supply is rationed, or to locate in another area with an excess supply of electricity. Córdoba was a region with an excess government supply of this service. A survey conducted in Córdoba on the motives for locating there of manufacturing firms employing more than 40 workers indicates that for vehicles and machinery industries, first priority was given to availability of electrical supply and third consideration to proximity to the consumer market. Hence, for this type of industry, assuming a proper transportation network to deliver produced items to demanding areas, the investment decision was influenced by the excess supply of government electricity. In the decision whether to invest in Córdoba or in Buenos Aires, the additional needs of investment capital, the cost involved in supplying one's own electricity, and the risks of electrical supply being rationed seem to have weighed much more in

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12/ Self production of electricity consumes 10-15 per cent more calories per kWh than production of electricity by government power stations and it may require in some cases double capital per kW installed than the capital per kW required in government power station. Naciones Unidas (1958) El desarrollo económico de la Argentina, Vol.1. (Sales No. 59.11.G3.)

comparison to the transportation costs of finished products to the markets, and the import costs of items from the port of Buenos Aires or Rosario to Córdoba.[13]

30. Until the early 1950s, the main industrial activities of the province of Córdoba were related to the production of consumer goods such as beer, flour, and leather. Only two capital goods industries were operating in the region: the production of aircraft for military purposes (Fábrica Militar de Aviones), and workshops for repairing railway engines and freight cars (Talleres del Ex-Ferrocarril del Estado). Later the government enterprise IAME (Industrias Aeronáuticas y Mecánicas del Estado) converted the industry for the production of aircrafts for military purposes into an industry producing for the market automobiles, tractors and motorcycles. After 1953, two new important foreign enterprises located in the city of Córdoba: Kaiser Industries[14] for the production of automobiles, and FIAT for the production of tractors, automobiles

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13/ In Córdoba there are industries which supply their own electricity, but this is the result of generators installed before the industrial boom that took place after 1957, in the areas of flour milling, beer production and cement. The electricity for new plants located after 1957 is provided by the provincial government. For example, Kaiser did not even install a generator for emergency purposes. The following table shows that the rapid increase in electricity demand by industries was basically satisfied by government supply.

Year	Government supply (thousands of kWh.)	Autogeneration (thousands of kWh)	Electricity consumption by industry
1958	64.474	42.001	106.475
1959	72.077	44.464	116.541
1960	80.869	46.059	126.928
1961	98.382	47.359	145.741

Source: R. Colome (1964) "Consumo de energía eléctrica para uso industrial en la ciudad de Córdoba", Economía de Córdoba 2(1).

14/ An important element in the decision to locate this industry in Córdoba was that IAME (now DINFIA), which was operating in Córdoba, participated in the operation at a cost of 360 million pesos. Kaiser invested 8 million dollars in machinery, equipment and parts, which at the existing exchange rate was equivalent to 115 million pesos. IAME participated with 80 million pesos in machinery and parts. Finally, it was agreed that the remaining part of the capital (165 million pesos) would be obtained in the stock exchange from private investors. Besides this, Kaiser received a 10 year loan of 200 million pesos from the Industrial Bank to build the plant and to acquire equipment.

and later locomotives. In 1961, Córdoba produced 12.3 per cent of the national production of automobiles and 43 per cent of the national production of tractors. Evidently, the concentration of these industries in Córdoba had a high location linkage effect with servicing industries because they are the terminal products of a production sequence. Also, the big metal-using manufacturing industries are among the most rapidly growing sectors primarily because their products, at the level of final demand, have a high income elasticity of demand.

31. The development of another industrial pole in South Santa Fé in the late 1950s was not the result of any excess supply of social overhead capital vis-à-vis other regions in Argentina as in Córdoba, but rather because of the availability of resources important for chemical and petrochemical plants, i.e., the utilization of inputs from the oil refining plant in San Lorenzo (which in 1961 was the second largest plant in Argentina), and from the new pipe line for oil and gas Campo Durán - San Lorenzo. South Santa Fé also attracted other capital-intensive industries related to previous developments in agricultural machinery replacement and mechanical production activities such as tractors and automobiles. Several factors, other than the availability of natural inputs, made the attraction of new industries to this region possible: accessible important ports (Rosario, Santa Fé and San Lorenzo); the second largest urban nucleus in Argentina (Rosario); no shortages of electricity; proximity to the largest steel plants in Argentina (SOMISA and Acindar); and a pool of skilled labourers, technicians and professionals. Table 5, which gives the output capacity of petrochemical plants in 1965, clearly shows the high concentration of petrochemical production in San Lorenzo (Santa Fé).

32. In short, the new pattern of industrial development based on import substitution of intermediate and capital goods industries not only further developed Buenos Aires but also created new poles: Córdoba and the south of Santa Fé. Until the mid 1950s, these two states were primarily agricultural, but with the new patterns of industrial development, Córdoba and the south of Santa Fé changed their economic structure, owing to the location there of new plants for the production of automobiles, tractors, chemical and petrochemical products, etc. Table 6, which shows the regional distribution of the total labour force in primary, secondary and tertiary activities, indicates the changes that these provinces faced. Thus, while in 1947, agricultural activities in Córdoba and Santa Fé had a greater share in total labour force than manufacturing,

Table 5

Argentina: output capacity of petrochemical plants, 1965

(tons)

Product	Enterprise	Location	Output capacity (tons/year)
Ethylene	Ipako	Buenos Aires (Ensenada)	11.000
	Duperial	Santa Fé (San Lorenzo)	21.000
	FASA	Santa Fé (San Lorenzo)	7.500
			39.500
Propylene	PASA	Santa Fé (San Lorenzo)	5.000
B T X	PASA	Santa Fé (San Lorenzo)	42.000
	Fabr. Militar.	Buenos Aires (Campana)	8.000
			50.000
Methanol	Atanor	Córdoba (Rio Tercero)	10.000
	Casco	Buenos Aires (Pilar)	16.500
			26.500
Butadiene	PASA	Santa Fé (San Lorenzo)	32.000
Carbon black	Cabot	Buenos Aires (Campana)	13.000
Carbon Disulphide	Duperial	Santa Fé (San Lorenzo)	14.000
Ethilbenzene	PASA	Santa Fé (San Lorenzo)	15.000

Source: United Nations Economic Commission for Latin America (1966) La industria petroquímica en América Latina, ST/ECLA/Conf. 23/L.30.

Table 6

Regional distribution of labour force by economic activities, 1947 and 1960

(percentages)

Region	1947			1960		
	Primary	Secondary	Tertiary	Primary	Secondary	Tertiary
East-Centre	22.2	32.1	45.7	15.8	39.2	44.2
Buenos Aires	14.7	37.2	48.1	10.2	43.4	46.4
Córdoba	35.9	21.9	42.2	27.3	30.2	42.5
Santa Fé	36.6	23.1	40.3	27.2	32.5	40.3
Other states	43.4	17.5	39.1	34.5	24.9	40.6
North-East	54.0	16.3	29.7	45.8	21.3	32.9
North-West	37.8	25.6	36.6	34.4	27.7	37.9
West	35.3	25.3	39.4	35.2	26.3	38.5
South	50.2	14.5	35.5	42.2	21.4	36.4
Total	27.3	29.6	43.1	21.7	35.6	42.7

Source: Almeda, M. A., et al. Los recursos humanos de nivel universitario y técnico en la República Argentina, Editorial del Instituto, Buenos Aires.

the reverse situation was true in 1960. Santa Fé and Córdoba had in 1947 approximately 36 per cent of the labour force in agricultural activities and about 23 per cent in manufacturing, while having 27 per cent and 32 per cent respectively in 1960. Another reference to this pattern is given in Table 7, which shows the regional distribution of the total number of industrial enterprises and of total workers in 1953 and 1963. Córdoba and Santa Fé were the only regions which increased their participation in this period. Thus, for Córdoba the number of industrial firms increased from 10 per cent (1953) to 12.6 per cent (1963) and for industrial workers from 5.4 per cent (1953) to 7.4 per cent (1963). The attraction of machinery, metals and petrochemical and chemical industries to Córdoba and South Santa Fé made further growth possible in these areas. On the one hand, it was accompanied by a certain amount of induced manufacturing growth directly related to these industries, and on the other hand, through the regional multiplier income effect of the new activities, the local markets were expanded and new possibilities were created for market-oriented industries, producing items for regional final demand.

33. This process of regional growth within the East-Centre region stimulated even more growth within it. The different areas were further integrated by diversifying their economies to make them more complementary by developing an extensive transportation network incorporating all of the states in the East-Centre region. As a result of this regional pattern, self-sufficiency within the East-Centre region was enhanced, curtailing the possibilities of radiating unpleasant effects across the entire country.

34. For some industries, the prospects of rapid profits from the assembling of imported parts, the large unfilled excess demand owing to a long-time restriction on imports, and the high tariff protection (imports of automobiles and tractors were forbidden) stimulated several producers to start business, producing at very uneconomical scales. In 1962, there were sixteen automobile and five tractor firms operating in the market. It seems of interest to analyse the results of this process with respect to tractor production. We choose tractors because the availability of data allows us to answer interesting questions dealing with regional concentration, particularly the relation between economies of scale and transportation costs. Argentina has five tractor producers, two of which are located in Buenos Aires, one in Córdoba, and two

Table 7

Regional distribution of industrial establishments and workers, 1953 and 1963 a/

(percentages)

Region	Number of establishments		Workers	
	1953	1963	1953	1963
Rapi-Centre	82.4	82.1	83.6	83.4
Buenos Aires	57.9	52.5	66.8	63.4
Córdoba	9.4	12.6	5.4	7.4
Santa Fé	11.5	14.0	9.2	9.9
Other states	3.6	3.6	2.2	2.7
North-East	4.1	4.8	3.2	3.7
North-West	5.4	4.2	7.5	4.8
West	6.2	6.2	3.7	5.8
South	1.9	2.1	2.0	2.3
Total	100	100	100	100

Sources: For 1953 - Dirección Nacional de Estadística y Censos, Censo Industrial, Buenos Aires.

For 1963 - Dirección Nacional de Estadística y Censos, Censo nacional económico, cifras provisionales.

a/ Including construction in 1963, since it was not possible to separate this item.

in Santa Fé. The distribution of total output in 1960-1964 was 44 per cent in Córdoba, 30 per cent in Buenos Aires and 26 per cent in Santa Fé.[15] The demand for tractors is also greatly concentrated in these regions: 70 per cent of the total stock of tractors in 1960 was found in those three provinces (Buenos Aires 33 per cent, Santa Fé 20 per cent and Córdoba 17 per cent). It would seem that producers located these enterprises close to the consumer market in order to save on transportation costs of the finished product.[16] However, in order to appraise this location pattern, we have to consider not only transportation costs but also economies of scale derived from the concentration of total production of tractors in one plant[17] wherever the geographic location, assuming that other production costs do not vary among regions. If economies of scale are greater than transportation costs, then it pays to concentrate total production in one enterprise. The final location, of course, will depend on regional variations of production costs components as well as transportation costs for both the finished products and inputs. There is a study of the tractor industry which gives the short-run average costs function for each tractor producer, for given plant sizes, and the long-run averages cost function for the whole industry.[18] From this study we are able to estimate the 1964 demand for 14,000 tractors. The average costs for each state were as follows:[19]

Córdoba	724.628 pesos per tractor of 50 HP
Buenos Aires	796.937 pesos per tractor of 50 HP
Santa Fé	936.747 pesos per tractor of 50 HP

15/ There were other producers who discontinued their production of tractors. One of them, located in Buenos Aires, was included in this regional distribution of tractor production.

16/ During the first year of tractor production most inputs were imported. In this case, Buenos Aires and Santa Fé were better located because they have ports which reduced domestic transportation costs of inputs. Now the situation might be different as most direct inputs come from domestic production.

17/ There are other aspects to be considered in this case such as monopoly regulations etc.

18/ J. M. Dagnimo Pastore [n.d.] La industria del tractor en la Argentina, 3 vols., Trabajo Interno No. 21, Centro de Investigaciones Económicas, Instituto Torcuato Di Tella.

19/ In order to obtain the average cost for those states with two producers, we weighted the average cost of each firm by their share in total output of tractors.

35. If it is assumed that total demand for 14,000 tractors is supplied by one producer, the average cost obtained from the long-run cost curve for the whole tractor industry will be 631.475 pesos. Comparing this latter cost with the averages of short run costs for all producers, which is 818.710 pesos, there is a decrease in costs of 30 per cent. This cost reduction is due to economies of scale, and exceeds by far transportation costs between each of these states.[20] Therefore, the decision to have different tractor production centres, instead of centralizing them in one region, can be questioned on the grounds of efficiency, since we were not able to benefit from economies of scale. However, this decision might be consistent with the equity goal of creating new "poles de croissance" in order to obtain a more equalized regional distribution of income. The same type of considerations could be applied to automobile production, which is also regionally concentrated in Buenos Aires, Córdoba and Santa Fé.

Interregional trade in Argentina

36. Regional growth is not evenly distributed within a country. Some regions are able to grow more rapidly than others. The cumulative causative growth process that generally takes place in the dynamic areas may spread favourable effects to other areas, helping in this way to close the development gap between the already industrialized areas and the backward regions. Growth can be transmitted from the dynamic to the stagnant region by factor mobility and interregional trade. If the backward regions are complementary in their structure of production to the growing regions, interregional trade may transmit growth stimulus from the growing to the backward regions. If the dynamic provinces of Buenos Aires, Córdoba and Santa Fé, have to rely to an important degree on goods produced in other regions for their own expansion, then growth will be stimulated in these latter regions.[21]

20/ Transportation cost by railroad for a 50 HP tractor is as follows:
Buenos Aires - Rosario 3,570 pesos per tractor
Buenos Aires - Córdoba 5,530 pesos per tractor

21/ Indeed the advanced provinces expanding demand for other regions' products is a necessary but not sufficient condition of growth in backward regions. This growth will depend to some extent on the short-run supply elasticity in the lagging regions of the products being demanded. If it is low, prices of those goods demanded will increase and induce the growing regions to produce by themselves those products and/or import them from foreign countries.

37. However, it is quite possible that the advanced regions, because of location advantages, might produce for themselves most of the items required for their own expansion or they might import from other countries what is necessary. If this is the case, the remaining regions will be isolated from any trade contact with the advanced regions, and the expansion that they are experiencing will not have stimulating effects on the lagging regions. The trickling-down effects originated in the growing regions will not operate and the lagging regions will only be exposed to the adverse polarization effects.

38. This report will develop a regional model for Argentina[22/] with the purpose of showing the extent to which each region has increased its output because of a) an increase in the demand for its products, assuming we keep constant inter-regional trade patterns, and b) an increase originated in gains from interregional trade either by increasing exports or reducing imports. This model will help us to isolate the "interregional trade effect". The first step in such a model is to estimate the increase in each region's final demand for commodities and services, and then compute each region's increase in production owing to the change in the bill of goods localized in each region. Thus, the increase in each region's output will be the result of two effects: a) the demand effect, which indicates how much of the increase in each region's output is due to an increase in the demand for the products from the given region and/or from other regions, assuming that the interregional trade channels are not changed; b) the trade effect, which indicates the increase in each region's output due to a change in regional supply patterns. In other words, the trade effect measures changes in each region's share of the national market where a given region is able to increase its exports to other regions and/or reduce its imports from other regions.

39. The increase in regional output will be determined using the Chenery-Moses interregional input-output model.[23/] The total output of commodity i in region g (X_i^g) in period 0 is equal to the sales of this commodity to all other regions,

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22/ For a very similar model see H. B. Chenery (1962) "Development Policies for Southern Italy", Quarterly Journal of Economics 76(4).

23/ For a more detailed analysis of this model, and its relation to other interregional input-output versions, see, M. S. Brodersohn (1965) An Interregional Input-output Analysis of the Argentina Economy, Trabajo Interno No. 9, Centro de Investigaciones Económicas, Instituto Torcuato Di Tella.

including that part which remains in region k ($X_i^{gk}(0)$; k = 1,...,n:

$$X_i^g(0) = \sum_{k=1}^{n} X_i^{gk}(0) \qquad i = 1, \ldots, n \tag{1}$$

40. The interregional sales are determined by the following structural equation:

$$X_i^{gk}(0) = s_i^{gk}(0)\ D_i^k(0) \tag{2}$$

where $s_i^{gk}(0)$ is the trade coefficient (the proportion of total demand of commodity i in region k which is furnished by region g in period 0), and $D_i^k(0)$ is the total demand (intermediate and final) of commodity i of region k in period 0.

41. Total demand localized in region k, in turn, is determined by the following expression:

$$D_i^k(0) = \sum_{j=1}^{n} a_{ij}^k(0)\ X_j^k(0) + Y_i^k(0) \tag{3}$$

where $a_{ij}^k(0)$ is the standard input-output coefficient and $Y_i^k(0)$ is the final demand for commodity i in region k in period 0.

42. Substituting (2) and (3) in (1):

$$X_i^g(0) = \sum_{k=1}^{n} \sum_{i=1}^{n} s_i^{gk}(0)\ a_{ij}^{(k)}(0)\ X_j^k(0) + \sum_{k=1}^{n} s_i^{gk}(0)\ Y_i^k(0) \tag{4}$$

$$i = j = 1, \ldots, n$$
$$g = k = 1, \ldots, n$$

43. In matrix notation X_o will be the regional output vector, S_o the trade coefficient matrix, A_o the input-output coefficient matrix, and Y_o the regional bill of goods vector in period 0. Thus, the set of equations (4) can be stated in matrix notation as follows:

$$X_o = (S\,A)_o\ X_o + S_o\ Y_o$$

$$X_o = \left[I - (S\,A)_o \right]^{-1} S_o\ Y_o$$

44. Regional output in period t can be disaggregated as that part which is derived assuming no change in the trade patterns from time 0 to time t, and that part which comes from changes in trade patterns (ΔS):

$$X_t = \left[I - (S\Lambda)_o \right]^{-1} S_o\ Y_t + \left[I - \Delta(S\Lambda) \right]^{-1} \Delta S\ Y_t$$

44. The change in regional output from period 0 to t, will then be:

$$\Delta X = X_t - X_o = \left[I - (SA)_o\right]^{-1} S_o Y_t + \left[I - \Delta(SA)\right]^{-1} \Delta S Y_t - \left[I - (SA)_o\right]^{-1} S_o Y_o$$

$$\Delta X = \left[I - (SA)_o\right]^{-1} S_o \Delta Y + \left[I - \Delta(SA)\right]^{-1} \Delta S Y_t \qquad (5)$$

46. The first term on the right hand side of equation (5) will give the change in each region's output owing to a change in each region's bill of goods assuming no change in regional supply patterns (demand effect); and the second term will give that change owing to a change in the interregional trade structure (trade effect). This type of analysis will allow us to estimate the extent to which growth in regional output is either derived from a normal regional pattern, such as that given by a proportional change with respect to final demand, or from a change in supply coefficients. These latter changes can be treated as a policy variable and future regional development policy may be concerned with changing the past interregional supply patterns.

47. This model has been applied to Argentina for the period 1953-1959[24] in order to explain past regional growth and hence to draw conclusions for evaluating future policy. The model determines changes in output in twelve sectors and five regions.[25] Regional aggregation differs from that adopted for the historical analysis since the data was already aggregated in a different form, and reclassifying it would have been a time consuming work beyond the scope of the paper. The main difference is that Córdoba is not included in the East-Centre

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24/ We have used this period because interregional trade flows are available only for these two years. See H. Gruppe et al. (1962) Relevamiento de la estructura regional Argentina, Instituto Torcuato Di Tella; Consejo Federal de Inversiones (1963) Bases para el desarrollo regional Argentino, Buenos Aires, and M. S. Brodersohn (1965) An Interregional Input-output Analysis of the Argentina Economy, Trabajo Interno No. 9, Centro de Investigaciones Economicas, Instituto Torcuato Di Tella. The use of 1959 as the terminal year is unfortunate since in this year the per capita GNP went down by 4.6 per cent.

25/ Later in the study we have aggregated the results for sectorial output in broad categories and have excluded from the analysis constructions and services, because we have assumed that in these sectors each region total demand equals total output, and hence trade coefficients were assumed equal to 1 for the producing region. There is little sense in analysing the net gain or loss for a region owing to the trade effect of a commodity, which is not subject to interregional trade. D. B. Houston (1965) "The Shift and Share Analysis of Regional Growth: A Critique", Southern Economic Journal 32(4),578-9.

region. Provinces were aggregated as follows:

Centre: Capital Federal, Gran Buenos Aires, Entre Ríos and Santa Fé.
West : Córdoba, La Rioja, Mendoza, San Juan and San Luis.
North : Catamarca, Jujuy, Salta, Santiago del Estero and Tucumán.
East : Corrientes, Chaco, Formosa and Misiones.
South : Rest of Buenos Aires, Chubut, La Pampa, Río Negro, Santa Cruz and Tierra del Fuego.

48. Table 8 is an interesting departure point for the analysis because it compares the estimated increase in each region's output, assuming there is no change in the interregional trade patterns and the increases in each region's observed output.[26] First, it shows that only the Centre and West regions have an actual increase in production of commodities subject to interregional trade[27] greater than the national average. Probably if Córdoba had been excluded from the West region and included instead in the Centre region, as was done in the historical analysis, the latter region would have remained the only one with an increase in actual production greater than the national average. Secondly, the West region clearly shows that a significant part of its total variation in output is explained by a favourable change in the interregional supply patterns. Córdoba is probably the reason for this change because it had a significant share in the production of nationally wanted commodities such as automobiles, tractors, chemical products. The opposite situation is found in the Centre region where the change in demand with the existing supply pattern explains the whole of its increase in regional output. Actually, the demand prediction for the Centre region is too optimistic because it exceeds actual increase. Third, the situation in the East region is more dramatic because actual production has decreased owing to both the demand and trade effect being more influential than the second effect. The North region has also a regional pattern very similar to the East region.

26/ This analysis omits changes in factor use and prices. Changes in each of the variables are measured in constant prices, which precludes any effect of changes in the terms of trade between regions.

27/ These commodities are usually called "national sectors" because for them total demand and supply balance only over the national market. On the other hand, local sectors are defined as those in which demand and supply are balanced over local markets. These latter commodities are not included in Table 1.

Table 8

Increase in the final demand localized in each region and its effect on predicted and actual regional output, 1953-1959 a/

(percentages)

	Center	West	North	East	South	Argentina
1. Predicted increase in regional output, with no trade effects	25.8	7.1	1.1	-1.5	6.7	
2. Actual increase in regional output	25.2	21.8	-5.2	-8.1	12.2	19.1
3. Differences from national output increases.						
Predicted b/	6.7	-12.0	-18.0	-20.6	-12.4	
Actual c/	5.1	2.7	-24.3	-27.2	6.9	

a/ This analysis only includes changes in regional output for commodities which are subject to interregional trade, i.e., construction and services are not included because it is assumed in these cases that each region's demand is satisfied within its own region.

b/ Differences between values in line 1 and 19.1 per cent.

c/ Differences between values in line 2 and 19.1 per cent.

The North, East and South regions have been lagging behind the Centre and West regions because production in the first three regions is greatly concentrated on commodities with an income elasticity of demand much less than 1. The opposite holds for the Centre and West regions. Table 7 allows us to make a clear judgement about this pattern. The Centre and West participate with 95 per cent of the increase in the national supply of produced goods which have an income elasticity of demand which is substantially greater than 1. On the other hand, they supply 58 per cent of the national production of consumer goods. Moreover, the weight of agricultural production, which has an inelastic elasticity of demand, is much higher in the three lagging regions than in the Centre and West regions.

49. The principal result of changes in the interregional trade patterns of manufacturing has been to increase the share of the Centre and West regions in the national supply of these commodities. If we had included Córdoba and the rest of the province of Buenos Aires in the Centre region, the results would probably have shown a further gain in the supply pattern of this latter region at the expense of all other regions, increasing in this way the development gap between this advanced region and the rest of the country. Buenos Aires, Córdoba and Santa Fé are almost self-sufficient, i.e., they are able to supply for themselves most of their own regional total demand. These provinces concentrated 80 per cent of the entire country interregional trade in 1959, and if we add Mendoza, Entre Ríos and Tucumán, we find that 87 per cent of their total domestic sales occur within their own provinces, and the remaining 13 per cent are shipments to the other provinces.[28/] This situation clearly shows the high degree of interconnexion existing between very few provinces, while the remaining ones are almost isolated from any trade contact with the growing regions.

50. In short, the analysis of trade relationships in Argentina shows that unless there are basic changes in the regional supply pattern, the lagging regions will be left without any favourable trade contact with the expanding regions. A greater degree of complement should be found in order to fully integrate the national market. Regional barriers to trade and factor flows have to be eliminated in order to make possible the communication of growth stimulus to lagging regions.

28/ Consejo Federal de Inversiones (1963) Bases para el desarrollo regional Argentino, Buenos Aires, 85-105.

Table 9

Causes of increases in sectoral output, 1953-1958

(in millions of 1953 pesos)

Sectors	Centre: Demand effect	Centre: Trade effect	Centre: Total	West: Demand effect	West: Trade effect	West: Total	North: Demand effect	North: Trade effect	North: Total	East: Demand effect	East: Trade effect	East: Total	South: Demand effect	South: Trade effect	South: Total	Total: Demand effect	Total: Trade effect	Total: Total
Primary production	2.667.0	-2.641.2	25.8	-271.6	503.9	232.3	-268.7	-988.1	-1.256.8	-447.0	-763.5	-1.210.5	-1.081.5	1.393.9	312.4	598.2	-2.495.0	-1.896.8
Agriculture	612.7	-2.152.6	-1.539.9	-564.0	159.8	-404.2	-498.7	-991.4	-1.490.1	-501.1	-790.1	-1.291.2	-2.051.8	310.7	-1.741.1	-3.002.9	-3.463.6	-6.466.5
Mining, fuel and electricity	2.054.3	-488.6	1.565.7	292.4	344.1	636.5	230.0	3.3	233.3	54.1	26.6	80.7	970.3	1.083.2	2.053.5	3.601.1	968.6	4.569.7
Manufacturing	18.818.7	2.109.7	20.928.4	1.495.9	2.010.6	3.506.5	363.3	460.6	823.9	351.6	350.8	702.4	2.880.6	87.6	2.968.2	23.910.1	5.019.3	28.929.4
Consumer goods	565.9	2.369.3	2.935.2	495.0	1.219.7	1.714.7	3.4	505.4	508.8	-72.1	625.0	552.9	1.757.2	612.3	2.369.5	2.749.4	5.331.7	8.081.1
Food, beverages and tobacco	2.399.4	2.155.4	4.554.8	336.2	1.330.4	1.666.6	4.6	493.5	498.1	-70.6	649.1	578.5	1.486.2	431.3	1.917.5	4.155.8	5.059.7	9.215.5
Textiles	-4.447.3	-329.1	-4.776.4	5.9	-72.3	-66.4	-43.9	-18.1	-62.0	-39.2	3.9	-35.3	-36.9	-87.3	-124.2	-4.561.4	-502.9	-5.064.3
Paper and board printing and publishing	2.613.8	543.0	2.156.2	158.9	-38.4	114.5	42.7	30.0	72.7	37.7	-28.0	9.7	307.9	268.3	576.2	3.155.0	774.9	3.929.9
Producer goods	18.252.8	-259.6	17.993.2	1.000.9	790.9	1.791.8	359.9	-44.8	315.1	423.7	-274.2	149.5	1.123.4	-524.7	598.7	21.160.7	-312.4	20.848.3
Chemicals and rubber	9.707.9	695.4	10.403.3	202.0	108.5	310.5	131.2	-52.3	150.7	114.1	-215.3	-6.3	179.1	190.4	369.5	10.429.2	798.5	11.227.7
Metals	4.860.1	379.1	5.239.2	188.1	-112.2	75.9	96.1	-12.0	43.8	100.6	-95.0	59.1	418.3	-165.8	252.5	5.676.7	-6.2	5.670.5
Vehicles and machinery	3.684.8	-1.334.1	2.350.7	610.8	794.6	1.405.4	132.6	-44.8	120.6	423.7	-3.9	96.7	526.0	-549.3	-23.3	5.054.8	-1.104.7	3.950.1
Total	21.485.7	-531.5	20.954.2	1.224.3	2.514.5	3.738.8	94.6	-527.5	-432.9	-95.4	-412.7	-508.1	1.799.1	1.481.5	3.280.6	24.508.3	2.524.3	27.032.6

Summary

51. Regional growth is greatly influenced by the changing patterns of national demand and the state of technology and organisation. Each region is subject to different [illegible] with its resource endowments considered appropriate for the changing patterns of national demand. The first stage of national development also gave rise to the first geographical structure for the country. Growth took place in the East-Centre region because it had the appropriate resource endowments, e.g. arable land and a natural port, needed to supply the staple commodities in world demand. This stage of regional growth is characterised by production specialisation of primary activities. The second stage of regional development was influenced by the spatial set up during the first stage, in terms of size of markets, social overhead investments, etc., as well as by the new strategy of national development adopted after the world crises in the 1930s. Thus, the East-Centre region then grew up because its resource and non-resource advantages were appropriate to supply the previously imported consumer goods. This pattern induced in this region, particularly Metropolitan Buenos Aires, a high concentration of simpler branches of industrial activities, such as foodstuffs and beverages, textiles, and leather.

52. The third stage of regional growth was also compatible with changes in the composition of national final and intermediate demand and in the existing agglomeration of population, economic activities and social overhead facilities in the East-Centre region. By the mid 1950s, growth no longer continued to be dynamic in the East-Centre region because its industrial composition was based on activities producing goods with low income elasticity of demand. Further growth required either the continuous attraction of new activities, even from declining industries, or changes in the industry-mix by the attraction of rapid growth sectors. The new import substitution strategy based on domestic production of metals, machinery, chemical and petrochemical products greatly influenced the future regional pattern because the East-Centre region was again the more favourable area in which to locate. If the national strategy of growth had been based on the exporting of new commodities to foreign markets and the using of the foreign exchange thus created to import intermediate and capital goods, the regional growth patterns might have been different. Growth would have been rapid in those regions with appropriate resources to satisfy the newly created foreign demand, and the East-Centre industry-mix based on goods with low income elasticity of demand would have made growth less rapid in this region.

53. The diversified and more complex process of industrialization based on import substitution of intermediate and capital goods greatly concentrated in the East-Centre region, had differential geographic effects within this region. The metropolitan Buenos Aires pole was complemented by two new dynamic centres: Córdoba, in which was concentrated almost 50 per cent of the national production of tractors and automobiles, and South Santa Fé, where the petrochemical complex was concentrated.

54. In short, the East-Centre region was able to grow during the first stage of regional economic development because it had the essential natural resources for satisfying the increasingly expanding foreign demand. This, in turn, made it possible to attract people and servicing activities for the local and national market. The high concentration of markets and activities in this region generated agglomeration economies, which strengthened existing tendencies to market orientation, and the piling up of more agglomeration upon existing agglomeration economies.[29/] Thus, regional growth in the East-Centre region was tied in its first stage to its natural resource advantages, and then the agglomeration economies built up during this period made possible the continuation of its development, now more free from its natural resource base. On the other hand, the development of this pole did not reach the hinterland areas' resource inputs because its industrial development was based to a large extent on imported inputs.

55. As a result of these different stages of regional development, the East-Centre region was able to attract most of the population, industries and social overhead capital. Moreover, Buenos Aires, Córdoba and Santa Fé form a self-sufficient nucleus with little favourable trade contact with the other regions within the country.

56. If the future national strategy of economic development is based on a "deepening" of the import substitution of intermediate and capital goods pattern, the growth stimulus of this future industrialization path might be transmitted to regions with the appropriate resource endowments for satisfying this new strategy. The production of metallurgical products in the East-Centre region

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29/ These external economies are usually known as localization economies (those economies obtained by an industry when different plants of the same industry cluster together) and urbanization economies (those economies obtained by an industry because of location near a city).

has not spread favourable dynamic effects to other regions because the expanded input requirements were not by imports. The resource-abundant southern part of Argentina (Patagonia) seems to have the required natural resources for this possible course of future development. However, this region is inaccessible in an economic sense, for both input and market oriented activities. Its population is scarce and consequently it does not have a developed labour market, and its social infrastructure is almost non-existent. If domestic migration from the northern provinces deviates from its past trends towards Patagonia instead of Buenos Aires, and public investment is heavily concentrated in this region, then advantages in location might tip in its favour, and the goal of achieving the highest rate of national growth will be met. In short, future trends on "balanced" regional development and concentration versus dispersion of new industrial ventures will be influenced by the future structure of national demand as determined by national strategies of economic development. Since natural resources are not evenly distributed over the country, regions rich in resources vital to industrialization will have an advantage in becoming more highly developed than less well-endowed regions.

57. On the other hand, promoting growth in lagging regions will require not only the finding of nationally wanted commodities with high income elasticity of demand, locational linkages, and multiplier effect, but also the stimulation of structural changes in the interregional supply patterns. Social overhead facilities would have to be built up, particularly an appropriate transportation network. However, not all regions have the same capacity to grow. Investments in some regions will mean a conflict between achieving national economic efficiency by maximizing national output and achieving a more equalized regional distribution of income. The solution of this conflict clearly requires both economical and political considerations. Evidently, if the country shows intense income difference between regions, and the dualism between rich and poor areas is rapidly increasing over a period of time, moral considerations might strongly influence the decision about future regional goals. It is with the purpose of presenting in proper perspective the regional objectives for Argentina that we inquire in the next section about the relative regional income per capita inequalities pattern. In other words, we shall consider whether there was a trend of regional convergence or divergence in income per capita towards the national average as national economic development proceeded.

II. REGIONAL INEQUALITY PATTERNS AND NATIONAL ECONOMIC GROWTH IN ARGENTINA

58. Economic growth does not take place in all regions of a country at the same time. Growth starts in some points and creates consequent regional disparities in income among regions. "... There can be little doubt that an economy, to lift itself to higher income levels, must and will first develop within itself one or several regional centres of economic strength. This need for the emergence of growing points or growth poles in the course of the development process means that international and interregional inequality of growth is an inevitable concomitant and condition of growth itself".[30/]

59. Different explanations have been advanced for the fact that the development process implies necessarily interregional inequalities in growth rates[31/] such as proximity to fertile land or mineral sources, or geographical advantages (a natural port). But, whatever the arguments used to explain initial differential regional rates of growth, the interesting problem is whether regional inequality will continue to increase over a period of years or whether there is a tendency for regional inequalities to be reduced in time. Regional divergence or convergence towards the national average becomes the crucial point. Hirschman clearly describes the way in which polarization forces tend to increase disparity in regional growth rates once regional growth has started at a centre. When the economy has reached the maturity stage, Hirschman continues, trickling-down forces lead to a turn in the trend and make possible a convergence in regional income distribution. Capital and labour mobility, interregional trade, and the policies of the central Government are the elements which give rise to this regional pattern of growth. Williamson[32/] has tested this theory empirically and shows first

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30/ A. Hirschman (1958) The Strategy of Economic Development, Yale University Press, New Haven, 183-4.

31/ G. Myrdall (1957) Economic Theory and Underdeveloped Regions, London, Ch.3-5. F. Perroux (1955) "Note sur la notions de 'pole de croissance'", Cahiers de L'Institut de Science Economique Appliquée, D(8). The Economic Survey of Europe in 1954, Geneva, (1955), Ch.6.

32/ J. Williamson (1965) "Regional Inequality and the Process of national development: a Description of the Patterns", Economic Development and Cultural Change 13(4/II).

by an international cross section study and then by time-series analysis, that for some countries during the first stages of national growth, relative regional growth disparities tend to increase, and when the country reaches its maturity stage there is a reverse in this trend and regional growth rates converge to the national average. Williamson does not give concrete references to the turning point of this inverted U-shaped pattern of regional growth, nor does he thoroughly consider the causes for this pattern. A major area of research is aimed at finding out when this turning point occurs and whether or not the government policy can act on it, since this will help countries in delineating their regional economic policy.33/

60. This section will be devoted to the analysis of the time path of the Argentine regional growth rates in income per capita to determine whether or not there was a convergence of these regional rates towards the national average.34/ It is concerned only with relative income disparities and not with absolute ones. The second type of disparity depends not only upon the annual rate of growth in relation to the national average but also upon the starting position of each region vis-à-vis the others. This does not mean that absolute inequalities among regions are not important; on the contrary, social concern is generally more related to absolute differences, although we assume that all regions are growing at the same rate after initial growth has taken place in one of them, the absolute regional differential could not only persist but increase.

61. The analysis of the relation between Argentine levels of development and regional inequality will be based on data for the Gross Regional Product (GRP)35/

33/ Hirschman and Myrdall, the latter in particular, emphasize the importance of political forces to help narrow the gap between the developed and backward regions.

34/ The regional income equalization goal is closely related with the definition of regional boundaries. The smaller the size of the area considered, the likelier they are to differ from the national average.

35/ Indeed the analysis should be based on income accruing to the residents of each region (on regional income per capita), and not on the value of product produced in each region (GRP). The difference between them is given by factor payments to and from the region residents. In Argentina, this distinction is particularly relevant because metropolitan Buenos Aires may concentrate a great deal of income generated in other areas.

per capita that we have for 1946, 1953, 1958, 1959 and 1961. The data for 1953, 1958 and 1959 were obtained from a study carried out by the Instituto Torcuato Di Tella and the Consejo Federal de Inversiones.[36] We estimated the GRP for 1946 by disaggregating the Gross National Product (GNP) according to regional indicators taken from the 1946 national census. The data for 1961 were obtained from an unpublished study of the Consejo Federal de Inversiones. These different sources of information obviously affect the comparability of results because it was impossible to follow homogeneous criteria in computing the GRP for each year. This is particularly important in the comparison of results between 1946 and 1953, 1958 and 1959 because the latter ones were partly obtained by applying regional indicators to national aggregates and partly by direct information. This was not the case with 1946 where we only used indicators. However, it is unlikely that this heterogeneity in the computation of the GRP will significantly affect the trend of the results.

62. To measure relative differential rates of growth we have used the Williamson coefficient (R_W): a measure of deviation of the GRP per capita level relative to the national average, with each regional deviation weighted by its share in the national population. The higher the R_W, the greater the size of state income differentials.[37]

36/ H. Gruppe et al (1962) Relevamiento de la estructura regional de la economía Argentina, five vols. Editorial del Instituto, Buenos Aires.

37/
$$R_W = \frac{\sqrt{\sum_i (Y_i - \bar{Y})^2 \frac{P_i}{N}}}{\bar{Y}}$$

Where P_i = population of the i^{th} region

N = national population

Y_i = income per capita of the i^{th} region

$\bar{Y}$ = national income per capita.

63. Table 10 presents the results. Column 1 shows the results for the weighted coefficient, R_W, and Column 2 for the unweighted coefficient, R_{UW}.[38] The results show that the degree of inequality was increasing over time, indicating that during the last fifteen years, there has been a trend towards increasing regional inequality at the same time that the whole economy grew at an annual rate of 4.7 per cent (1946-1961). Thus, R_W increased from 0.368 (1946) to 0.449 (1961) and R_{UW} from 0.534 (1946)to 0.815 (1961).

Table 10

Argentina: regional inequality index a/

Year	R_W	R_{UW}
1946	0.368	0.534
1953	0.369	0.555
1958	0.378	0.587
1959	0.387	0.696
1961	0.449	0.815

a/ For backward regions these results will be biased downwards because their estimates of income do not take accurately into consideration income of the kind in comparison with fully monetized and market oriented regions.

64. However, it is of interest to consider 1953-1959 because in this period the statistical computations of the GRP followed the same statistical procedure. Hence, the change in the inequality index could be imputed to changes in regional income inequality patterns and not to changes in statistical procedures. Between 1953-1959 the increase in the inequality index was 5 per cent and shows that between 1958 and 1959 it remained almost at the same level. The high value of the index for 1961 might be the result of the statistical procedure we followed in our computations owing to data limitations.

38/

$$R_{UW} = \frac{\sqrt{\frac{\sum_i (Y_i - \bar{Y})^2}{N}}}{\bar{Y}}$$

Where N = number of regions.

65. The same type of analysis can be made if we define province as the "national" unit and department as the "regional" unit to observe whether or not the pattern of interprovince inequality is consistent with intraprovince inequality. Table 11 shows the weighted coefficient R_w for each province for 1953,1958 and 1959, those being the only years for which we had income and population estimates for each department. The results do not give any definite indication as to whether intraprovince inequality has increased over a period of time or not. Column 4 shows the change in R_w for each province between 1953 and 1959. The trend seems to be consistent with interprovince inequality in eleven provinces, i.e., the size of regional inequality increases. This includes the advanced provinces of Buenos Aires, Mendoza and Santa Fé, and also the backward regions of Formosa, Jujuy and Santiago del Estero. For the remaining twelve provinces the size of regional inequality decreases these provinces include advanced regions such as Córdoba and Entre Ríos and poor provinces such as La Rioja, and San Luis. However, if we look at the results for Buenos Aires and for Córdoba, where the industrialisation process was significant, we can determine two patterns. There is a clear trend towards regional inequality in Buenos Aires which might be owing to a concentration of investment in its metropolitan area. In Córdoba we have the inverse trend which might be the result of a more spatially spread allocation of investment.

66. The analysis thus far has been based on per capita GRP as an indicator of the level of development. The lack of data made the extension of the period of analysis impossible; for this reason we defined a new index of regional inequality in order to have more empirical evidence. Thus, we used industrial productivity deviations weighted by the share of the regional industrial labour force in the total industrial labour force as the inequality coefficient (R_W^I).[39/] Table 12 shows R_W^I since 1935, and the trend of regional inequality seems to have been increasing over a period of time. The average of these coefficients for the 1930s is 0.194, for the 1940s, 0.301, and for the first three years of the 1950s, 0.332. This coefficient in other words, has increased by 70 per cent between the average of the 1930s and the 1950s. However, the trend in the inequality patterns seems to be leveling off because the increase between the average of the 1940s and the 1950s was 10 per cent.

39/

$$R_W^I = \frac{\sqrt{\sum_i (I_i - \bar{Y})^2 \frac{O_i}{O}}}{\bar{Y}}$$

where $I_i = \frac{VA_i}{O_i}$ = manufacturing value added in province i / labour force employed in manufacturing in province i

$\bar{Y} = \frac{VA}{O}$ = total manufacturing value added / total labour force employed in manufacturing

As an idea of how good the manufacturing value added per worker employed is as an approximation of regional income per capita in this sector, we have correlated this latter variable with regional income per capita for 1953, i.e.

$$X = a + b\,Y$$

where X = manufacturing value added per worker employed in this sector
Y = regional income per capita.

The results were positively correlated and significant at 2.5 per cent. If we eliminate the influence of extreme cases (Tierra del Fuego, Chubut and Santa Cruz) the results are:

$$X = 8067 + \underset{(0.720)}{3.30}\,Y \qquad r = 0.7256 \qquad d = 2.429$$

The coefficient of Y is positive and significant at 1 per cent.

67. The analysis of the relative regional differential growth rates patterns shows, on the one hand, that the inequality trend had increased since the 1930s, and on the other hand, that this trend seemed to level off in the 1950s. However, the inequality index used does not refer to absolute income per capita differences among regions, which might be significant despite the recent leveling-off trend in relative regional growth rates. If we exclude from the analysis the lightly populated southern provinces, only three areas in 1958 had an income per capita above the national average (table 13): metropolitan Buenos Aires (27 per cent), the rest of Buenos Aires (17 per cent), and Mendoza (14 per cent).40/ San Juan is at the same level as the national average. On the other hand, six provinces have an income per capita which is less than 50 per cent of the national average: Corrientes (50 per cent), La Rioja (46.1 per cent), Formosa (45.3 per cent), Catamarca (40.3 per cent), Santiago del Estero(38 per cent) and Misiones (36.4 per cent). These provinces contain only 9 per cent of the population. Córdoba and Santa Fé are below the national average because the new dynamic metallurgical and chemical industrial plants became productive only after 1958. The southern provinces of Chubut, Santa Cruz and Tierra del Fuego have an income per capita above the national average because their agricultural and mining production processes are not labour demanding activities: they contain less than 2 per cent of the population in 25 per cent of the geographic area, and earn 2.8 per cent of the GNP.

68. The regional problem for Argentina is that 77 per cent of the GNP is generated in 22 per cent of its geographic area (Buenos Aires, Córdoba and Santa Fé). However, the absolute income per capita differences among provinces, though significant, do not have the characteristics that one might expect from the regionally unbalanced distribution of economic activities, since three quarters of the population have an income per capita close to the national average. Moreover, relative regional income per capita differential growth rates seem to be narrowing down.

40/ This analysis is based on GRP and, because of data limitations, it assumes there is no difference between the value of product produced in each province and income accruing to each province's residents. This assumption will undoubtly cause distrotion in our analysis because non-resident ownership of factors of production is highly significant. Thus, we may expect in our comparisons with the national average, that metropolitan Buenos Aires income per capita would be much higher and in the southern provinces much lower.

Table 11

Argentina: regional inequality index for provinces (R_w) a/

Provinces	(1) R_w (1953)	(2) R_w (1958)	(3) R_w (1959)	(4) R_w (1959-53)
Buenos Aires	0.234	0.259	0.328	+ 0.094
Catamarca	0.545	0.751	0.470	- 0.075
Córdoba	0.336	0.237	0.320	- 0.016
Corrientes	0.296	0.274	0.372	+ 0.076
Chaco	0.274	0.211	0.199	- 0.075
Chubut	0.593	0.531	0.35	- 0.243
Entre Rios	0.196	0.171	0.191	- 0.005
Formosa	0.150	0.257	0.245	+ 0.095
Jujuy	0.480	0.511	0.506	+ 0.026
La Pampa	0.288	0.228	0.323	+ 0.035
La Rioja	0.317	0.336	0.239	- 0.078
Mendoza	0.327	0.409	0.454	+ 0.127
Misiones	0.405	0.360	0.468	+ 0.063
Neuquén	0.463	0.400	0.332	- 0.131
Rio Negro	0.383	0.312	0.220	- 0.163
Salta	0.421	0.412	0.329	- 0.092
San Juan	0.357	0.452	0.442	+ 0.085
San Luis	0.346	0.254	0.323	- 0.023
Santa Cruz	0.196	0.300	0.290	+ 0.094
Santa Fe	0.182	0.164	0.190	+ 0.008
Santiago del Estero	0.495	0.567	0.534	+ 0.039
Tucumán	0.157	0.098	0.111	- 0.046
Tierra del Fuego	0.262	0.239	0.233	- 0.029

a/

$$R_w = \frac{\sqrt{\sum (Y_{ik} - \bar{Y}_k) \frac{P_{ik}}{N}}}{\bar{Y}_k}$$

Y_i = Gross Product of the i^{th} department in the k^{th} province

$\bar{Y}$ = Gross Regional Product of the k^{th} province

P_i = Population of department i in the k^{th} province

N = Province population.

Table 12

Index of inequality in the industrial sector a/

Year	R_W^i
1935	0.230
1937	0.159
1939	0.194
1941	0.306
1943	0.262
1946	0.269
1948	0.370
1950	0.322
1953	0.372

a/ The provinces Chubut, Santa Cruz and Tierra del Fuego are included in a single region.

69. The regional dilemma that Argentina faces is its regional dualism. On the one hand, a small geographic area contains most of its population and economic activities, and on the other hand, large resource abundant areas, which might be integrated into the national economy, lack population and social infrastructure. Argentine regional problems are different from those in such countries as Colombia, Peru and Italy, since regional income per capita is near the national average for 75 per cent of its population. In Brazil, "while the northeastern region contains 25 per cent of the population, it earns 10 per cent of the national income, and while the south has 35 per cent of the population, it earns 50 per cent of the national income".41/

70. Public opinion and politicians are therefore always concerned with these two regional problems: a) In less than 0.2 per cent of the geographic area (metropolitan Buenos Aires), 45.5 per cent of the GNP earned by 36.3 per cent of the population, and b) the integration of large resource endowed regions into the national economy. The solution of these problems will depend on whether the future location criterion is based on national or on regional objectives, and on whether it is based on short-run or on long-run aims. The next section analyses these points more extensively.

41/ W. Baer (1964) "Regional Inequality and Economic Growth in Brazil", Economic Development and Cultural Change 12(3), 271.

Table 13

Per capita income by states, 1958
(per cent of national average)

Provinces	Index
Tierra del Fuego	287.2
Santa Cruz	225.4
Chubut	143.2
Metropolitan Buenos Aires	126.8
Rio Negro	121.7
Rest of Buenos Aires	116.6
Mendoza	114.2
La Pampa	109.2
San Juan	100.4
Argentina	100.0
Santa Fe	94.3
Jujuy	80.3
Tucumán	75.6
Córdoba	73.8
Chaco	63.5
Entre Rios	60.8
Neuquén	57.9
Salta	54.3
San Luis	51.5
Corrientes	50.0
La Rioja	46.1
Formosa	45.3
Catamarca	40.3
Santiago del Estero	38.0
Misiones	36.4

Sources: (1) Consejo Federal de Inversiones (1963) Bases para el desarrollo regional Argentina, Buenos Aires, pp. 85-105.

(2) H. Gruppe et al. (1962) Relevamiento de la estructura regional de la economía Argentina, Five vols. Editorial del Instituto, Buenos Aires.

III. OBJECTIVES OF REGIONAL DEVELOPMENT POLICY

Regional goals and location choices

71. In section I the different national strategies of Argentine economic growth and their regional impact were summarized. During the period 1900-1930, agricultural production was the power of growth, and the East-Centre region was able to supply not only almost all of this output because of its comparative advantages, but was also able to attract most of the foreign inflow of labour and capital. Although, generally regional equity considerations are always present in major government declarations, we can summarize the economic policy of this period as one concerned with the national rate of growth. Consequently the regional distribution of activities followed as a corollary. This pattern of economic growth gave rise to the emergence of the centre-periphery relationship in Argentina.

72. After 1930 until the mid 1950s, the strategy of national growth relied heavily on import substitution of consumer goods. Again the East-Centre region, particularly metropolitan Buenos Aires, attracted most of the industrial activities this time because of the influence of the external economies derived from the agglomeration of activities and factors of production in this region. Since infrastructure was poorly developed over the entire country and markets were concentrated in few centres, choice of location was severely limited and industry tended to become concentrated at a few points exhibiting agglomeration economies. Once again this period demonstrates a concern more with the national rate of growth than with the regional distribution of industrial activities.

73. By the mid 1950s, the patterns of industrialization based on import substitution of consumer goods came to an end, and Argentina began to substitute intermediate and capital goods. This new pattern, while furthering the development of Buenos Aires, also created new poles in Córdoba and Santa Fé. The state of Córdoba after 1955 was able to create a metallurgical centre by attracting tractor, automobile and railway producers; while Santa Fé, after 1960, attracted a petrochemical complex. Several reasons were advanced to explain the development of those new centres: rationing of government electricity supply in Buenos Aires and excess electricity supply in Córdoba; availability of labour in Córdoba and Santa Fé with quality standards comparable to Buenos Aires; availability of appropriate inputs in South Santa Fé for petrochemical production; a good

transportation network linking Córdoba, Santa Fé, and Buenos Aires; and a chain of ports on the Paraná river in the state of Santa Fé.

74. During this latter stage of economic growth, the government seemed to be aiming at a more balanced regional development, and regional problems appear as an issue of national importance. The two five year plans for 1947-1951 and for 1952-1956, the national industrial promotion laws, and the recent national plan for 1965-1969 encouraged decentralization of economic activities. There has been a desire on the part of the government to stimulate investment outside metropolitan Buenos Aires basically by using fiscal incentives. The climax of this decentralization process is the 1964 industrial promotion law which explicitly excludes investments in metropolitan Buenos Aires from any type of benefits.

75. All these previous considerations dealt basically with the volume of economic activity of each region as compared to the others, in other words, with the regional patterns of concentration of economic activities. However, growth in total output may differ from the welfare aspects of regional growth, i.e., from the behavior in per capita income growth in each region. The strategic variables that affect both the volume and welfare aspects of economic development need not be identical, though they depend on the same act of forces. "The failure of the 'volume' of economic activity to keep pace with the national average growth in certain areas may be helpful in achieving the socially desirable goal of economic efficiency. Yet this need not imply that the income of persons in the area affected - either those who migrate elsewhere or those who remain - need increase any less rapidly than the income of persons elsewhere, at least in the long-run".[42/]

76. The aim of chapter II was to analyse the welfare aspects of regional development in terms of regional differential growth rates in income per capita in relation to the national average. The index of regional inequality used indicates an increasing inequality trend which seems to be leveling off in the 1950s. This pattern refers to relative income per capita differential growth and not to absolute ones. However, social concern is generally more related to

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42/ H. Perloff and L. Wingo Jr. [n.d.] "Natural Resources Endowment and Regional Economic Growth", in J. Spengler (Ed.) Natural Resources and Economic Growth, and reprinted in J. Friedman and W. Alonso (Ed.) (1964) Regional Development and Planning, A Reader, MIT Press, Cambridge, Mass., 56-57.

absolute differences with respect to the national average than with relative differences. Absolute income per capita differs widely among the various states, although these differences do not have the characteristics that one may expect from the spatial analysis on concentration of economic activities. This is so because, on the one hand, three quarters of the population live in states which have an income per capita close to the national average, and on the other hand, only 9 per cent of the population live in states with an income per capita which is less than half the national average.

77. Therefore, social concern on regional problems in Argentina is basically related to breaking the centre-periphery model, i.e. the high concentration of economic activities and population in a few centres, particularly metropolitan Buenos Aires, and the existence of large areas, isolated from the existing centres of population and richly endowed with natural resources, but lacking population and social infrastructure. At the same time, there are states with an income per capita which is half the national average: San Luis, Corrientes, La Rioja, Formosa, Catamarca, Santiago del Estero and Misiones. The existence of this centre-periphery relationship brought about an increasing governmental concern in recent years for regional development by stimulating the creation of new growing points.

78. Political considerations generally come into play when there are regional disparities in income distribution. The creation of new poles that can set up centripetal forces for the development of these centres becomes a "political" issue. However, the arguments are not stated in terms of a regional income redistribution goal but are in many cases concerned with the economic advantages of creating new poles. Thus, it is said that the country suffers from gigantism of their principal cities and that this overconcentration, if continued, will give rise to high per capita expenditures in government services and in additional social overhead capital, which are not incurred when new centres are developed. "However, there is no agreement as to the urban size at which this occurs, nor, for that matter, is there solid evidence that costs do in fact increase with urban size for a given level of services and facilities".[43/] The question of the optimal

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43/ W. Alonso (1966) "Location, Primacy and Regional Economic Development", paper presented at the Second International Congress of Regional Planning, Rio de Janeiro, p.1.

size of a region has been the source of endless discussions and speculation on the part of planners, but no answer has yet been given, even in principle.[44]

79. Two issues are clearly involved in this problem: efficiency and equity. By efficiency, we mean maximizing the national rate of growth[45] and by equity, a more equalized spatial distribution of income. There will be no conflict between efficiency and equity with respect to the creation of "poles de croissance" if, for any additional investment, the new centre shows higher net returns then the existing centre.[46]

80. The thesis that metropolitan Buenos Aires is in the diminishing returns stage seems to have been widely accepted in Argentina. It is very common to hear in political circles that Buenos Aires is overcrowded, that it suffers from gigantism and that new poles have to be stimulated not only because a more balanced regional distribution of income and activities is socially justified but also because it is compatible with maximizing the national rate of growth.

81. The Consejo Federal de Inversiones, an interprovincial agency created in 1959,[47] has accepted the approach that new poles are needed in Argentina because metropolitan Buenos Aires is in the diminishing return stage and there will be, therefore, no conflict between regional equity and national efficiency.[48]

44/ J. Friedmann (1956) Regional Development Policy: A Case Study of Venezuela, MIT Press, Cambridge, Mass., 73.

45/ Efficiency implies that production could not be increased if we produce the same output with the same amount of resources at an alternative location (also including resources used in transportation).

46/ For further elaboration on this point, see W. Alonso, op.cit.

47/ The purposes of this agency are described elsewhere in this study.

48/ At this time we should point out that maximising growth for every region will maximise growth for the entire nation only under conditions of perfect competition. See C. Leven (1964) "Establishing Goals for Regional Economic Development", Journal of the American Institute of Planners 30(2), and reprinted in W. Alonso, and J. Friedmann, op.cit., chapter 29.

In its study on the basis for planning the regional economic development in Argentina,[49] this view is explicitly stated, although no empirical investigation was undertaken to prove that net returns in Buenos Aires are really diminishing, nor does it properly indicate what is meant by diminishing returns. Do they mean that cost of government public services and of providing social overhead facilities increase with urbanization? Even if we assume that these costs increase with urbanization, the goal of a country is not to minimize these costs but to maximize net social returns, and it is possible that the short-run social productivity of investments in Buenos Aires is higher than in other regions.

82. Regional development policy cannot be based on such vague objectives as industrial decentralisation and the creation of new poles. Location decisions concerned with regional decentralization must find explicit answers to a number of questions: What constitutes a "satisfactory" regional balance? Where should new poles be located? Of what dimension? What is the goal when there is conflict between regional equity and national efficiency? As Lloyd Rodwin puts it: "The regional development goals, like the other goals in the national development plan, need to be spelled out, enlarged, dramatized, made more visible."[50]

83. These considerations about concentration versus decentralization and national efficiency versus regional equity are particularly relevant for Argentina. Since the distances are so great, it is impossible in the short-run to provide a good system of transportation, communication and power supply for the entire country, and to distribute population and industry in all the provinces.[51]

49/ Consejo Federal de Inversiones (1963) Bases para el desarrollo regional Argentino, Buenos Aires.

50/ L. Rodwin (1964) "Choosing Regions for Development", in J. Friedmann and W. Alonso (Ed.) Regional Development and Planning. A Reader, MIT Press, Cambridge, Mass.

51/ The density of population in Argentina is 8 per sq. km. against 100 to 400 in Europe.

Spatial alternatives in Argentina

84. The analysis that we have been making so far clearly indicates that Argentina lacks a regional development strategy. What should this strategy be for Argentina? It is beyond the scope of this paper to set up what should be the optimum future spatial patterns in Argentina, but several points concerned with this problem will be presented in order to clarify the issues involved in delineating such a regional strategy. The following is an attempt to clarify the regional alternatives open to Argentina and includes, as well, the development tasks in each of the regions.

85. The first point is concerned with whether national or regional considerations will guide the future course of action. In an international seminar with six developing countries with wide regional inequalities participating (Greece, Israel, Portugal, Spain, Turkey and Jugoslavia), it was almost generally accepted that policy concerned with regional problems depends on the development stage of the country. In developing countries, any concentration on the promotion of individual regions therefore must be limited to those of high economic potential, such as would be likely to contribute to a higher rate of national economic growth.[52/] Only countries which are at an advanced stage could afford to concentrate on raising the level of the backward areas.[53/]

86. If the basic planning objective is national economic growth, then regional goals and consequently regional location decisions are merely an instrument in achieving the national objective. However, this rather simple objective of maximizing national output presents operational problems when observed in a dynamic context.

87. The evaluation of location decisions, in terms of national efficiency, may give rise to different spatial solutions according to the role attached to the external economies originated in any investment decision, particularly when this decision makes possible a big investment surge, regionally concentrated. The optimal location decision will depend on the probability attached to the effect of external economies on production and distribution costs of each region as compared to the others. The future stream of benefits and costs will vary among regions according to the degree of uncertainty associated with the role of external economies on regional comparative advantages.

52/ Organization for Economic Co-operation and Development (1965) Regional Development and Accelerated Growth, p.11.

53/ Ibid.

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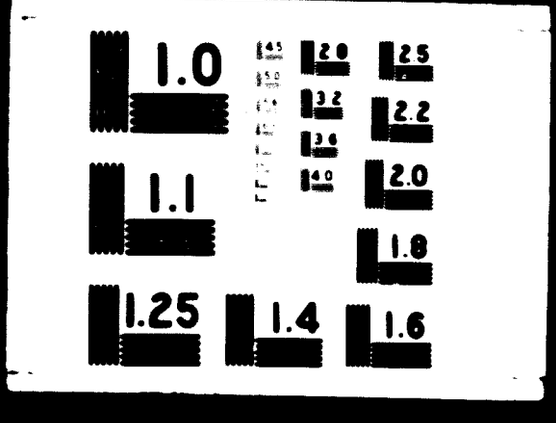

88. The time dimension, and consequently the degree of uncertainty attached to any location decision, is disproportionately longer in location choices in comparison with the acoustomed planning periods. Any planning decision is subject to long-term lags in adjustments because of the long lifetime of social overhead capital and other equipments, which creates a regional network that induces private investors to base their location choice on the existing regional patterns, and because of the long time period that is necessary to modify the economic environment of backward and frontier regions. Vietorisz suggests that "it is often reasonable to consider a time span of fifty years or even more." 54/

89. The theoretical analysis of long-run optimum economic growth path to avoid setting up optimum criteria in terms of probabilistic distributions, assumes that the future is known, i.e., assumes that no uncertainty exists. However, to introduce such an assumption into regional economies may bias our conclusions because, on the one hand, very few regions are able to offer external economies, and on the other hand, there are richly endowed areas lacking an appropriate set of external economies which might make it possible to sway comparative advantages in its favour. In short, different solutions may be obtained from the national efficiency point of view, if the location criterion is based on a "static" approach (concerned with the efficiency of the existing location pattern) or on the "dynamic" approach (concerned with changing the existing pattern). And the solution from a dynamic point of view seems rather inconclusive since it will depend on the subjective value attached by the planner or private investor to the effects of external economies on regional comparative advantages.

90. Another point which deserves special consideration, despite the lack of properly stated regional development goals for Argentina, is the spatial alternatives open to such a country, and to what extent the regional decentralization goal could be achieved without having to sacrifice part of the national income. For this type of analysis, we shall not try to define an over-all regional strategy but rather consider the development of regions in relation to their resource endowments and future structure of total national demand. Three

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54/ T. Vietorisz (1967) "Locational Choices in Planning", in M. F. Millikan (Ed.) National Economic Planning, National Bureau of Economic Research, New York, 44.

regional cases may be considered in Argentina: the core region (metropolitan Buenos Aires, Córdoba and Santa Fé), the resource frontier region (Patagonia), and depressed or backward regions which have less than half the national average income per capita (San Luis, Corrientes, La Rioja, Formosa, Catamarca, Santiago del Estero and Misiones).55/ We are concentrating on these three cases, excluding from the analysis other equally important regions, because these are the cases where, within a decentralization goal, the conflict between welfare and efficiency seems most relevant. At the same time, we hope that this analysis will throw light on future regional strategies open to Argentina.

The core region

91. The high concentration of population, economic activities, and investment in the core region indicates that its growth is closely related to national economic development and that it performs a critical role in the process of industrialization. This relation between the development of the core region and the national economy suggests that when the core region's capacity to grow slackens (i.e., its actual output is below its potential level of production) owing to an inadequate spatial supply of basic services, the country as a whole will suffer. Therefore, to the extent that there are obstructions in the supply of basic services in the core region, not only the growth in this region will decline but also the remaining regions will be affected.

92. The core region in Argentina has the urban congestion problems that are characteristic of highly urbanized regions. It lacks among other things an appropriate urban transportation system, adequate highways, sewerage, electricity, and housing. If we are able to solve these problems, we are also contributing to the development of other regions. This is particularly true in Argentina since metropolitan Buenos Aires generates almost half the Gross National Product. A faster industrial growth in this region will in turn enhance the economic development of other regions owing to an increase in the demand for their resources as well as an increase in savings.

55/ We have followed in this approach the definition of regions given by J. Friedmann (1956) Regional Development Policy: A Case Study of Venezuela, MIT Press, Cambridge, Mass.

The frontier Patagonia region

93. The situation of the Patagonia region is different. This is a region where natural resource endowments may play a significant role if the national strategy of economic development is based on promoting "heavy" industries. This connexion between the region's natural resources and future strategy based on the expansion of the national demand for this type of resource, may be a major factor in determining the strategy for regional development. The basic planning problems that the Patagonia region presents are its relative isolation from existing centres of population and its small size of population, which is well below the critical minimum threshold for attracting servicing activities.

94. The crucial question in this case is whether, from the national efficiency point of view, it is socially justified to promote the development of this resource frontier region or to continue the concentration process in the core region. The approach of the Consejo Federal de Inversiones is based on the empirically untested assumption that metropolitan Buenos Aires is in the diminishing net return stage, and consequently national output will be maximized if a pole is created in Patagonia, which shows increasing net returns. However, urban centres in other countries which are larger than metropolitan Buenos Aires do not seem to have diminishing returns, and there is no theoretical base to indicate at what urban size this will occur. "The continued growth of even the largest Metropolitan regions in the world contradicts the expectation of diminishing marginal returns to scale".[56/] On the other hand, even if the core region has increasing returns, still the development of Patagonia may be justified from the national efficiency point of view, if it has in the long run higher increasing returns than metropolitan Buenos Aires.[57/] But whether Patagonia has higher net returns than the core region will ultimately depend on the effect that the creation of social infrastructure and inflow of population into Patagonia will have on the comparative advantages of this region as compared to others. It is quite possible that for a lightly populated region with abundant natural resources, the improvement in the transport system could significantly

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56/ J. Friedmann, op. cit., 14-15.

57/ It is assumed in this analysis that decisions are only made in relation to these two regions. It is quite possible that other regions have even higher increasing returns than Patagonia and metropolitan Buenos Aires.

affect the relative advantages of the region for industrial location. Such improvements might give the region advantages over locations which had been preferred because of proximity to market, particularly in the case of transport oriented industries. Moreover, when a big investment effort is carried out in one region, it will influence the structure of demand, prices, and costs of each region in comparison with the others because of the external economies provided by this investment effort, and hence, might help to develop the resource endowed region.

95. Therefore, the building up of a social infrastructure in Patagonia may be justified not because metropolitan Buenos Aires is in the diminishing returns stage but because we expect higher increasing returns from the investment effort in Patagonia than in Buenos Aires. Moreover, the development of this resource frontier region may also be justified by introducing into the analysis other planning variables given the multiplicity of government objectives in the context of long-term development. In this latter case national integration might be a criterion where location decisions are evaluated on the basis of the effect that they have in bringing in closer communication the remote frontier regions with the existing centres of population. We have to stress once more that a prior consideration about the development of the frontier region requires first a definition on the national industrialization strategy to be adopted, since the linkage between this region's natural resource endowments and the national economy is a basic condition of frontier development. Patagonia will be an "open" region, exporting basically its output to other domestic markets, particularly the advanced regions, and to foreign markets. As a highly specialized and export-oriented region, the building up of the appropriate social infrastructure may be justified in that the markets for its products will hold an important place in the future.

Backward regions

96. Completely different problems are present in the development of depressed states. These are states with low development potential in relation to other regions and with a high rate of selective outward migration of labour, leading to a deterioration of the region's human capital stock. Although the country feels that the first concern of its development policy must be to promote the expansion of the nation as a whole, governments are generally faced with political and social pressures in order to pursue urgent remedial action in backward areas.

In this case, national efficiency will conflict with regional equity, making justifiable the development of these areas only on non-economic grounds. This conflict does not mean that we give priority to economic factors over non-economic ones. We recognize, of course, the multiplicity of planning objectives and the diverse nature of government goals, which may make the development of a region justifiable on social, political or national defense grounds. But it is important in these cases to bring into the picture the economic criteria so that the non-economic goals can be achieved at the lowest cost from the point of view of the national economy.

97. Different goals may be pursued when it is desirable to raise the standard of living in backward areas: a) the per capita income of the backward region is raised to the national average, which means that the income per capita of these regions will have to grow much faster than the ones in the advanced regions; b) each region grows at the same rate so that absolute income per capita differences will increase over time; c) the backward regions will have a self-sustained income per capita growth rate. This rate may be lower than the national average, increasing in this way the relative and absolute income per capita gap between the backward and advanced regions.

98. The purpose here is not to recommend one of these goals over the others, but simply to present different economic criteria that might be adopted even for regions whose development is desired on non-economic considerations.

99. In Italy, "the principal post war objective of government policy in the South has been to reduce the difference in consumption and income levels between the South and the rest of the country. As the years have passed without any gain in the growth rate of the South over the rest of the country, official statements on development policy have tended to shift this goal to an indefinite time in the future and to stress the establishment of a self-sustained process of growth as the main objective. The main objective of development policy in the South should be to achieve an economic structure capable of sustained growth rather than a particular ratio between the growth rate in the South and North".[58/]

58/ H. B. Chenery (1962) "Development policies for Southern Italy", Quarterly Journal of Economics, 76(4),526.

100. The question of which one of these or other goals should be selected and the relative weight to be attached to the regional welfare goal in relation to the national efficiency goal is a dilemma that only the social community can answer.

101. A final consideration concerns itself with the public investment strategy to be followed in order to achieve the desired goal. One type of approach might be to disperse public investment regionally, and another might be to concentrate this effort in priority regions. The concentration of public investments in a regionally decentralized pattern makes it possible to originate external economies in the favoured regions.

102. Once the country has defined its regional goal, appropriate economic policy instruments must be used to meet each of these objectives. Argentina has relied basically on fiscal incentives to pursue its regional goals. The following section considers to what extent these incentives were successful in reaching the regional objectives.

IV. INDUSTRIAL LOCATION POLICY IN ARGENTINA

Industrial promotion laws

103. There are a variety of policy instruments that governments can use to influence the distribution of economic activities among regions. Most of these policies try to encourage labour and capital mobility, or create external economies by training the labour force and building social overhead capital, or affect the price-cost structure among regions both of production and transportation of unfinished and finished goods. Some of these policies might be compatible with national plans, others might be the result of increasing political pressures for regional income equalization.

104. In Argentina, the industrial promotion laws of both central and provincial governments[59/] were the main instruments used to encourage regional decentralization by offering fiscal incentives, notably tax exemptions and duty-free licenses for the import of machinery and equipment. These incentives were given to three different geographic areas: Patagonia, the Northwest and the Northeast (see map). In 1964, metropolitan Buenos Aires was excluded from the benefits given by these laws for the purpose "of stimulating a convenient decentralization of economic activities". Tax exemptions for a maximum of ten years are granted in the latest industrial promotion law (decree 3113 - year 1964) either to the enterprise or to the investor. The benefits granted to enterprises are related to yearly production of business income tax, substitute tax on corporate capital, excess profits tax (which goes from 100 per cent during the first four years to a minimum of 10 per cent in the tenth year), stamp tax, and special prices for gas, electricity, fuel and transport. If the enterprise chooses to benefit the investor, the firm will not obtain most of the previous tax exemptions. The investor will, on the other hand, receive a yearly tax exemption - which is lower than for the enterprise - from the income tax on the amounts invested in the promoted enterprise.

59/ A very complete and exhaustive survey of the national and provincial industrial promotion laws can be found in F. Herrero (1965) Aspectos legales de la promoción industrial en la Argentina, 2nd ed., Editorial del Instituto, Buenos Aires.
Annex I of this paper summarizes the main legal characteristics of these laws.

105. Table 14 shows that the promoted regions had, on the one hand, a very small share in the GNP in 1959 (13.5 per cent) and that, on the other hand, 22.7 per cent of total population was concentrated in 66 per cent of the total geographic area of Argentina. Contrast this situation with metropolitan Buenos Aires which had 42.6 per cent of the GNP, 34.6 per cent of total population and 0.13 per cent of the geographic area.

106. The following sections will summarize the economic environment of the promoted regions in order to evaluate whether or not the decentralization goal can only be attained by fiscal incentives.

Patagonia.60/

107. Patagonia is a very large geographic area which is lightly populated. The population density is 0.7 per square kilometre against 7.2 for the whole country. Agriculture is the main activity of the region - 40 per cent of the GRP 1959 of the entire Patagonia region - particularly fruit and wool production. Patagonia has approximately 50 per cent of the hydroelectric resources of the country, 99 per cent of coal reserves, 70 per cent of petroleum reserves, 60 per cent of natural gas reserves, 70 per cent of iron reserves, and it also has minerals such as bolyrium, tungsten, manganese, and vanadium.

108. Initial investment in resource facilities in this rather unpopulated region may lead to a sequence of economic growth if it is accompanied by immigration of workers and their families, improvements in transport facilities within the region and with other regions, provision of community facilities, and services such as housing, water, sewerage, electricity, and so on. The initial resource exploitation and the building of a population nucleus would stimulate small market-oriented activities, input-oriented processing activities, urban-oriented activities because of investment in construction for community facilities etc. This multiplier effect would depend on the input-output ties provided by the investment in the new resource activity, on the population movements in response to the incentives provided in the region, on the social overhead facilities offered, and so on.

60/ A complete survey of the potentialities of this region can be found in [illegible] (1966) Análisis regional de la Patagonia, Vols. I-II, Buenos Aires.

Table 14

Promoted regions by the present industrial promotion law

(percentages)

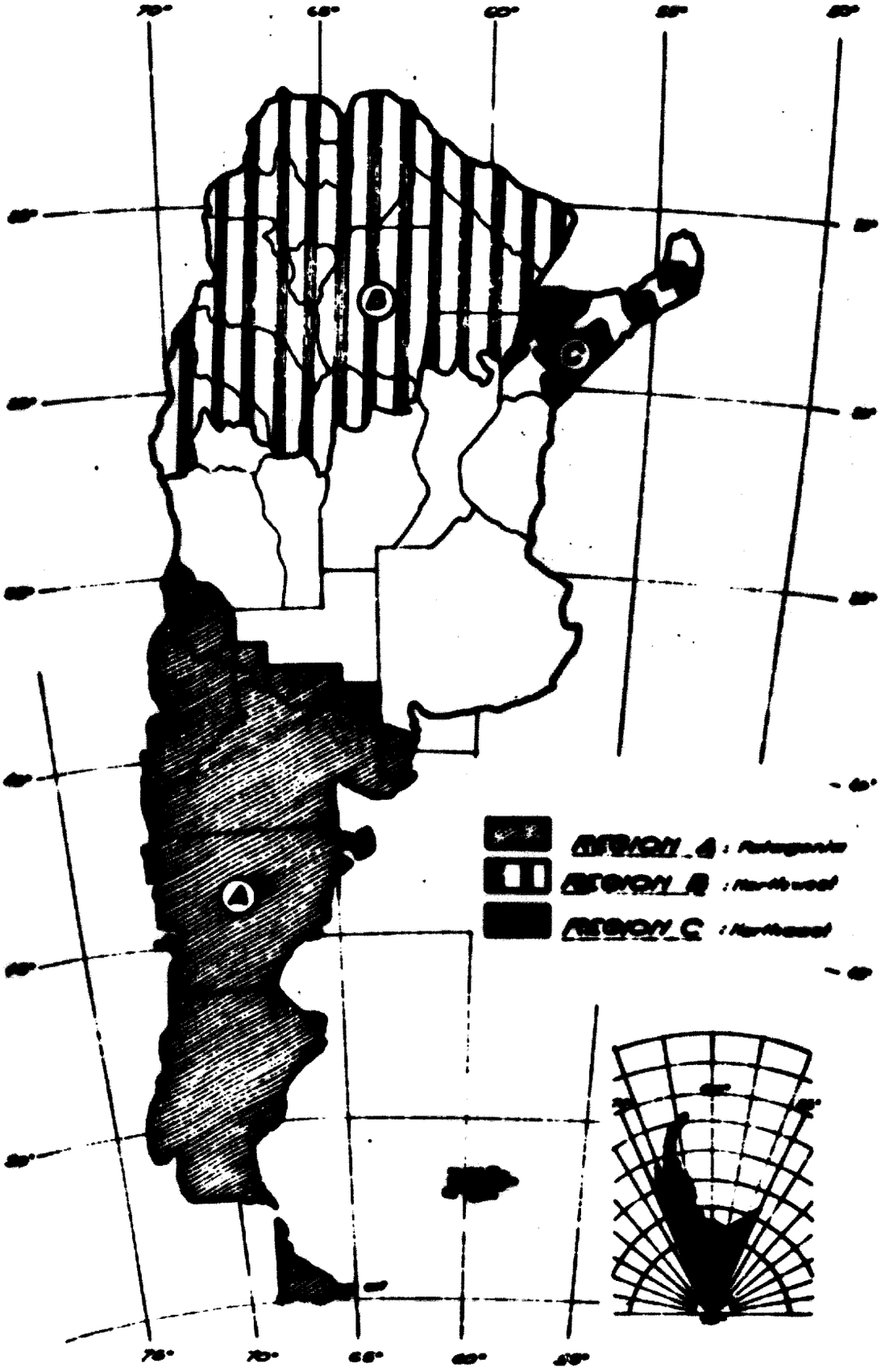
Region	Share in G N P (1959)	Share in total population (1960)	Geographic area	Density of population per sq. km (1960)
	(1)	(2)	(3)	
Promoted regions	13.5	22.7	66.0	
Patagonia	3.1	2.7	31.8	0.6
Northwest	8.9	16.6	31.8	3.7
Northeast	1.5	3.4	2.4	10.2
Metropolitan Buenos Aires	42.6	34.6	0.4	666.4

Sources: (1) H. Gruppo et al. (1962) Relevamiento regional de la economía Argentina, Editorial del Instituto, Buenos Aires, 1962.

(2) Dirección Nacional de Estadística y Censos (1961) Censo nacional de 1960 de población - resultados provisionales, Buenos Aires.

(3) Instituto Geográfico Militar (1965) Atlas de la República Argentina, Buenos Aires.

REGIONS DEVELOPED UNDER THE
INDUSTRIAL PROMOTION LAW



109. In short, Patagonia is a region richly endowed with resources but lacking the necessary social overhead capital. Patagonia, which is a third of the geographic area of Argentina, contains less than 10 per cent of the railroads, less than 1 per cent of electrical supply, inadequate port facilities, 5 per cent of paved roads, less than 1 per cent of telephone lines, 7 per cent of the total number of post offices, and less than 1 per cent of water supply. Moreover, it does not have skilled labour or appropriate technical schools and universities.

110. Given this absence of social infrastructure in Patagonia, it is very doubtful that industries will locate in this region if the only stimulus provided is fiscal incentives. As we shall see below, those firms which make use of the benefits provided by the promotion laws tend to locate in Buenos Aires, Córdoba and Santa Fé, and only resource-oriented investments, such as petroleum, have been attracted to this region. The great social concern that exists in Argentina about the potentiality of this region is reflected in the fact that the Consejo Federal de Inversiones has jointly organized with the United Nations a study group to formulate a development plan for the "Comahue region".[61] This region includes part of Patagonia: the states of Neuquén and Río Negro and also the southern part of Buenos Aires and La Pampa.[62]

111. The outstanding features of the Comahue region are:

(a) Soil, with an irrigable surface that duplicates the area nowadays irrigated in the country.

(b) Subsoil, whose possibilities, with the exception of oil and gas, are not yet known, but nevertheless offer a most interesting future. It contains more than half the national reserves of iron (Sierra Grande), salt (Gualichy), wolfram, and fluorite, and its mining actually represents 24 per cent of the whole country's mining activity.

(c) Hydroelectric resources, which are capable of generating power more than double of what is actually consumed.

61/ This is a two year study with a total budget of US $1,240,050 and the contract was signed in August 1966.

62/ Consejo Federal de Inversiones (1965) "Informe preliminar sobre aspectos generales de la economía del Comahue".

112. The first specific recommendation of this study group is the construction and operation of the Chocón-Cerros Colorados multiple purposes complex, which would secure total control of floods in the Rio Negro Valley, provide water to several thousand miles of land, eventually allow navigation of the Rio Negro river right from its source to the ocean, and produce 4.700 gWh of hydroelectric power.[63]

Northwest region.[64]

113. This region is formed by cities founded in the colonial period. The Spanish colonists came from Peru and Chile through the northern part of the Argentine territory. During this period, the northwest was the most populated area in Argentina, with 40 per cent of the total population,[65] and it was the periphery of a pole located in Lima (Peru). This situation contrasts radically with the lightly populated Patagonia, and will of course impose rigidities in making growth possible in this region. Traditional activities will have to coexist with modern ones. Labour intensive and artisan industries will have to coexist with capital intensive and sophisticated industries. Tradition will impose inhibitions and barriers to labour and capital mobility much more in this old settled region than in the new, still unsettled, Patagonia. This factor should be carefully taken into account when designing a promotion policy for this region.

114. The Northwest region has a greater share of the GNP than Patagonia and its population per square kilometre is more than four times that of Patagonia, but still well below metropolitan Buenos Aires. The share in total population was continually decreasing: in 1869, 28 per cent; 1895, 17.8 per cent; 1915, 12.6 per cent; 1947, 11.3 per cent; and 1960, 11.1 per cent. On the other

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63/ Comisión Especial para el Estudio del Desarrollo de las Zonas de Influencia de los Rios Limay, Neuquén y Negro (COMAHUE), (1962) "Summary of the preliminary study for the full development of the Comahue Region", Senado de la Nación, República Argentina.

64/ The analysis will be based on a report of the CFI which includes most of the states of the promoted region but not all of them. Chaco and Formosa are excluded in this report. Consejo Federal de Inversiones (1966) Plan de emergencia para el Noroeste Argentino, 1967. Diagnóstico preliminar, Documento de Trabajo, Buenos Aires.

65/ A. Ferrer (1963) La Economía Argentina, parte I, Fondo de Cultura Económica, México.

hand, the vegetative annual rate of growth of population (1947-1960) was around 2.5 per cent, while for the country it was 1.9 per cent. Therefore, domestic migration has heavily affected this region, particularly the states of La Rioja, Catamarca, Santiago del Estero and Tucumán. Since the age structure of this region is a much younger one than for the entire country, this migration was not only selective but also basically within the working age.

Age structure of part of the northwest region, 1960
(percentages)

	0-19	20-59	60 and over
Northwest	51.6	42.3	6.1
Argentina	39.4	51.7	8.9

115. Metropolitan Buenos Aires is the attraction pole for those who migrate. 61 per cent of the total migration from Catamarca, 40 per cent in Jujuy, 50 per cent in La Rioja, 72 per cent in Salta, 73 per cent in Santiago del Estero and 93 per cent in Tucumán emigrated to Buenos Aires. The metropolitan Buenos Aires pole absorbed not only the disguised unemployed of the Northwest region, but also denuded this latter region of its key technicians, managers and other more enterprising young men.[66/] This selective migration accentuated the relative disadvantages of this region since basically unskilled and less qualified people have remained in the region. If some effort had been made and resources had been used to assist people in moving to the lightly populated Patagonia instead of to metropolitan Buenos Aires, it might have been possible to make a larger contribution to the country as a whole. This policy would have been more convenient if the migration had involved the high number of unemployed workers in the northeast instead of the skilled ones. The main obstable for this type of policy is political.

116. The analysis so far was made for the entire Northwest region. However, this is not a very homogeneous region. Table 15 shows that Salta and Jujuy are the states with the higher Gross Regional Product with positive internal

66/ There is no information to quantify the selective characteristics of this migration, though it is generally accepted that the best talent in the professional groups has migrated to metropolitan Buenos Aires.

Table 15

Economic indicators of the northwest region

Provinces	G R P per worker 1960	Domestic migration 1947-1960	Unemployment rate, 1960
Jujuy	82,600	5,500	3.1
Salta	79,700	13,300	3.2
Catamarca	77,100	- 23,100	6.4
La Rioja	54,900	- 19,400	6.9
Santiago del Estero	46,600	- 115,700	6.8
Tucumán	61,700	- 28,600	4.2
Northwest region	62,900	- 170,000	4.7
Argentina	122,000		

Source: Consejo Federal de Inversiones (1966) Plan de emergencia para el Noroeste Argentino. 1965. Trabajo, Buenos Aires.

migration in 1947-1960, and with the lower unemployment rates. Thus, we can distinguish two sub-regions which have different potentialities for growing: a) Salta and Jujuy; b) Catamarca, La Rioja, Santiago del Estero and Tucumán.

117. We should add in this analysis a third sub-region, which is included in the industrial promotion law definition of the promoted Northwest region: Chaco and Formosa. However, the lack of statistical information prohibits their inclusion in this analysis.

118. The sub-region Salta-Jujuy was growing faster than the national average (1953-1963): 4.2 per cent and 2.3 per cent annual rate of growth of the Gross Product respectively. This was due to the increase in the production of nationally demanded commodities, such as petroleum and gas, sulphur, lead and zinc, all of which have an income elasticity of demand greater than one. This sub-region is well endowed with minerals and fuels. In 1963 this region produced 99 per cent of the national production of iron (Patagonia has the largest unexploited iron reserves), 100 per cent of tin, 16 per cent of manganese, 84 per cent of lead, 89 per cent of zinc, 99 per cent of sulphur, 43 per cent of natural gas, 6 per cent of petroleum, and 5 per cent of limestone.

119. On the other hand, the other sub-region has remained at the same level of Gross Product from 1953 to 1963. Most industries of this sub-region are regionally oriented, i.e., they satisfy the demand located in the same region for foodstuffs, beverages, textiles, wood products, etc. Only a very few activities are nationally demanded, i.e. activities which export their output to other regions. This is the case in Tucumán where sugar represents 62 per cent of its exports, Santiago del Estero where firewood, coal and cotton fibres represent 35 per cent of its exports, and La Rioja where wine represents 27 per cent of its exports. These products have a low income elasticity of demand, i.e. their local and national demand does not increase as rapidly as income.

120. To sum up, the Northwest region is formed by states founded during the colonial period, with a production structure heavily based on slow growing industries, most of them oriented at satisfying the local demand. The per capita Gross Product of the region is half the national average; migration from the area was significant and selective; the unemployment rate is above the national average; and the government had to absorb a great deal of the labour force increasing disguised unemployment. The situation worsens particularly in

several states of this region: Tucumán, Catamarca, La Rioja and Santiago del Estero. In the sub-region Salta and Jujuy the situation looks more optimistic since these states are mineral-resource endowed: gas, petroleum, iron, tin, lead, zinc, sulphur, limestone, etc.

121. The Northwest region differs substantially from Patagonia, which is a frontier region, lightly populated and rich in natural resources. Moreover, traditional restrictions in labour and capital movements, and lack of entrepreneurial spirit to undertake new dynamic activities are more present in the old settled Northwest region than in Patagonia. Given all these considerations, it seems very likely that for the Northwest region the long-run conflict between national efficiency and regional equity is more significant than for Patagonia. It seems obvious that only a careful sectorial and project analysis could indicate what types of investment are profitable for the region from the national and regional point of view.

Regional impact of the central Government industrial promotion laws.

122. Thus far, this paper has been analysing the benefits provided by the industrial promotion laws and the economic characteristics of the promoted regions. The fiscal incentives consisted of tax exemptions up to ten years for both the firm and/or investors and duty-free import of machinery and equipment. We indicated before that when these incentives were granted these regions did not have the required social infrastructure. The influence of external economies in location choices are particularly important, especially if we consider that alternative courses of action for the private investor include also metropolitan Buenos Aires, where 42.6 per cent of GNP is generated and 34.6 per cent of the population live, and the new industrial centres in Córdoba and Santa Fé.

123. For this reason, it seems interesting to observe the actual location pattern of investment benefiting from the legislation on industrial promotion. For this purpose, we have compiled statistical information on foreign and domestic capital investment by sectors and regions for the period 1957/1966 which were included in the tax and import duty exemption regulations. Table 16 summarises this information and Annex 2 includes a more disaggregated analysis of this information by economic activities.

Table 16

Total investments made under the promotion laws

(percentages)

Region	1959	1960	1961	1962	1963	1964	1965	1966
Promoted regions	4.7	0.3	0.4	3.1	—	21.4	35.9	10.0
Patagonia	0.6	0.3	0.4	3.1	—	0.1	17.1	6.9
Northwest	4.0	—	—	—	—	20.3	10.5	2.4
Northeast	0.1	—	—	—	—	1.0	8.3	0.7
Metropolitan Buenos Aires	58.6	13.3	40.7	23.8	50.6	65.0	34.8	50.1
Buenos Aires	8.2	77.8	22.3	30.9	19.4	9.7	21.1	25.4
Córdoba	13.4	3.4	3.3	8.9	28.6	0.3	0.6	0.5
Santa Fé	15.0	3.2	33.3	33.3	1.4	3.6	2.4	10.5
Other provinces	0.1	2.0	—	—	—	—	2.2	3.2

Sources: Dirección Nacional de Promoción Industrial, Secretaría de Industria y Minería, and Sector Balance de Pagos Interprovinciales, Consejo Federal de Inversiones.

124. Metropolitan Buenos Aires absorbed almost 50 per cent of the total investment. If we add to this percentage the remaining part of the province of Buenos Aires, Córdoba and Santa Fé, the figure goes up to 90 per cent. On the other hand, investment in the promoted region was only significant in 1964-1966. Though this period coincides with the exclusion of metropolitan Buenos Aires from the industrial promotion law franchises, it is very unlikely that this decentralization process was a result of this factor, since some of these investments were planned before 1964 and were resource oriented. In 1964, almost the entire investment in the Northwest region (in the states of Salta and Chaco) was in sugar refining. In 1965, the states of Tucumán and Jujuy (Northwest region) attracted most of the investment in sugar refining. In Patagonia, the investment was in the cement industry (Neuquén) and in development of nylon spinning (Chubut). In the province of Corrientes (Northeast region), the investment was to develop cotton spinning, whose inputs come from this region. In 1966, almost 40 per cent of the investments benefiting from franchises were for television channels throughout the country. The only significant investment in the promoted regions was a packing plant for dry fruits in Rio Negro (Patagonia).

125. From these results, one can appreciate that the aim of decentralising the industrial activity was not achieved, and that investment tended to concentrate heavily in metropolitan Buenos Aires, Córdoba and Santa Fé, with a few exceptions for resource-oriented industries. What have been the difficulties in achieving the policy objectives being pursued? As was stated before, basically the only instruments used to reach this goal were tax and import duty exemptions. Evidently they were not effective in stimulating investment in the promoted regions because there was an inadequate transportation system and energy supply, an insufficient labour supply both in quantity and quality, a lack of appropriate commercial and banking services, etc. The new industrial centres in Córdoba and Santa Fé made attractive industrial investment not because of tax incentives but because of other motives, such as an adequate transport network, proximity to Buenos Aires, excess capacity in the supply of electricity, and an appropriate pool of skilled labourers and technical schools. Tax and import duty exemptions are only two of the elements that make up the total cost of any investment decision, and they might not be enough to offset the advantages that other regions offer in the other elements of total cost. If we assume that the location decision of the private

investor is guided by the objective of minimizing the present value of total future cost (production as well as distribution), those regions that are adequately equipped in labour and social overhead capital will generally benefit greater in relation to those that do not have them. For this reason, if the Government wants to promote the development of backward and frontier regions but is not willing to subsidize production in these areas, either by direct subsidies and/or by strong fiscal incentives, to offset other advantages in labour and transport costs in other areas, investment will not be oriented to these regions.

126. The small part that fiscal incentives play in the location decision of investment is confirmed by a survey in Córdoba among manufacturing firms - excluding construction firms - which occupied more than 40 workers in late 1961. Its purpose was to determine what factors stimulated their location in the city of Córdoba in the period 1946-1962. The number of establishments included in the survey was 130, classified as follows:

Year of location	Number of establishments
1946-1948	13
1949-1951	16
1952-1954	17
1955-1957	20
1958-1960	35
1961-1963	29
	130

Manufacturing sector	Number of establishments
Foodstuffs and beverages	22
Clothing	5
Chemicals products	5
Leather products	4
Cement	18
Metals	14
Vehicles and machinery	46
Electric machinery and appliances	7
Others	9
	130

127. Firms were also classified as those whose organizers, directors etc. were in the state of Córdoba when the decision was made about the location of the firm (state capital), and those whose capitals and/or directors were outside the state of Córdoba (external capital). The distribution was as follows:

Manufacturing sector	State capital (per cent)	External capital (per cent)
Foodstuffs and beverages	16	18
Cement	10	21
Metals	11	7
Vehicles and machinery	34	36
Electric machinery and appliances	5	5
Others	24	13
	100	100
Number of establishments	91	39

128. The following reasons for location were offered in the questionnaries:

1. Manpower training. This indicates the training level of the labour force, particularly with respect to skilled, technical and professional labour.
2. Manpower availability. The situation of manpower in relation to the needs of each factory, in particular skilled, technical or professional manpower.
3. Proximity to the market of processed products.
4. Market location. This reason is similar to the previous one with the only difference being that the enterprises mentioning this took into account not only the market proximity but also evaluated Córdoba's geographic location and its access to other provinces.
5. Raw material proximity. This type of location takes into account proximity to the main raw material sources used by the enterprise.
6. The availability of energy. An attempt was made to find out whether or not power availability could have been a determinant factor for location.
7. Electric supply cost.
8. Communications.
9. Highways and means of transport.
10. Location due to proximity to railway station.
11. Tax exemptions.

12. Directors residence. This indicates the place where directors, founders or main shareholders live. This question was designed to find out if the fact that the organizing members of the enterprise lived in the same place where the plant is situated determined its location.

13. Residence (other activities). The purpose of this question was to see whether location is also the place where the people of the enterprise previously controlled or supervised other activities even if they did not live in that area.

14. Climate or health conditions of the location.

15. Building already constructed. If there was a building already constructed, the savings could be more important than the other advantages in locating the plant in another area.

16. Land cost of the place chosen. This reason was initially designed to explain location within the same area.

129. In general, each enterprise selected three out of these sixteen motives of location which gave 340 answers. The frequency distribution was as follows:

Motives for location		Frequency
1.	Manpower training	3
2.	Manpower availability	18
3.	Market proximity	40
4.	Market location	14
5.	Raw material proximity	22
6.	Energy supply availability	44
7.	Energy cost	4
8.	Communications	4
9.	Highways and means of access	22
10.	Railways	5
11.	Tax exemptions	16
12.	Directors residence	75
13..	Residence (other activities)	32
14.	Climate and health conditions	3
15.	Building already constructed	20
16.	Land cost	18

130. This distribution of frequencies as an indication of the influence of each motive on the location decision has limitations. For example, the motive "residence of directors" has a high number of frequencies because there are twice the number of state firms as firms coming from other geographic areas in the survey, and the motive of availability of electricity supply is second in the number of frequencies because the number of metallurgic industries included in the survey is much higher than any other type of industry questioned.

131. In only sixteen cases out of 340, tax exemption was considered decisive in the location of the firm, and this was particularly important for vehicles and machinery, although it must be considered that 35.4 per cent of the firms included in the survey were in this sector.

Tax exemption	Domestic capital	External capital
Foodstuffs and beverages	1	
Paper and cardboard	1	
Caucho	1	1
Cement	1	
Metal	2	
Vehicles and machinery	3	6
	9	7

132. At the same time, excess electrical capacity, labour supply, and an adequate transport system were significant. This can be evaluated if we select for each manufacturing activity the five most important location motives:

Priority	Domestic firms	External firms
	Foodstuffs and beverages	
1.	Residence of directors	Proximity to consumer market
2.	Proximity to input suppliers	Electric energy availability
3.	Buildings constructed	Raw materials proximity
4.	Residence (other activities)	Highways and means of access
5.	Market proximity	Land cost
	Chemicals	
1.	Highways and means of access	Raw materials proximity
2.	Residence of directors	
3.	Electrical energy availability	
4.	Proximity to the market	
5.	Manpower availability	
	Lime, cement etc.	
1.	Residence of directors	Proximity to raw materials
2.	Proximity to raw materials	Electric energy supply
3.	Electric energy availability	Proximity to the market
4.	Highways and means of access	Highways and means of access
5.	Proximity to market	

(continued)

Priority	Domestic firms	External firms
	Vehicles and machinery	
1.	Residence of directors	Electric energy availability
2.	Residence (other activities)	Manpower availability
3.	Proximity to market	Proximity to market
4.	Electric energy availability	Land cost
5.	Communications and means of access	Communications and means of access

Other policy measures used to encourage regional decentralization: the Consejo Federal de Inversiones (CFI), 67/

133. The CFI is an interprovincial agency created in November 1959. It is "a permanent institution for research, coordination and technical advice; whose purpose is to recommend the necessary measures for an adequate investment policy and a better utilisation of economic resources in order to obtain a development based on decentralisation".68/ The annual budget of the CFI, which is at present around 3 million dollars, is provided by each of the provinces, the municipality of the city of Buenos Aires, and the Territorio Nacional de la Tierra del Fuego, by applying a given coefficient to determine the extent of their participation in the national taxes.

134. The role of the CFI is to make studies and assemble data on the provinces, to provide technical assistance, and to train personnel.

67/ We have outlined before the philosophy of this institution with respect to the Argentine regional development.

68/ Acta de Creación of the Consejo Federal de Inversiones.

135. In the field of researching regional problems, the CFI has undertaken:

a) a systematic computation of the provincial social accounts;

b) a study of commodity flows among provinces;

c) an analysis and evaluation of regional natural resources;

d) a definition of economic regions;

e) an economic and functional classification of provincial government expenditures and revenues; and

f) a diagnosis of the economic situation of several provinces.

136. At the present time, the CFI is organizing regional development plans for two regions: the Northwest region and the Comahue region. Both of these programmes have been analysed above. Further, it is intended that plans be developed for the regions of the Northeast, Patagonia, and metropolitan Buenos Aires.

137. The CFI provided technical assistance for the organization of provincial bureaus of statistics, and for reorganizing along more efficient lines, the administrative organization of provincial governments, particularly the internal revenue service. It has also collaborated in the preparation of provincial public health and educational programmes, in budgeting programming, and in the evaluation of private investment projects.

138. Several training courses were offered to provincial public officials in the provinces of Mendoza, Bahía Blanca, Rosario, Resistencia, Tucumán, Córdoba and San Juan, on the subjects of theory and planning in economic development. These courses last three months and require full-time concentration of the participants.

Conclusions

139. Economic policy decisions in Argentina were much more oriented towards reaching national objectives than towards setting up a desired regional structure. Indeed, the regional distribution of economic activities was the by-product of aiming at given national goals. As a result of such policies, the regional distribution of economic activities was such that metropolitan Buenos Aires generated 42.6 per cent of the GNP (1959), and contained 34.6 per cent of the 1960 total population in 0.13 per cent of the total geographic area in Argentina.

Its density of population per square kilometre was 1854.6 in 1960, while the figure for the entire country was 7.2. The overconcentration of industries and population in metropolitan Buenos Aires stimulated, in the late 1950s, policy measures designed to decentralize economic activities. However, the regional goal was never explicitly stated, and only a very broad and general definition was supposed to orient regional policy-makers to reduce industrial congestion in metropolitan Buenos Aires by stimulating its decentralization. This lack of a clear policy aim was filled by the Consejo Federal de Inversiones, which recommended - without any empirical base - the creation and promotion of growing poles, not only on regional equity grounds but also on grounds of attaining the highest national product. However, since not all regions have the same capacity to grow, a conflict arises for some regions between regional equity and national efficiency. It is in this case that the community should make explicit its regional goal. Once the regional goal is clearly stated, appropriate policy instruments should be used to reach the desired goal.

140. The Federal Government, in order to reach its "decentralization goal", relied almost exclusively on fiscal incentives to stimulate investment in lagging regions. Despite these incentives the regional aim seems not to have been reached. Private investment was attracted by the growing and already developed regions of Buenos Aires, Córdoba, and Santa Fé. With some explainable exceptions the promoted regions absorbed less than 5 per cent of the investments benefiting from the fiscal incentives. This failure in reaching the regional objectives comes from the delusive definition of regional priorities in Argentina, as well as from the policy instruments used to achieve these goals. The fiscal incentives scheme was supposed to work in two distinguishable types of regions: Patagonia and the Northwest. The first region, though it is richly endowed with natural resources, lacks completely an appropriate social infrastructure. The Northwest region, on the other hand, is not as abundant a resource region as Patagonia and it also lacks social overhead facilities. Thus, for both regions it was very difficult to compete in attracting investment with the advanced regions which were able to provide external economies. Tax and import duty cost reductions were not enough to offset the costs reductions that an investment in metropolitan Buenos Aires can obtain from the external economies provided in this region. Fiscal and financial incentives might be operative in attracting

investments if proper overhead facilities are provided. Otherwise, the industrialized centre will be the attraction pole of capital and labour. But the building up of appropriate social overhead facilities may not permit by itself the obtainment in Argentina of a more regionally balanced distribution of economic activities.[69/] The favourable effects of interregional trade are felt only in a few regions. Buenos Aires, Córdoba and Santa Fé are more linked with the rest of the world than with other regions within Argentina. Basic changes in the interregional supply patterns have to be stimulated in order to make possible the production in the lagging regions of commodities which are demanded in the expanding regions.

141. Another policy which was neglected in Argentina and never stated in proper perspective relates to encouraging labour migration from poorly endowed regions to resource abundant areas, such as might be the case with Patagonia as the recipient region.

69/ The lack of success in the development of southern Italy despite its policy of giving heavy emphasis to overhead facilities in order to stimulate commodity production was because this "overhead approach" has ignored the structural changes needed in the interregional trade. "The experience of southern Italy over the past decade shows that a change in the productive structure must be put on a par with an increase in total investment as an immediate objective of development policy. The development of overhead facilities is only one aspect of the total change that is needed". H. B. Chenery (1962) "Development Policies for Southern Italy", Quarterly Journal of Economics, 76(4),547.

Industrial promotion laws of the central Government before 1964[a/]

1. In 1943 the first industrial promotion law was put into effect. Until that time other similar attempts, such as the ones of 1922 and 1940, had been unsuccessful. The basic legal framework for the promotion and encouragement of private industry by the Argentine Government was provided by law 14781, which was enacted in December 1958. There were other measures to stimulate foreign industrial investment in Argentina, such as the legislation on foreign capital investment (law 14780), special regulations for capital goods imports, and legislation for particular industries such as automobiles, tractors etc.

2. The industrial promotion law is applicable for foreign and national investment alike. The foreign investment legislation refers to the industrial promotion law for the incentives, and deals with equality of treatment with domestic investment, transference of profits abroad, repatriation of capital, and so on. The only point which bears a relation to our analysis is that preferential consideration for approval will be given to projects which locate in the interior of the country, particularly in the areas stressed in the industrial promotion law.

3. There are two main features of the 1958 industrial promotion law. First, it is specified that industrial projects, if they are to qualify for special incentives, must contribute to one or more of the following:

(a) Equilibrium of Argentina's international balance of payments;
(b) Development of the country's present and potential resources;
(c) Decentralization of industry;
(d) Advancement, expansion, and diversification on industrial output;
(e) Improvement of industrial technology;
(f) Advancement of national defense, welfare, and public safety.

4. Secondly, specific kinds of actions are authorized, where applicable, to encourage industrial investment:

(a) Duty-free import of machinery and equipment that cannot be produced locally;
(b) Creation of raising of tariffs and other import charges on goods whose importation would impede the development of local production;
(c) Suspension or limitation of imports of finished products or raw materials already produced in the country;

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a/ This summary follows closely the interesting study of H.W. Laurant (1963) Factors Affecting Foreign Investment in Argentina, Stanford Research Institute, Menlo Park, California, 31-34.

(d) Preferential exchange arrangements for export of industrial goods;
(e) Preferential credit arrangements for desired industries;
(f) Preferential supplies of raw materials, electric power, fuels and transport;
(g) Preferential treatment in government purchasing;
(h) Tax exemption and relief for specified periods;
(i) When these projects are considered by an executive decree of "national interest", the following exemptions to the income tax were also granted:

i) Tax exemption for interests on bonds, debentures, stocks, and for dividends on preferred stocks which are issued to finance investment;
ii) Tax deductions from income taxes on the amount invested in stocks.

5. The industrial promotion law summarized above is primarily an enabling law which requires subsequent legislation on the specific steps taken by the government to implement the objectives established in it.

6. Five concrete measures have been promulgated, establishing special concessions to investors in specific industrial sectors and in certain geographical areas of the country whose development the government seeks to foster. The following sectors were given special incentives.

7. Steelmaking. An Executive Decree from June 1961 which defines those companies as eligible that begin the production cycle with the processing of pig iron and steel, and those that are entirely integrated and begin with the smelting of iron ore. Benefits are greater for integrated companies than for semi-integrated ones. Qualifying companies receive exemption from duties and other charges on the import of machinery, spare parts, raw materials, and products destined for steel mills. In addition, special tax benefits are provided; tax-deductible allowances are increased 100 per cent for integrated and 80 per cent for semi-integrated companies; private shareholders of qualifying companies receive special privileges on dividend income taxation. Certain other tax privileges and provisions for accelerated amortization of assets are also provided, as are preferential treatment in financing, supplies and services supplied by state enterprises, and consideration for government guarantees of various types.

8. Petrochemicals. Decree 5.039-61 extends special benefits to companies establishing or expanding basic petrochemical plants producing hydrocarbons, sulphur or hydrogen, and to enterprises that may be integrated with such basic plants for the production of synthetic rubber, carbon black,

fertilizers, pesticides and herbicides, phenol plastics and resins, polythylene, polyvinyl chloride, polypropylene, and polystyrene. Tax-deductible allowances are established at 100 per cent on machinery and 20 per cent on buildings, i.e., double the percentages allowed by existing regulations. Accelerated amortization, various substantial tax benefits on loans (which in effect would lower the borrowing rate) and on reinvested profits, and customs duty and import surcharge exemption on machinery and equipment are also provided. Raw materials to be supplied by state enterprises will be sold to qualifying companies at reduced prices, though this particular concession will also be extended to petrochemical enterprises already established in Argentina.

9. Pulp and Paper. Decree 8.141-61 grants benefits to companies installing plants for the production of cellulose from short or long fibre, and to those installing integrated plants that also produce paper and cardboard. Existing companies already engaging in these activities which expand their operations are also eligible, but only on investment since the decree; companies that had initiated their applications for the installation of pertinent plants prior to the decree date (14 September 1961) are specifically excluded. Special preference is to be given companies whose investment proposals include plans for reforestation. Benefits are similar in almost all respects to those of Decree 5.039-61 (petrochemical investments), prominently including import tax exemption, increased tax deductions, and rapid write-off. Companies whose investments fall within the terms of this decree will be declared of national importance and will receive priority in the supply of raw materials, electric power, fuels, and transport facilities from state enterprises.

10. There were also special regulations for promoting the development of three regions.

11. South Argentina (Patagonia). An Executive Decree of August 1961 accords special facilities to companies installing or expanding plants (a) located in Patagonia (defined as all of continental Argentina south of the Rio Colorado and its tributary Rio Barrancas) and in Tierra del Fuego, and (b) engaging in the manufacture of chemicals, petrochemicals, aluminium or other metals (provided that this includes the processing of primary materials), woolen textiles, or in the processing and refrigeration of fish. To qualify

for special benefits, the enterprise must utilize the area's electric power, labour, or natural resources to a high degree in relation to the other inputs in its production process, must contribute to the achievement of import substitution or increased exports, and must be organized so as to permit co-ordination with plants making similar products in other areas of the country. Qualifying companies will receive a ten year exemption from or reduction of import taxes and charges on machinery and equipment, income and excess profit taxes, and several minor taxes. In the price calculations for purposes of Argentina sales taxes, they may deduct the cost of transporting their products to destinations outside Patagonia. Moreover, natural gas may be supplied by the state gas enterprise at specially reduced prices, in accordance with a schedule detailed in the decree; the lowest gas prices apply to chemical and metal manufacturing plants utilizing gas or electricity as a main input into the production process; the next lowest prices apply to metal processing plants utilizing the area's raw materials; and the least price reduction, to other qualifying types of activities.

12. Northwest Argentina. Decree 9.477-61 provides certain benefits to industrial investments in the Northwest, defined as the provinces of Catamarca, Jujuy, La Rioja, Salta, Santiago del Estero, Tucumán, and the western parts of Chaco and Formosa. To qualify, enterprises must engage in mineral extraction and processing (except of petroleum and gas and their derivatives); impregnation, hardening, and artificial drying of wood; production of pressed wood from wood or bagasse fibres; extraction of vegetable waxes; processing of vegetables; packing houses; or the metallurgical industry. Expansion of existing activities must at least double current production capacity to qualify for benefits. Benefits include exemption from import duties and charges on machinery and equipment, up to 50 per cent income tax reduction, rapid write-off of assets, and other less important benefits.

13. The state of Corrientes (Northeast Argentina). Decree 11.324-61 provides incentives to the following departments in Corrientes: Ituzaingó, Santo Tomé, Esquina, Sonco, and later Monte Caseros (decree 2.323-62). The activities included in the two decrees were impregnation of woods, production of pressed wood, processing of vegetables and fruits (excluding alcoholic beverages), meat packing plants, metallurgical industry, textiles, foods

processing, mineral extraction and processing (excluding that of petroleum and gas and their derivatives), leather and tobacco industries. Benefits include exemptions from import duties and charges on machinery, taxes, bank credits and priority is given to raw material, energy and transport supply.

14. In 1963, the Executive Decree 5.338 grouped all of these regulations in a single legal text and introduced some minor changes while maintaining the same favoured industrial activities and regions. The Decree 1.081 of November 1963 abrogated industrial promotion laws because the government wanted to reduce import of capital goods and increase fiscal revenue. However, only four months had elapsed since the abrogation when the government re-established the industrial promotion legislation (Decree 3.113 of April 1964) introducing some changes, in particular excluding metropolitan Buenos Aires from all the incentives provided by this legislation.

Actual industrial promotion law regime (Decree 3.113/1964)

15. In order to qualify for the special benefits of this law, the enterprise must be a new one or be the expansion of one already operating and it must be technically efficient and economically profitable. The following industrial sectors are promoted if investments are located in any area of Argentina with the exception of metropolitan Buenos Aires:

(a) Steelmaking (for integrated and semi-integrated companies);
(b) Petrochemicals;
(c) Cellulose;
(d) Mining, excluding petroleum, gas, and other minerals;
(e) Forestry;
(f) Fishing;
(g) Construction, for standardized production of economic dwellings.

16. Three different geographical areas are promoted:

(a) Region A: Patagonia (south of Rio Colorado and Rio Barrancas);
(b) Region B: Northwest and Centre;
(c) Region C: Northeast.

17. To qualify for special benefits, the enterprise must industrialize the natural resources of the region and/or help to increase exports or substitute imports. In particular, the following activities are promoted:

(a) Impregnation, hardening, artificial drying and industrialization of wood, fibres and bagasse;
(b) Processing of natural fibres until complete, at least up to the process of spinning;

(c) Tanning;
(d) Food processing;
(e) Metallurgical industries;
(f) Chemical industries;
(g) Ceramics and glass.

18. In order to encourage investment, tax exemptions and duty-free licenses for the import of machinery and equipment that cannot be made locally are given. Tax exemptions, for a maximum of ten years, are granted either to the enterprise or to the investor but not to both simultaneously, modifying in this way previous legislation, which granted tax exemptions to both the enterprise and investor. The benefits granted to enterprises are related to a yearly reduction of business income tax; substitute tax on corporate capital; excess profits tax (which goes from 100 per cent during the first four years to a minimum of 10 per cent in the tenth year); stamp tax; authorization for temporary residency in the country for the foreign personnel (and their families) required; and special prices for gas, electricity, fuel and transport.

19. If the enterprise chooses to benefit the investor, then the firm will not be able to obtain tax examptions on business income tax, the substitute tax on corporate capital, excess profits, or stamp taxes, while the investor will, in turn, receive a yearly tax exemption, which is lower than for the enterprise from the income tax on the amounts invested in the promoted enterprise. The tax reduction for enterprises or investors are given in Annex 1, tables 1 and 2.

20. Besides these general benefits there are others which are special for the promoted sectors. The tax reductions for enterprises locating in the promoted areas and in those areas which qualify for the benefits of this industrial promotion law will be 100 per cent for ten years.

Industrial promotion laws by provincial governments b/

21. All the provinces, with the exception of Santa Cruz, have industrial promotion laws. This evidently affects the influence of each province because there are no major changes in the relative positions of each geographic area.

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b/ For a detailed summary of these regulations, see F. Herrero (1965) Aspectos legales de la promoción industrial en la Argentina, 2nd ed., Editorial del Instituto, Buenos Aires.

22. The legal system is not the same for all provinces and is not clearly defined. Some provinces indicate what industrial sectors are being promoted and assign priorities to these sectors (e.g. Neuquén, Santa Fé and San Juan). Other provinces simply state that only "those industries that use regional inputs" will be able to benefit from tax exemptions. Some legislation indicates that benefits are only for new industries, other that the industry should be the first of its kind in the region. All these promotion laws grant tax exemptions (in some cases for all taxes, in others just for some provincial taxes) although percentages and the length of time for which the exemption is granted vary with each province.

23. In order to benefit from these franchises, some provinces require that some industries use regional inputs while other industries are encouraged to use national inputs.

Annex 1 Table 1

Benefits to the enterprise
(percentage of benefit)

		Years of benefit (to be considered since the plant began operation)									
		1	2	3	4	5	6	7	8	9	10
Steel Mills	I Semi-integrated	75.00	75.00	75.00	75.00	63.75	52.50	41.25	30.00	18.75	7.50
	II Integrated	100.00	100.00	100.00	100.00	85.00	70.00	55.00	40.00	25.00	10.00
Petrochemicals	I Type one [a]	50.00	50.00	50.00	50.00	42.50	35.00	27.50	20.00	12.50	5.00
	II Type two [b]	100.00	100.00	100.00	100.00	85.00	70.00	55.00	40.00	25.00	10.00
Cellulose	I Short or long fibres	50.00	50.00	50.00	50.00	42.50	35.00	27.50	20.00	12.50	5.00
	II Paper and cardboard	75.00	75.00	75.00	75.00	63.75	52.50	41.25	30.00	18.75	7.50
	III Newsprint paper	100.00	100.00	100.00	100.00	85.00	70.00	55.00	40.00	25.00	10.00
Mining		100.00	100.00	100.00	100.00	85.00	70.00	55.00	40.00	25.00	10.00
Forestry and Reforestry		100.00	100.00	100.00	100.00	85.00	70.00	55.00	40.00	25.00	10.00
Fisheries and Wildlife	I Extraction and industrialization	100.00	100.00	100.00	100.00	85.00	70.00	55.00	40.00	25.00	10.00
	II Extraction or industrialization	75.00	75.00	75.00	75.00	63.75	52.50	41.25	30.00	18.75	7.50
Construction industry		100.00	100.00	100.00	100.00	85.00	70.00	55.00	40.00	25.00	10.00
Patagonia, northwest and northeast regions		100.00	100.00	100.00	100.00	85.00	70.00	55.00	40.00	25.00	10.00
When a promoted industry locates in a promoted region		100.00	100.00	100.00	100.00	85.00	70.00	55.00	40.00	25.00	10.00

Source: Herrero, F. (1965) Aspects legales de la promoción industrial en la Argentina, 2nd ed., Editorial del Instituto, Buenos Aires.

a/ Plants which produce from petroleum or natural gas, or their fractions or cuts, principally saturated and unsaturated hydrocarbons, naphtenic or aromatic, or sulphur or hydrogen.

b/ Plants which produce any of the following products: synthetic rubber, carbon black, fertilizers, pesticides, herbicides, plastics and phenolic resins, polyethylene, PVC, polypropylene, polyamides, polyesters, polyurethane and its monomers, or other similar products that may be developed in the future, provided they are integrated within one enterprise or keep a harmonious relation with the basic plants installed in the country.

Annex 1 Table 2

Benefits to investors
(percentage of benefit)

		Years of benefit (to be considered since the plant began operation)									
		1	2	3	4	5	6	7	8	9	10
Steel mills	I Semi-integrated	50.00	50.00	50.00	50.00	42.50	35.00	27.50	20.00	12.50	5.00
	II Integrated	70.00	70.00	70.00	70.00	59.50	49.00	38.50	28.00	17.50	7.00
Petrochemicals	I Type one [a]	30.00	30.00	30.00	30.00	25.50	21.00	16.50	12.00	7.50	3.00
	II Type two [b]	70.00	70.00	70.00	70.00	59.50	49.00	38.50	28.00	17.50	7.00
Cellulose	I Short or long fibres	30.00	30.00	30.00	30.00	25.50	21.00	16.50	12.00	7.50	3.00
	II Paper and cardboard	50.00	50.00	50.00	50.00	42.50	35.00	27.50	20.00	12.50	5.00
	III Newsprint paper	75.00	75.00	75.00	75.00	63.75	52.50	41.25	30.00	18.75	7.50
Mining		75.00	75.00	75.00	75.00	63.75	52.50	41.25	30.00	18.75	7.50
Forestry and reforestry		75.00	75.00	75.00	75.00	63.75	52.50	41.25	30.00	18.75	7.50
Fisheries and Wildlife	I Extraction and industrialization	75.00	75.00	75.00	75.00	63.75	52.50	41.25	30.00	18.75	7.50
	II Extraction or industrialization	50.00	50.00	50.00	50.00	42.50	35.00	27.50	20.00	12.50	5.00
Construction industry		75.00	75.00	75.00	75.00	63.75	52.50	41.25	30.00	18.75	7.50
Patagonia, northwest and northeast regions		75.00	75.00	75.00	75.00	63.75	52.50	41.25	30.00	18.75	7.50
When a promoted industry locates in a promoted region		75.00	75.00	75.00	75.00	63.75	52.50	41.25	30.00	18.75	7.50

Source: Herrero, F. (1965) Aspects legales de la promocion industrial en la Argentina, 2nd ed., Editorial del Instituto, Buenos Aires.

a/ Plants which produce from petroleum or natural gas, or their fractions or cuts, principally saturated and unsaturated hydrocarbons, naphtenic or aromatic, or sulphur or hydrogen.

b/ Plants which produce any of the following products: synthetic rubber, carbon black, fertilizers, pesticides, herbicides, plastics and phenolic resins, polyethylene, PVC, polypropylene, polyamides, polyesters, polyurethane and its monomers, or other similar products that may be developed in the future, provided they are integrated within one enterprise or keep a harmonious relation with the basic plants installed in the country.

Annex 2 Table 1

Total investments made under the promotion laws, 1959
(in thousands of dollars)

Sectors	Promoted regions			Metropolitan Buenos Aires	Buenos Aires	Córdoba	Santa Fé	Others	Total
	Patagonia	North-East	North-West						
1. Agriculture		140			9		4,668		4,817
2. Mining			11				1,382		1,393
3. Construction					85			14	99
4. Foodstuffs and beverages				32	544				576
5. Textiles				104	552				656
6. Wood products, paper and cardboard			1,500	2,572					4,072
7. Chemical and petrochemical	644			36,293	1,120		4,224		42,281
8. Metallurgical				386	626		289		1,301
9. Automobiles			2,480	7,240	4,105	11,927	4,350		30,102
10. Tractors				3,561					3,561
11. Railways				64		1,500			1,564
12. Machinery				6,367	343				6,710
13. Others				1,959	856				2,815
Total	644	140	3,991	58,578	8,240	13,427	14,913	14	99,947

Sources: Dirección Nacional de Promoción Industrial, Secretaría de Industria y Minería and Sector Balance de Pagos Interprovinciales, Consejo Federal de Inversiones.

Annex 2 Table 2

Total investments made under the promotion laws, 1960
(in thousands of dollars)

Sectors	Promoted regions			Metropolitan Buenos Aires	Buenos Aires	Córdoba	Santa Fé	Others	Total
	Patagonia	North-East	North-West						
1. Agriculture									
2. Mining				620	500				1,120
3. Construction				46				522	568
4. Foodstuffs and beverages	181			26	710			1,331	2,248
5. Wood products, paper and cardboard				21					21
6. Textiles									-
7. Chemical and petrochemical	134			3,343	60,046				63,523
8. Metallurgical				369	4,236	2,000			6,605
9. Automobiles				3,948	6,302	996			11,246
10. Tractors				301			3,000		3,301
11. Railways				893					893
12. Machinery				1,043	159	150			1,352
13. Others				1,761	500				2,261
Total	315			12,371	72,453	3,146	3,000	1,853	93,138

Sources: Dirección Nacional de Promoción Industrial, Secretaría de Industria y Minería and Sector Balance de Pagos Interprovinciales, Consejo Federal de Inversiones.

Annex 2 Table 3

Total investments made under the promotion laws, 1961
(in thousands of dollars)

Sectors	Promoted regions: Patagonia	North-East	North-West	Metropolitan Buenos Aires	Buenos Aires	Córdoba	Santa Fé	Others	Total
1. Agriculture									-
2. Mining				3,425					3,425
3. Construction									-
4. Foodstuffs and beverages				560	3,276				3,836
5. Textiles	396								396
6. Wood products, paper and cardboard									-
7. Chemical and petrochemical				195	3,015	1,821	26,378		31,409
8. Metallurgical				1,647	11,037				12,684
9. Automobiles				29,711		262	3,638		33,611
10. Tractors				478			750		1,223
11. Railways					2,839	13			2,852
12. Machinery				1,337	208	925			2,470
13. Others				270	244				514
Total	396			37,623	20,619	3,021	30,766		92,425

Sources: Dirección Nacional de Promoción Industrial, Secretaría de Industria y Minería and Sector Balance de Pagos Interprovinciales, Consejo Federal de Inversiones.

Annex 2 Table 4

Total investments made under the promotion laws, 1962

(in thousands of dollars)

Sectors	Promoted regions			Metropolitan Buenos Aires	Buenos Aires	Córdoba	Santa Fé	Others	Total
	Patagonia	North-East	North-West						
1. Agriculture									-
2. Mining	925								925
3. Construction					1,400		9,408		10,808
4. Foodstuffs and beverages	158				950				1,108
5. Textiles				275	500				775
6. Wood products, papor and cardboard				300					300
7. Chemical and petrochemical				928	2,625	1,821	605		5,979
8. Metallurgical				986		1,265			2,251
9. Automobiles				1,941					1,941
10. Tractors							1,520		1,520
11. Railways									-
12. Machinery				1,265	5,200				6,465
13. Others				2,517					2,517
Total	1,083			8,212	10,675	3,086	11,533		34,539

Sources: Dirección Nacional de Promoción Industrial, Secretaría de Industria y Minería and Sector Balance de Pagos Interprovinciales, Consejo Federal de Inversiones.

Annex 2 Table 5

Total investments made under the promotion laws, 1963

(in thousands of dollars)

Sectors	Promoted regions			Metropolitan Buenos Aires	Buenos Aires	Córdoba	Santa Fé	Others	Total
	Patagonia	North-East	North-West						
1. Agriculture					1,912				1,912
2. Mining									-
3. Construction									-
4. Foodstuffs and beverages					429				429
5. Textiles					425				425
6. Wood products, paper and cardboard									-
7. Chemical and petrochemical				50					50
8. Metallurgical				3,700		956	214		4,870
9. Automobiles				1,400		2,500			3,900
10. Tractors									-
11. Railways						1,100			1,100
12. Machinery				262					262
13. Others				2,643	319				2,962
Total				8,055	3,085	4,556	214		15,910

Sources: Dirección Nacional de Promoción Industrial, Secretaría de Industria y Minería and Sector Balance de Pagos Interprovinciales, Consejo Federal de Inversiones.

Annex 2 Table 6

Total investments made under the promotion laws, 1964
(in thousands dollars)

Sectors	Promoted regions: Patagonia	North-East	North-West	Metropolitan Buenos Aires	Buenos Aires	Córdoba	Santa Fé	Others	Total
1. Agriculture									-
2. Mining									-
3. Constructions			33						33
4. Foodstuffs and beverages		205	4,086	191	33			4	4,519
5. Textiles	16								16
6. Wood products, paper and cardboard				1,646	345	50			2,041
7. Chemical and petrochemical				2,904					2,904
8. Metallurgical				4,500					4,500
9. Automobiles				2,416	1,600				4,016
10. Tractors									-
11. Railways									-
12. Machinery			145				743		833
13. Others			1,417						1,417
Total	16	205	4,119	13,219	1,978	50	743	4	20,334

Sources: Dirección Nacional de Promoción Industrial, Secretaria de Industria y Mineria and Sector Balance de Pagos Interprovinciales, Consejo Federal de Inversiones.

Annex 2 Table 7

Total investments made under the promotion laws, 1965
(in thousands of dollars)

Sectors	Promoted regions: Patagonia	Promoted regions: North-East	Promoted regions: North-West	Metropolitan Buenos Aires	Buenos Aires	Córdoba	Santa Fé	Others	Total
1. Agriculture									-
2. Mining	2,866								2,866
3. Construction					2,545				2,545
4. Foodstuffs and beverages		818	2,336	1,540	445		393	476	6,008
5. Textiles	198	1,311		634					2,143
6. Wood products, paper and cardboard				499	48				547
7. Chemical and petrochemical	1,328		236	838	1,606		180		4,188
8. Metallurgical				843	125		45		1,013
9. Automobiles				801	805	69			1,675
10. Tractors									-
11. Railways									-
12. Machinery			118	192	500			66	376
13. Others				3,591	120	84			3,795
Total	4,392	2,129	2,690	8,938	6,194	153	618	542	25,656

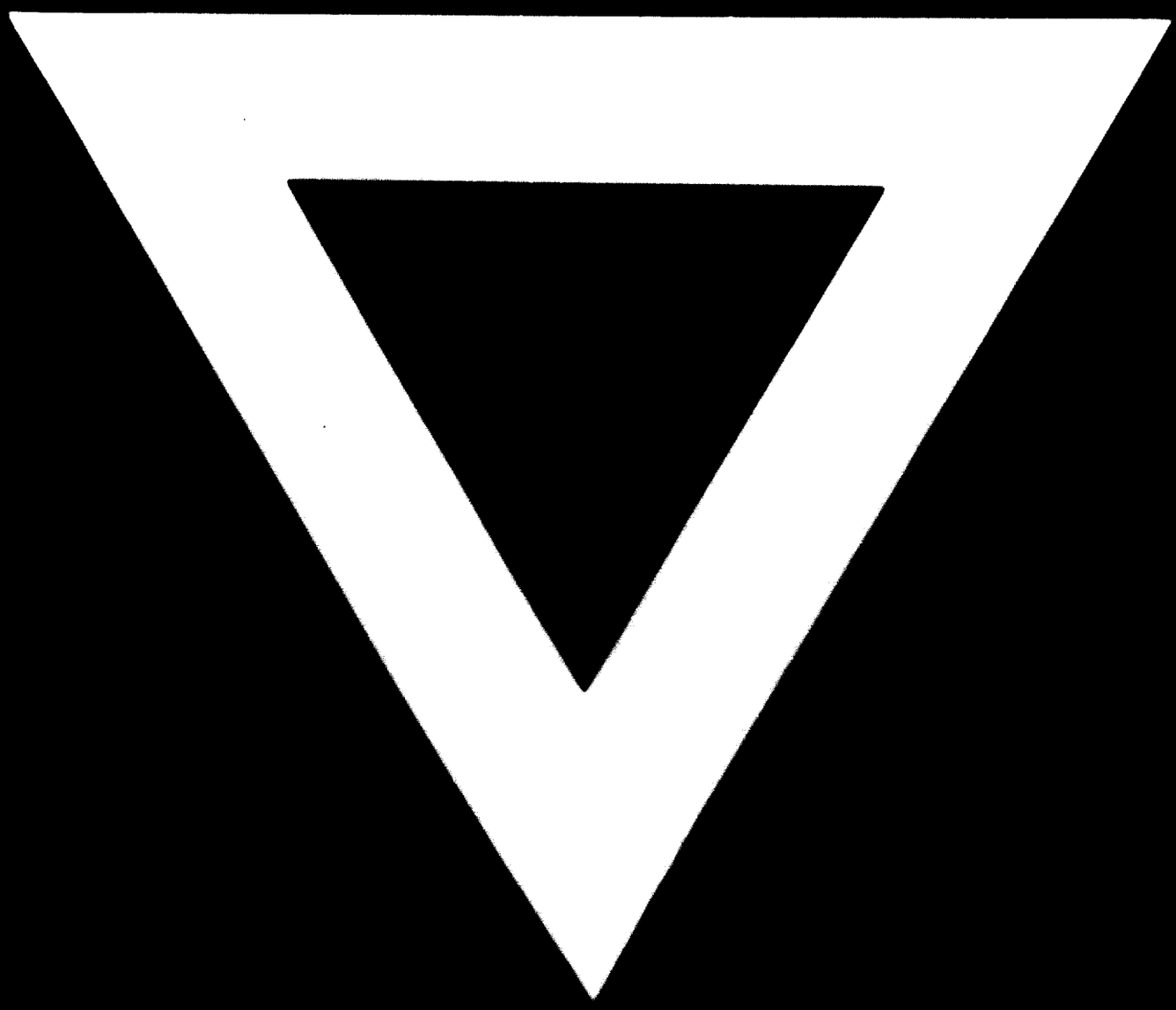
Sources: Dirección Nacional de Promoción Industrial, Secretaría de Industria y Minería and Sector Balance de Pagos Interprovinciales, Consejo Federal de Inversiones.

Annex 2 Table 8

Total investments made under the promotion laws, 1966
(in thousands of dollars)

Sectors	Promoted regions: Patagonia	North-East	North-West	Metropolitan Buenos Aires	Buenos Aires	Córdoba	Santa Fé	Others	Total
1. Agriculture									-
2. Mining								31	31
3. Construction			54		500				554
4. Foodstuffs and beverages	936			462	394			54	1,846
5. Textiles	60				1,532	86			1,678
6. Wood products, paper and cardboard				145	445		740		1,330
7. Chemical and petrochemical				3,048	329				3,377
8. Metallurgical									-
9. Automobiles				172					172
10. Tractors									-
11. Railways									-
12. Machinery				1,490					1,490
13. Others	256	128	384	3,884	1,440		1,170	518	7,780
Total	1,252	128	438	9,201	4,640	86	1,910	603	18,258

Sources: Dirección Nacional de Promoción Industrial, Secretaria de Industria y Mineria and Sector Balance de Pagos Interprovinciales, Consejo Federal de Inversiones.



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